Sea Grant
Law Center

EXPLORING OPTIONS TO AUTHORIZE OFFSHORE AQUACULTURE

INITIAL WORKSHOP SUMMARY REPORT

JUNE 2020

Background

In 2019, the National Sea Grant Law Center (NSGLC) received funding to plan and convene a collaborative learning workshop with legal scholars, federal Executive agency staff, Congressional staff, and industry representatives to tackle the uncertainty surrounding security of tenure for offshore aquaculture operations. As a legal concept, "security of tenure" can mean different things in different contexts. The NSGLC uses "security of tenure" to refer to the rights that aquaculture operators receive from the federal government to use and occupy federal waters for offshore aquaculture. The primary goals of the project are: (1) to 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) to 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.
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 portions of the workshop virtually. The original 1.5-day workshop agenda was broken into three separate engagements: (1) a virtual pre-workshop briefing held on May 5, 2020 (Objective 1); (2) a virtual workshop held on May 12-13, 2020 (Objectives 2 and 3); and (3) an in-person follow-up meeting tentatively planned for February 2021 (Objective 4).

This Initial Workshop Summary Report encompasses only the first two engagements listed above. A final workshop summary report, which may include consensus policy recommendations for property rights criteria to be included in future legislation, will be produced following the final workshop engagement in 2021.

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 others (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 these 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. Hosting the workshop virtually allowed some people to participate who were unable to attend the in-person meeting. The workshop participant list is attached as Appendix A.

Pre-Workshop Briefing

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" to provide a foundation for discussion at the "Exploring Options for Authorizing Offshore Aquaculture" 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. The document as distributed to participants is attached as Appendix B. The NSGLC plans to publish a revised and expanded version of the background document as part of the final workshop proceedings in a special issue of the *Sea Grant Law and Policy Journal in 2021*.

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. Second, the NSGLC wanted to highlight key findings from the background document and begin to establish among participants a common understanding 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 background document author, and an interactive Q&A session. The presentation slides and notes from the Q&A session are attached as Appendix C.

Virtual Workshop

The "Exploring Options to Authorize Offshore Aquaculture" 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 process. On Day 2, participants evaluated the identified needs against a range of available property rights mechanisms. The workshop agendas are attached as Appendix D.

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.

On Day 1, following participant introductions, participants were assigned to one of four breakout sessions based on their organizational affiliations (government or industry). 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 (government (G) or industry(I)). The notes from these 4 breakout sessions are available in Appendix E. Following the breakout sessions, participants came back together to debrief and share their thoughts on the discussions. Workshop discussions focused primarily on the following issues:

- The need for clarity and certainty regarding the authorization process (both G and I).
- The need for a siting process that enables the balancing of competing uses (both G and I).
- The need for clear governmental authority to grant desired property rights (G).
- The need for property rights to be transferable to enable the sale of a business or allow the use of innovative models (e.g., industrial parks) (I).
- The need for property rights to be awarded on a time frame that matches aquaculture production and business cycles (I).
- The need for some financial return to government for use of public space (G).

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. The draft analytical matrix is attached as Appendix F

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.) meets 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 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 Appendix G.

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.

Next Steps

The NSGLC will work over the course of the summer to further refine the criteria matrix and cross-walk the priority criteria against authorization mechanisms available under current law. The NSGLC will also develop 1-2 case studies of offshore aquaculture projects to further explore the extent to which the various property rights criteria are present, if at all, under current law.

The NSGLC will re-engage the virtual workshop participants in September 2020 to provide feedback on the cross-walk and begin the process of drafting policy recommendations or model legislative language to address identified gaps. The objective of the final workshop engagement,

tentatively planned for February 2021, will be to reach consensus on the proposed recommendations.

Collaborators and Sponsors

The NSGLC contracted with Becky Roberts, President and CEO of Catoctin Consulting, for workshop facilitation services. Becky 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.

The NSGLC would like to thank the members of the workshop Steering Committee for their service and insights during the workshop planning process.

- Neal McMillin, Legislative Assistant, Senator Roger F. Wicker
- Alyson Myers, President, Fearless Fund
- Paul W. Zajicek, Executive Director, National Aquaculture Association

This workshop was funded by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce 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.

Appendices:

- A: List of Participants
- B: "Authorization Options for Use of Federal Waters for Aquaculture" Background Document
- C: Miro slides from May 5
- D: Agendas for the May 12-13 Workshop
- E: Miro slides from May 12
- F: Draft analytical matrix template
- G: Miro slides and analytical matrices from May 13

APPENDIX A

PARTICIPANT LIST

First Name	Last Name	Title	Organization
Everard	Ashworth	Commissioner	Ventura Harbor Commission
Sebastian	Belle	Executive Director	Maine Aquaculture Association
Jennifer	Bender	Executive Director, Marine Studies Consortium and Program Director for Online Sustainable Marine Aquaculture Program	University of Massachusetts - Boston
Terra	Bowling	Sr. Research Counsel	National Sea Grant Law Center (Organizer/Notetaker)
Sarah	Brenholt	Policy Associate	Stronger America Through Seafood (Alternate for Margaret Henderson)
Robin	Craig	James I. Farr Presidential Endowed Chair of Law	University of Utah College of Law
John	Duff	Professor of Environmental Law and Policy, School for the Environment	University of Massachusetts - Boston
Luke	Fairbanks	Assistant Research Professor	Gulf Coast Research Lab, University of Southern Mississippi
Susan	Farady	Assistant Professor of Marine Affairs	University of New England
Lucas	Feinberg	Energy Program Specialist	Bureau of Ocean Energy Management, Office of Renewable Energy Programs
Brian	Fredieu	Policy Analyst	NOAA Fisheries Office of Aquaculture
Bob	Gordon	Founding Partner	Pacific6
Catherine	Janasie	Sr. Research Counsel	National Sea Grant Law Center (Organizer/Notetaker)
Don	Kent	President and CEO	Hubbs Seaworld Research Institute
Zachary	Klein	Ocean and Coastal Law Fellow	National Sea Grant Law Center (Organizer/Notetaker)
Donna	Lanzetta	CEO and Founder	Manna Fish Farms
Kelly	Lucas	Director	Thad Cochran Marine Aquaculture Center, University of Southern Mississippi
Neil	McMillin	Legislative Assistant	Senator Roger Wicker (R-MS)
Jenny	Molloy		EPA Headquarters, Water Permits Division
Kat	Montgomery	Sea Grant Knauss Fellow	Senator Roger Wicker (R-MS) (Observer)
Alyson	Myers	President	Fearless Fund
Stephanie	Otts	Director	National Sea Grant Law Center (Organizer)
Dennis	Peters	Executive Director	Gulfstream Aquaculture
Read	Porter	Senior Staff Attorney	Rhode Island Sea Grant Legal Program
Mark	Rath	Aquaculture Manager	NOAA Sea Grant
Robert	Rheault	Executive Director	East Coast Shellfish Growers Association
Ken	Riley	Marine Ecologist	NOAA National Ocean Service (Alternate for James Morris)
Becky	Roberts	Facilitator	Catoctin Consulting, LLC
Sean	Roberts	Attorney-Advisor	NOAA Office of General Counsel, Fisheries and Protected Resources Section
Robert	Smith	Partner	K&L Gates
William	Spencer	Co-Founder	Mariculture Evolution Group
Paul	Zajicek	Development Director	National Aquaculture Association

APPENDIX B

"AUTHORIZATION OPTIONS FOR USE OF FEDERAL WATERS FOR AQUACULTURE" BACKGROUND DOCUMENT

AUTHORIZATION OPTIONS FOR USE OF FEDERAL WATERS FOR OFFSHORE AQUACULTURE

ZACHARY KLEIN, J.D., OCEAN AND COASTAL LAW FELLOW

MAY 2020

NSGLC-20-05-01

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I. INTRODUCTION[1]

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 for its growing population, some look to the nation's vast ocean territory as a place with considerable potential to expand domestic production. While aquaculture operations are now 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.[2] In fact, NOAA has identified regulatory uncertainty as the major barrier to developing offshore aquaculture in the United States.[3] 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 waters end (3 miles from the coast) and extend to 200 miles offshore. This has created a confusing overlap of statutes for offshore aquaculture in the U.S., and this uncertainty has long-reaching implications. This uncertainty is one of the main barriers to commercial investment, as it makes it difficult for operators to estimate profitability and secure financing.[4]

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.[5] Proponents of open ocean aquaculture development assert that without some form of long-term permitting or leasing of the water surface, water column, and seabed, open ocean aquaculture will have significant problems in securing capital from traditional funding sources and in obtaining suitable insurance on the capital investment and stock.[6] 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.[7]

With this in mind, there are multiple, non-exclusive options for authorizing offshore aquaculture's use of marine space, such as leases, licenses, easements, and permits. Each option

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[1] This product was prepared by the National Sea Grant Law Center under award number NA18OAR4170079 from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce.

[2] Harold F. Upton & Eugene H. Buck, *Open Ocean Aquaculture*, CONG. RES. SERV. at 2 (Aug. 9, 2010). Available at https://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL32694.pdf.

[3] *National Ocean Policy Study, Hearing on Offshore Aquaculture before the Senate Comm. on Commerce, Science, and Transportation* (April 6, 2006) (written statement of Dr. William T. Hogarth, Assistant Administrator for Fisheries, Nat'l Marine Fisheries Service, Nat'l Oceanic and Atmospheric Admin., U.S. Dept. of Commerce).

[4] Upton & Buck, *supra* n.1 at 2.

[5] *Id.* at 4.

[6] *Id.* at 4-5.

[7] *See id.* at 5.

has different strengths and weaknessess with respect to addressing the needs of industry, regulators, and the public on whose behalf the federal government manages offshore waters.

This white paper was prepared to inform discussion at the "Exploring Options for Authorizing Offshore Aquaculture" workshop (held May 12-13, 2020). In light of the workshop's scope, this white paper considers only the legal mechanisms for aquaculture facilities to occupy federally-governed offshore waters, rather than the full array of authorizations that would be needed to get a project up and runnning.

II. INTERNATION, FEDERAL, AND STATE FRAMEWORK

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.[8] 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. Beyond the territorial sea, nations may claim an "exclusive economic zone," or EEZ, extending from 12 nm to 200 nm from a nation's coast. In the EEZ, 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.[9]

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;"[10] however, it may extend beyond 350 nautical miles if certain conditions are met.[11] On its continental shelf, a nation may claim sovereign rights to explore and exploit the natural resources of the continental shelf.[12] Taken together, these provisions essentially grant coastal nations authority to control activities occurring not only on and below the seafloor, but also in the water column.

The United States has signed but never ratified UNCLOS, so it is not a party to the treaty and its provisions are not binding on the federal government. Nevertheless, the U.S. recognizes many of its provisions as customary international law 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.[13] President Reagan subsequently claimed a 200 nm EEZ through Proclamation No. 5030 in 1983,[14] and similarly proceeded to extend the U.S. territorial sea to 12 nm through Proclamation No. 5928 in 1988.[15]

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[8] United Nations Convention on the Law of the Sea III (entered into force November 16, 1994).
[9] *Id.* at Art. 56.1.
[10] *Id.* at Art. 76.1.
[11] *Id.* at Art. 76.4-76.7.
[12] *Id.* at Art. 7671.
[13] Proclamation No. 2667, 3 C.F.R. 67, 68 (1943-1948 Comp.).
[14] Exclusive Economic Zone of the United States of America, Proclamation No. 5030, 48 Fed. Reg. 10,605 (March 14, 1983).
[15] Territorial Sea of the United States of America, Proclamation No. 5928, 54 Fed. Reg. 777 (December 27, 1988).

B. Federal Framework

Various federal statutes also refer to these areas and, in some cases, define them. For example, the Outer Continental Shelf Land 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 […]."[16] The Energy Policy Act of 2005 subsequently amended the OCLSA to allow leasing of the OCS for offshore wind energy production and resolve uncertainties regarding the permitting of such projects.[17] Congress has elsewhere explicitly invoked its authority to allocate living marine resources in the EEZ, such as in the Magnuson-Stevens Fishery Conservation and Management Act and its reauthorizations.[18]

In 1953, Congress passed the Submerged Lands Act ("SLA"), which generally recognizes coastal states' jurisdiction over the waters extending three nm from shore.[19] The jurisdictions of Texas and Florida, respectively, extend nine nautical miles into the Gulf of Mexico because each state had claimed an extended boundary prior to joining the Union.[20] Within their offshore boundaries, eligible 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 [...]."[21] Accordingly, coastal states are vested with the discretion to decide for themselves how to regulate aquaculture within their jurisdictional waters. In principle, this means that there are 30 different frameworks that govern aquaculture occurring within three nautical miles of U.S. shores.

C. State Frameworks

The SLA reversed the 1947 decision of the U.S. Supreme Court in *U.S. v. California*,[22] which had held that the federal government has paramount authority over the navigable waters, submerged lands, and resources therein that are seaward of the ordinary low water mark.[23] Coastals states were eager to nullify the decision because they had controlled the seabed without dispute by the federal government until 1937.[24] This authority was, and once again is, derived from the Public Trust Doctrine ("PTD").

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[16] 43 U.S.C. §1331(a).
[17] Joseph B. Nelson and David P. Yaffee, *The Emergence of Commercial Scale Offshore Wind: Progress Made and Challenges Ahead*, 10 SAN DIEGO J. OF CLIMATE AND ENERGY L. 25, 31 (2019).
[18] 16 U.S.C. § 1801(2)(b) (2007).
[19] 43 U.S.C. §1301(b).
[20] *Id.* at §§ 1312, 1301(b); *see also United States v. Louisiana*, 363 U.S. 1, 66 (1960).
[21] 43 U.S.C. §1311.
[22] 322 U.S. 19.
[23] David C. Slade, et al, PUTTING THE PUBLIC TRUST DOCTRINE TO WORK, 2nd ed. (1997) at 315. Available at https://shoreline.noaa.gov/docs/8d5885.pdf.
[24] *Submerged Lands Act*, Nat'l Oceanic and Atmospheric Admin. (accessed April 28, 2020). Available at https://coast.noaa.gov/data/Documents/OceanLawSearch/Summary%20of%20Law%20-%20Submerged%20Lands%20Act.pdf.

The PTD is a principle with roots in ancient Roman law. 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." This was traditionally interpreted 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. The tenets of PTD were maintained through English common law and inherited by the original 13 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. 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.[25] With this ownership came the PTD obligations that the original 13 states had also incurred by gaining authority over Crown lands. 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 U.S. Supreme Court has repeatedly confirmed the states' public trust obligations, originally in the 1842 case *Martin v. Waddell* and perhaps mostly famously in *Illinois Central Railroad Co. v. Illinois*.[26] 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.[27] States may extend the PTD to more lands or more uses within their state but, at a minimum, must ensure their actions meet the standards of *Illinois Central*. Bound by this constraint, all states have interpreted their PTD rights and obligations in different ways, resulting in individual, state-by-state legislative and judicial interpretations. As a result, there are essentially no two state PTDs that are the same within the United States.[28] 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, the conveyance of eligible lands and waters to private parties for shellfish and finfish aquaculture must be in furtherance of the public trust.

[25] 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. Quarterly 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'ners*, 85 U.S. (18 Wall.) 57, 65-66 (1873).
[26] 146 U.S. 387 (1892).
[27] *Id.* at 452. The Court also prohibited states from transferring of trust property unless it benefits the trust, such as through building wharves and docks.
[28] 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. AND POLICY J. 2 at 4 (2020).

D. Federal Public Trust?

While "[s]tate governments are well-established trustees under the PTD,"[29] application of PTD to the federal government is an unsettled area of law.

In 2012, the D.C. Circuit Court of Appeals affirmed a lower court's interpretation of the U.S. Supreme Court's decision in *PPL Montana, L.L.C. v. Montana*,[30] as precluding application of the PTD to the federal government.[31] However, earlier federal district court opinions from other jurisdictions have explicitly applied the PTD to the federal government, albeit only *in dicta* (without binding legal consequence). A Massachusetts federal district court has even remarked that "the [PTD] […] is governmental and administered jointly by the state and federal governments by virtue of their sovereignty."[32]

Contrary to *PPL Montana*, the U.S. Supreme Court has elsewhere recognized public trust obligations in the federal government's management of public lands without explicitly invoking the PTD.[33] Nevertheless, the U.S. Department of Justice disavows the existence of a federal PTD.[34] Debate over the existence and scope of a federal PTD has recently enjoyed a renaissance due to its prominence in the *Juliana v. US* climate change case that had captured headlines before being dismissed by the Ninth Circuit Court of Appeals in January 2020.[35] 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. Although *Juliana* concerned the application of PTD to the federal government's management of the atmosphere as a public trust resource, uncertainty likewise abounds in the existing literature that considers whether PTD applies to the federal government's management of the EEZ in particular.[36]

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[29] Michael C. Blumm & Mary Christina Wood, THE PUBLIC TRUST DOCTRINE IN ENVIRONMENTAL AND NATURAL RESOURCES LAW 6 (2013).
[30] 132 S. Ct. 1215 (2012)
[31] 863 F. Supp. 2d 11 (D.D.C. 2012), *aff'd sub nom. Alec L. ex rel. Loorz v. McCarthy*, 561 F. App'x 7 (D.C. Cir. 2014), *cert denied* 135 S. Ct. 774 (2014).
[32] *United States v. 1.58 Acres of Land*, 523 F.Supp. 120, 124 (D. Mass. 1981).
[33] *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 & Coking Co*., 137 U.S. 160, 170 (1890)("the [federal] government should not be regarded as occupying the attitude of a meer seller of real estate for its market value. […] [These lands] were held in trust for all the people […].").
[34] *See* Blumm & Wood, *supra* n. 28 at 338 ("[T]he Department of Justice, representing the federal government, resists mightily any public trust duty in litigation.").
[35] John Schwartz, *Court Quashes Youth Climate Change Case Against Government*, NEW YORK TIMES (Jan. 17, 2020). Available online at https://www.nytimes.com/2020/01/17/climate/juliana-climate-case.html.
[36] *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 N.E. U. L.J. 209, 235 (2012); Hope M. Babcock, Grotius, *Ocean Fish Ranching,and the PublicTrust 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).

Offshore Water Jurisdictions in Nautical Miles (nm)	
State Waters	• Most U.S. states = 3 nm • TX and FL Gulf Coast = 9 nm
Federal Waters	• Territorial Sea = 3 to 12 nm • EEZ = 12 to 200 nm • Continental shelf could extend jurisdiction up to 350 nm
International Waters	• > 200 nm

U.S. OUTER CONTINENTAL SHELF

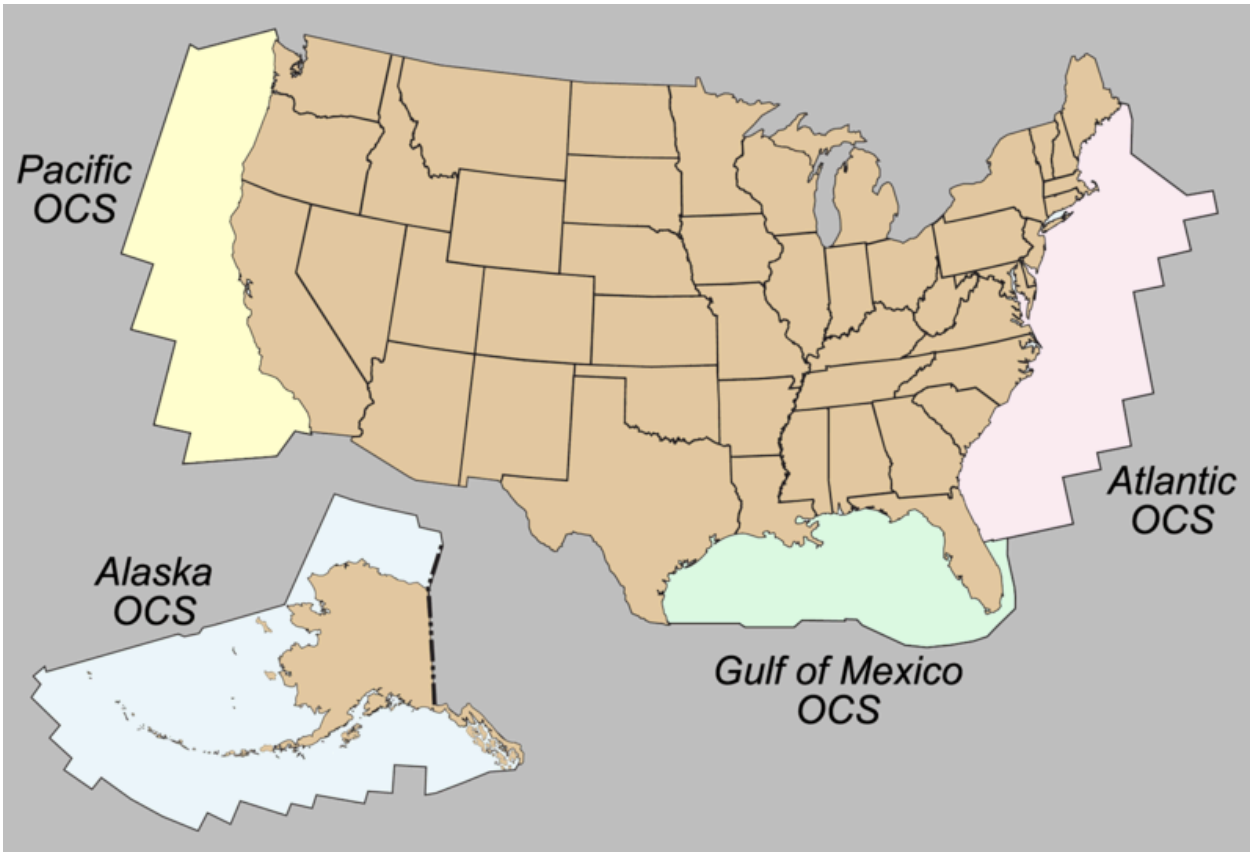

Image Courtesy of DOI

III. AUTHORIZATION OPTIONS - LEGAL BASICS

In order to engage in meaningful discussions regarding the options for authorizing aquaculture's use of federal offshore waters, it is important to have an accurate and informed understanding of the legal terminology that arises in this context. Listed below are terms describing property interests that are likely to arise in such a discussion, as well as their respective defintions 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, 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, usu. 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.

IV. EXISTING FEDERAL MODELS

A. Oil and Gas Leasing (OCSLA)

Oil and gas leasing on the Outer Continential Shelf ("OCS") is regulated by the Outer Continental Shelf Lands Act ("OCSLA"), which was enacted in 1953. The statute calls for the creation of five-year programs that function as schedules of proposed leases.[37] After assessing the nation's energy needs and potential economic, social, and environmental impacts associated with development, the Secretary of Interior prepares a program that identifies the timing, size, and general location of leasing activities.[38] The Secretary must perform an environmental impact statement ("EIS") as detailed by the National Environmental Policy Act ("NEPA") in the course of her assessment, and the program must be published in the Federal Register after being submitted to the respective governors of states affected by the program.[39]

The mechanics of the leasing process are established by Section 8 of the OCSLA and its implementing regulations.[40] This multi-step process begins with the Director of the Bureau of Ocean Energy Management publishing a call for information and nomination regarding potential lease areas.[41] The Director then considers all of the available information and performs an environmental analysis as required by NEPA to create a list of recommended areas for leasing and any proposed lease stipulations.[42] 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.[43] The OCSLA and its regulations authorize the governor of an affected state and the executive of any local government within an affected state to submit to the Secretary any recommendations concerning the size, time, or location of a proposed lease sale within 60 days after notice of the lease sale.[44] The Secretary must accept a governor's recommendations if she determines that the recommendations reasonably balance the national interest and the well-being of the citizens of the affected state, but has the discretion to accept a local government executive's recommendations.[45]

The Secretary generally grants a lease to the highest bidder at the end of this process, but there are narrow exceptions to this rule.[46] Successful bidders must generally 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.[47] If lessees plan on engaging in exploration for oil and gas, they must prepare an exploration plan containing detailed information and analysis to the

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[37] *Id.* at §1344(a), (e).
[38] *Id.*
[39] *Id.* at §1344(f).
[40] *See* 43 U.S.C. §1337; 30 C.F.R. §§ 556.302-556.308.
[41] 30 C.F.R. §556.302.
[42] *Id.* at §556.304.
[43] *Id.*
[44] 43 U.S.C. §1345(a).
[45] *Id.* at §1345(c).
[46] *Id.* at §1337(d).
[47] *Id.* at §1337(a)(7); 30 C.F.R. §§556.900-556.907.

appropriation regional BOEM director.[48] This exploration plan is subject to review under both NEPA and the Coastal Zone Management Act.[49] Similarly, operators must undergo additional regulatory review and environmental analysis before commencing development and production.[50]

Under the OCSLA, a lease may be suspended: (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; or (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.[51] The regulations also allow for a lease to be suspended: (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.[52] When a lease is suspended, the 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.[53]

If suspension reaches five years, Secretary may cancel a lease after holding a hearing and finding that: (a) 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; (b) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; or (c) the advantages of cancellation outweigh the advantages of continuing the lease and attached permits.[54] The OCSLA provides for certain damages to lessees in the event of cancellation, specifically the lesser of: (i) the fair value of the canceled rights on the date of cancellations, or (ii) 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.[55]

Leases can be transferred or assigned under the terms of the OCSLA, with some restrictions.[56] Additionally, most OCSLA leases obligate the lessee to pay royalties based on the "amount or value of the production saved, removed or sold" by the lessee.[57] Generally, the royalty rate is at least 12.5%,[58] but some leases are exempt from payment pursuant to a statutory or

[48] 43 U.S.C. §1340(b)-(c); 30 C.F.R. §§550.226, 550.227, 550.232, 550.235.
[49] 30 C.F.R. §§ 550.232(c) and 550.235.
[50] 43 U.S.C. §1351; 30 C.F.R. §550.201.
[51] 43 U.S.C. §1334(a)(1).
[52] 30 C.F.R. §250.173-250.175.
[53] 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).
[54] 43 U.S.C. § §1334(a)(2)(A)(i)-(iii); see 30 C.F.R. §§550.180- 550.185.
[55] 43 U.S.C. §1334(a)(2)(C); see 30 C.F.R. §§550.184-550.185.
[56] The statute requires transferees or assignees to continue compliance with OCSLA, related regulations, and all lease terms, and also 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 approriate regional BOEM OCS. (Form BOEM-2005 (February 2017)).
[57] 43 U.S.C. §1337(a)(1).
[58] *See id.*

administratively determined decision.[59] These royalties are unrelated to potential environmental degradation that may be caused by related activities; rather, they 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 […]."[60] BOEM sets royalty rates, rentals rates, and even minimum bid levels based on its assessment of market and resource conditions.[61]

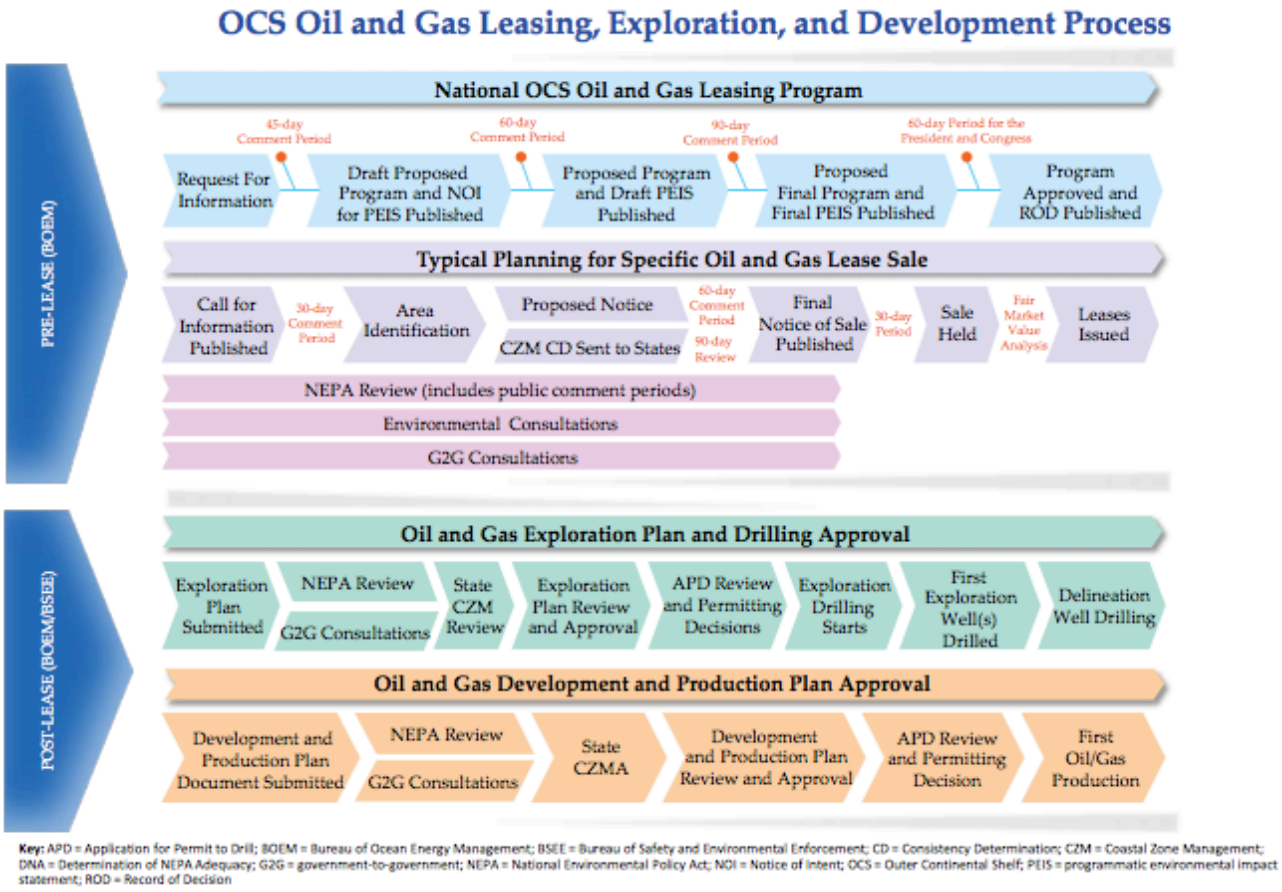

Image Courtsey of BOEM

[59] The Deepwater Royalty Relief Act of 1995 (P.L. 104-58) provides for an exemption for certain deepwater leases issued during a specific time frame. In addition, Section 8 of OCLSA (43 U.S.C. §1337) authorizes certain administrative exemptions to be issued at the discretion of BOEM. For further information on the various exemptions to royalty payment obligations, see http://www.boem.gov/Royalty-Relief- Information/.

[60] 43 U.S.C. §1344(a)(4).

[61] Bureau of Ocean Energy Management, *Fair Market Value*, DEPT. OF THE INTERIOR (accessed April 13, 2020). Available online at https://www.boem.gov/oil-gas-energy/energy-economics/fair-market-value.

B. Offshore Wind and Wave Energy

When Cape Wind Associates, LLC proposed the first offshore wind project in U.S. waters in 2001, the U.S. Army Corps of Engineers ("the Corps") claimed jurisdiction over renewable energy projects under the Rivers and Harbors Act ("RHA").[62] Section 10 of the RHA vests the Corps with the authority to permit projects that obstruct navigation on the nation's navigable waters and on the OCS. This is the same authority under which the Corps currently permits offshore shellfish operations.[63]

In limited circumstances, the Corps' jurisdiction under the RHA extends beyond the territorial sea to the seaward limit of the outer continental shelf. Section 4 of the OSCLA states, "[T]he authority of the Secretary of the Army to prevent obstructions to navigation in the navigable waters of the United States is extended to the artificial islands, installations, and other devices referred to in [§1333(a)]."[64] Navigable waters of the U.S. include the EEZ. Section 1333(a) extends federal jurisdiction to:

> all artifical islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon 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.[65]

Pursuant to this authority, the Corp regulations require permits "for the construction of artifical islands installations, and other devices on the seabed, to the seaward limit of the outer continental shelf."[66] The duration of these permits is at the discretion of the district issuing the permit, but nationwide permits and regional general permits are valid for no more than five years.[67] Additionally, permitted activities must be consistent with the coastal zone management program of any eligible states, and consultation under Section 7 of the Endangered Species Act and/or the Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act may be required before a permit can be issued. The permit holder must allow for public access at the installation site, and for permits authorizing discharges into waters regulated under the Clean Water Act, applicants must also obtain a water quality certification or waiver from the Environmental Protection Agency or an eligible state program.[68]

With this in mind, Cape Wind sought a Section 10 permit from the Corps in 2001 to build a data collection tower on the OCS that would collect information on the feasibility of an offshore wind

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[62] 33 U.S.C. §§ 407-687.
[63] Amanda Nichols, *Shellfish Aquaculture Permitting Under Nationwide Permit 48*, NATL. SEA GRANT L. CENTER (January 2019) at 2. Available at http://nsglc.olemiss.edu/projects/shellfish-aquaculture/files/nwp48.pdf.
[64] 43 U.S.C. § 1333(e).
[65] *Id.* at § 1333(a).
[66] 33 C.F.R. § 322.3(d).
[67] Regulatory Program, *Federal Aquaculture Regulatory Fact Sheet Series,* U.S. ARMY CORPS OF ENG'RS (accessed April 27, 2020). Available at https://www.ars.usda.gov/SCA/Fact%20Sheets/USACE%20Federal%20Aquaculture%20Regulatory%20Fact%20Sheet%20Series.pdf.
[68] *Id.*

facility in the area. The Corps eventually issued the permit to Cape Wind after a lengthy NEPA review, but then had their authority to do so challenged by the Alliance to Protect Nantucket Sound. The case was litigated, and the court ultimately decided that the Corps had the authority to issue the permit.[69]

In 2005, however, Congress passed the Energy Policy Act ("EPAct") to clarify the permitting process for renewable energy projects on the OCS. 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, as well as to allow for alternate uses of existing facilities on the OCS.[70] The EPAct also specifies that it does not alter the authority of federal agencies under separate federal laws; as a result, it did not alter the Corps' authority under Section 10 of the RHA, nor the authority of other federal agencies under laws like the Clean Water Act or the Endangered Species Act.

DOI published its final rules for offshore renewable energy projects on the OCS in April 2009. Promulgated under the OCSLA, the regulations detail the process for applicants to obtain leases, easements, and rights-of-way on the OCS, as well as for alternate uses of existing OCS facilities.[71] In this context, rights-of-way are for purposes other than leases or permits, such as pipeline authorizations.

The regulations provide for two types of leases: commercial leases and limited leases. Commercial leases are intended for the commercial production of energy on the OCS and give the developer the right to produce, sell, and deliver power created from a renewable energy project on a commercial scale.[72] Limited leases, on the other hand, are for activities that support energy production but do not produce energy to be sold, distributed, or used in another way.[73] These leases are issued for a five-year period and give the lessee an easement over a part of the OCS to install substations, lines, and pipelines.[74]

Much like the oil and gas leasing under the OCSLA, obtaining a lease is merely the beginning of a multi-step process that an aspring lessee must go through before their offshore wind farm is operational. 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; [75] (3) Approval of a Site Assessment Plan ("SAP"); and (4) Approval of a Construction and Operations

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[69] *Alliance to Protect Nantucket Sound, Inc. v. Dept. of Army*, 288 F.Supp.2d 64, 75 (D. Mass. 2003).
[70] EPACT 2005, P.L. 109-58, § 388(e) (August 8, 2005).
[71] 30 C.F.R. Part 585- Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf; *see also* NAT'L SEA GRANT L. CTR., OFFSHORE RENEWABLE ENERGY REGULATORY PRIMER (2009).
[72] 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 CFR part 580. Such resources include, but are not limited to, wind, solar, and ocean waves, tides, and current."
[73] 30 C.F.R. § 585.112.
[74] 30 C.F.R. § 585.236.
[75] 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 F.R. 28178. 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.

Plan ("COP").[76] Obtaining a lease does not mean a project is ready to begin construction, but rather, is simply the next step in the leasing process.

The commercial lease process continues through a phased-in process similar to that required under the OCSLA, in that applicants must submit plans and obtaining approval therefore through later stages of this process in order to continue moving towards development. These include a SAP[77] and a COP.[78] Although the SAP and COP are separate steps under the regulations, the developer does have the option to submit its COP with its SAP.[79] Once the COP is approved, commercial leases then provide a twenty-five year term for the developer to operate the facility.[80]

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.[81] BOEM must approve a GAP before activities on a lease can begin. Once BOEM approves the GAP, the developer has five years to conduct the approved activities, and the possibility exists to renew the lease.[82]

For approval, any SAP, COP or GAP 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 personal.[83]

In hopes of speeding up the approval process for offshore wind projects on the OCS, DOI announced its Smart from the Start Initiative in November of 2010.[84] As part of the Smart from the Start process, BOEM has designated Wind Energy Areas ("WEAs"), which have the best renewable energy potential and the least amount of conflicts with other uses, like shipping routes and wildlife habitats. In addition to requiring BOEM-led regional environmental assessments,

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[76] Office of Renewable Energy Programs, *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia, Final Environmental Assessmen*t, BUREAU OF OCEAN ENERGY MGMT. (Jan. 2012).
[77] 30 C.F.R. §§ 585.605-613.
[78] 30 C.F.R. § 585.620.
[79] 30 C.F.R. § 585.235(a). For competitive leases, once DOI issues the lease, the developer has six month to submit a SAP or combined SAP and COP, while a noncompetitive lease does not have this preliminary term.
[80] 30 C.F.R. § 585.235.
[81] 30 C.F.R. § 585.640.
[82] 30 C.F.R. § 585.652.
[83] 30 C.F.R. § 585.606; 30 C.F.R. § 585:621; 30 C.F.R. § 585:641.
[84] DEPT. OF THE INTERIOR, *Salazar Launches 'Smart from the Start' Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast* (Nov. 23, 2010). Available at http://www.doi.gov/news/pressreleases/Salazar-Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm.

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.[85]

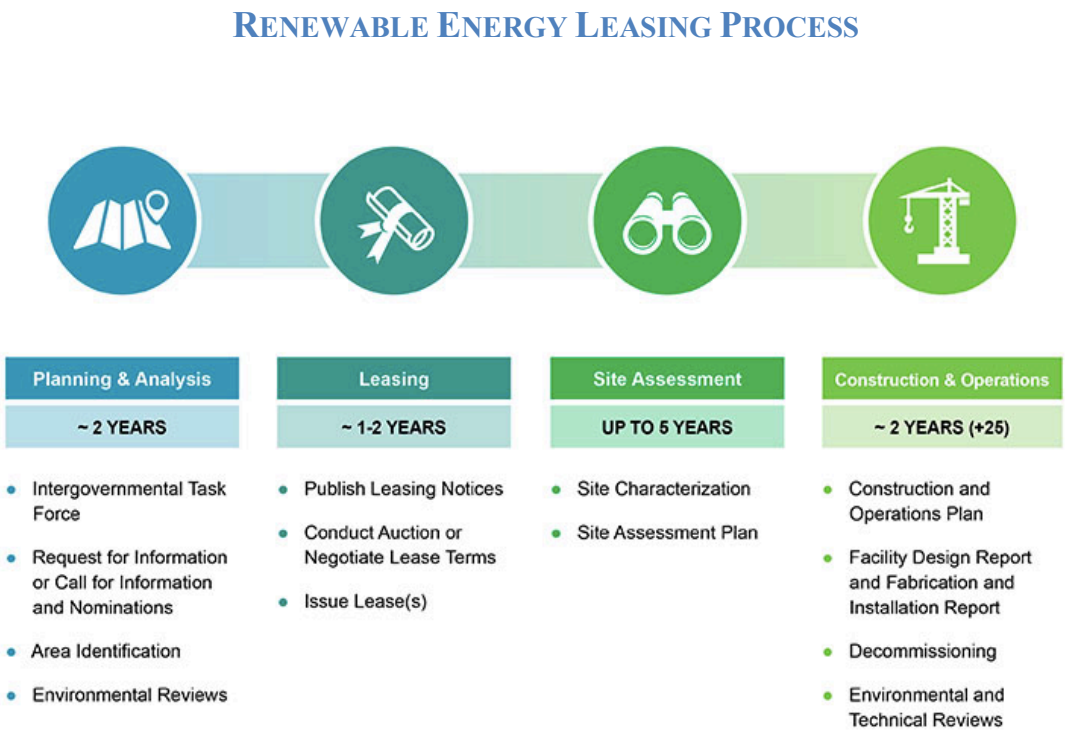

Image Courtesy of BOEM

[85] *Frequently Asked Questions*, Smart from the Start Atlantic OCS Offshore Wind Initiative.

C. Leasing of Grazing Rights

The Bureau of Land Management ("BLM") within the Department of Interior manages livestock grazing on 155 million acres of public lands. On these lands, BLM 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 more than 21,000 allotments. An allotment is a geographical area of, generally, contiguous land that 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 can have one or more allotment.

Permits and leases generally cover a ten-year period and are renewable if BLM determines that the terms and conditions of the expiring permit or lease are being met.[86] An applicant must own base property and livestock to be eligible for a term 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.[87]

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 type of grazing procedure is the Rest-Rotation system. If the allotment consisted of three pastures, one of them would receive 12 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.[88]

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.[89] One AUM is defined as the amount of forage required to support a cow and her calf for one month.[90] 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. A lower number of AUMs is assigned, or 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, the kind and number of livestock.[91]

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[86] Bureau of Land Management, *Livestock Grazing on Public Lands*, DEPT. OF THE INTERIOR (accessed Apr. 2, 2020). Available at https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing.
[87] James D. Keyes and Jamie J. Keyes, *Federal Lands Grazing Permits: Managing Rangeland Resources*, UTAH STATE UNIVERSITY EXTENSION PROGRAM (Mar. 2015).
[88] *Id*.
[89] *Id*.
[90] *Id*.
[91] *Id*.

The cost of the grazing fee is annually computed 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.[92] 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 Presidential Executive Order issued in 1986, the grazing fee cannot fall below $1.35 per AUM, and any increase or decrease cannot exceed 25 percent of the previous year's level.[93]

Notably, the BLM's grazing system allows for both permits and leases. These instruments are, however, nearly identical in practice, with the only difference being 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.[94]

D. National Forest Timber Sales

The U.S. Forest Service ("USFS") within the U.S. Department of Agriculture manages about 114.9 million acres of federally owned forests, 96.1 millions acres of which is timberlands. The USFS manages its timber lands under the Multiple Use-Sustained Yield Act of 1960 ("MUSYA"), which directs the agency to balance multiple uses while ensuring there is a sustained yield from the forests into the future. The National Forest Management Act requires the USFS to engage in long-term planning for the use and management of the National Forest, and planning for timber harvesting is included in this process. As is discussed below, 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 process, which is predominantly lead from headquarters, USFS planning is done by the regional offices for each particular National Forest.[95] 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.[96]

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 creates 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 harevest methods, and conditions for building roads in the forest. The contracted timber harvest generally has to be completed in ten years.[97]

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[92] *Id*.
[93] Executive Order 12548, 51 Fed. Reg. 5985 (February 19, 1986).
[94] *See* 43 U.S.C. §§ 315, 315b, and 315m.
[95] *See* Forest Service Manual 2410 (2003).
[96] Forest Service Handbook 2409.13.40 (1996).
[97] 16 USC § 472a.

In addition to timber sale contracts, the USFS does issue permits in two situations. The first is a Forest Product Removal Permit, which authorizes either the personal or commercial use of forest products. The permit allows the permittee to remove timber and other "special forest products" like mushrooms. The permit is meant for harvesting that will only have a limited resource impact, and comes with a minimum charge of $20.[98]

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.[99]

Determining what Federal Space to Authorize for Use			
Resource Area	**Agency**	**Planning Process**	**Areas Identified**
Offshore Oil and Gas	BOEM	5-Year Lease Plans	OCS Planning Areas
Offshore Renewable	BOEM	Approx. 2-year planning process	WEAs, Call Areas
Grazing Lands	BLM	Annual allocation of AMUs	All areas already permitted
National Forests	USFS	Forest Plans (updated every 15 years)	Determined on a forest-by-forest basis

[98] *Timer Sale, Stewardship, and Forest Products Contracts and Permits*, U.S. FOREST SERV., https://www.fs.fed.us/forestmanagement/products/contracts.shtml.
[99] *Id.*; *see also* Forest Service Manaul 2462 (2002).

Authorization Mechanisms for Activities on Federal Property				
Resource Area	**Agency**	**Authorization Type**	**Term**	**Fee**
Offshore Oil & Gas	BOEM	Lease * Rights-of-way and easements in limited circumstances	5-10 years	Lease to highest bidder; Pay royalties on production
Offshore Renewables	BOEM	Commercial Lease Limited Lease	25 years 5 years	For competitive leases, auction format used
Grazing	BLM	Permits *Leases for isolated/uniquely situated areas	10 years	At lease $1.35/AMU; Can't change by more than 25% in one year
National Forests	USFS	Contracts * Permits in limited circumstances	Less than 10 years	Contract to highest bidder based on USFS appraised price

V. EXISTING MODELS - STATES

A. Maine

Maine law provides the leasing and regulatory framework for aquaculture of both the shellfish and finfish varieties 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 shellfish.[100] Offshore aquaculture leases are granted for the state's coastal waters, including the public lands beneath those waters and portions of the intertidal zone.[101] The leases last for a period of up to 10 years, with a possible renewal for another 10 years, and an area of up to 100 acres.[102] However, the DMR may also issue an experience lease or a limited-purpose aquaculture license ("LPA") for commercial aquacutlure research and development for scientific research.[103] 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. Bottom culture is notably ineligible for LPAs.

A lease of submerged lands in Maine includes the area in, on and under the coastal waters, including the public lands beneath those waters and portions of the intertidal zone.[104] In Maine, a standard offshore 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.[105]

B. Florida

Florida currently allows only the culture of shellfish in waters subject to the state's jurisdiction. The leasing of publicly owned submerged lands for aquaculture activities is handled by the Florida Department of Agriculture and Consumer Servies – Division of Aquaculture ("DACS"). Fl. Stat. 597.003 directs DACS to work with state and local agencies to identify and designate sovereign lands and waters that are suitable for aquaculture development. Although DACS identifies suitable areas through this process, the applicant may identify other areas as well.

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 needs to be compatible with the area's management plan and other statutory requirements.

A lease of submerged lands includes exclusive use of the water column above the leased area to the extent required by the aquaculture activity.[106] Areas leased for oyster aquaculture must be 10

[100] ME. REV. STAT., tit. 12, § 6072.
[101] *Id.* § 6072(1).
[102] Maine Aquaculture Innovation Center, *Leasing Options* (accessed Apr. 13, 2020). Available at https://www.maineaquaculture.org/leasing-options/.
[103] *Id.* 6072-A.
[104] ME. REV. STAT., tit. 12, § 6072(1).
[105] AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, Bela H. Buck & Richard Langan, Eds., 211 (2017).
[106] FLA. REV. STAT. § 253.68.

acres or less but, while no quantifiable statutory limit on the size of a lease for other aquaculture purposes, the leased area is only supposed to be "large enough to be efficiently used by the lessee."[107] Meanwhile, the lease lasts ten years with the possibility of renewal for another ten.[108]

C. Washington

At statehood in 1889, Washington's Constitution established state ownership to the "beds and shores of all navigable waters in the state […]."[109] These lands are called aquatic lands and are further subdivided into bedlands, which are below the extreme low tide; 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.[110]

Washington is a "nonriparian" state, meaning that aquatic lands are owned by all the people of the state, rather than individuals. However, owners of lands 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.[111]

On the aquatic land that remains state-owned, Washington's Department of Natural Resources ("DNR") is authorized to lease for the cultivation of oysters, claims, and other shellfish. When a shellfish culture project requires the 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.[112] Under this system, certain types of tidelands and shorelines may be leased for up to 55 years.[113] Abutting upland owners receive lease preferences for these tidelands and shorelands.[114]

D. Hawaii

The Hawaii Legislature authorized the lease of state-owned submerged lands for commercial offshore aquaculture in the Ocean Leasing Law of 1999 ("OLL").[115] Leases are administered by the state's Department of Land and Natural Resources ("DLNR"). The OLL allows for the leasing of state marine waters, which it defines as "all waters of the State, including the water column [land], water surface, and submerged lands, extending from the upper reaches of the

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[107] *Id.* § 253.71.
[108] *Id.* § 253.71(1).
[109] Article XVII.
[110] *See* http://www.dnr.wa.gov/Publications/aqr_aquatic_land_boundaries.pdf.
[111] *Inventory of Shellfish Restoration Permitting & Programs in the Coastal States*, THE NATURE CONSERVANCY (Dec. 2014) at 182.
[112] WASH. ADMIN. CODE 332-30-122.
[113] WASH. REV. CODE ANN. § 79.125.200.
[114] *Id.* at § 79.125.400.
[115] Available at 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." § 4. For ease and convenience, however, these activities will be continue to be referred to as "offshore aquaculture" in the remaining analysis.

wash of the waves on shore seaward to the limit of the State's police power and management authority […]."[116] 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 is comprised of both fixed cost and a percentage of gross revenues. Notably, as required by the Law, all leases contain a provision that indicates lessees forfeit their claim to any escaped fish, which become common property of the state.[117]

There are very few limitations pertaining to the duration of an offshore aquaculture lease in Hawaii. Although it is theoretically possible for a lease to last up to 65 years, the recent trend has been a duration of 15 years with the possibility of renewal for another 15 years.[118] Two existing open ocean aquaculture leases respectively last twenty years and fifteen years with possible renewal for another ten years.[119] Rent is calculated as $100 per acre per year or 1.25% of gross sales, whichever is greater, plus the permit processing fee is 2.5% of the project cost (with a limit of $2500).[120]

E. New Jersey

New Jersey allows for state water bottoms to be leased for shellfish aquaculture on both its Atlantic and Delaware Bay coasts.[121] However, naturally productive areas are not open to leasing, as the state wishes to leave those areas open to wild harvest.[122] 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.[123]

To promote the development of oyster aquaculture in New Jersey, the state developed an Aquaculture Development Zone (ADZ) in the mid-2000s for structural aquaculture. Structural aquaculture uses gear to contain seed oysters as they are raised for cultivation purposes, and these structures, including rebar racks, mesh bags, cages, and floats, all need permits from the Corps and the State of New Jersey. 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 also 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.

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[116] *Id.* at 190D-3.
[117] *Id.* at 190D-23(a)(7).
[118] AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, supra n. 79 at 211.
[119] John Corbin, *Offshore Aquaculture Development in Hawaii* (accessed Apr. 9, 2020). Available at https://www.whoi.edu/cms/files/jmcdowell/2006/7/Corbin_Offshore_Aquaculture_Development_in_Hawaii_12248.pdf.
[120] AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, supra n. 79 at 211.
[121] *See* N.J. ADMIN CODE §§ 7:25-24.1 – 7:25-24.17.
[122] *Bureau of Shellfisheries*, N.J. Div. of Fish & Wildlife, https://www.nj.gov/dep/fgw/shelhome.htm (last visited Apr. 30, 2020).
[123] N.J. STAT. ANN. § 50:1-23.

ADZ leases are non-transferable have an initial term of 5 years.[124] However, the state will terminate the lease if it determines "that the ecological impacts of the aquaculture activities are so great that they compromise the integrity and protection of any endangered or non-game species."[125] In order to receive a lease, the leasee must be: 1) 18 years or older; 2) a resident of New Jersey; and 3) posses 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.[126]

F. Oregon

Oregon uses a lease to authorize aquaculture operations.[127] The Oregon Department of State Lands ("the Department") 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 Department 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.[128]

One type of aquaculture, however, is expressly excluded from these provisions: kelp aquaculture.[129] 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 regulatory system using both leases and licenses can be informative.

Application requirements for a special use lease or license include applying in writing to the Department using a form provided by the department and a non-refundable application fee of $750. A fully completed application must be submitted at least 180 days before the proposed use or placement.[130] The Department can implement a competitive bidding process if it believes it would best serve the publication interest to have the parcel in question go through a public bidding process.[131] In addition, the leased or licensed area will be the minimum area required for the requested use.[132]

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[124] BUREAU OF SHELLFISHERIES, N.J DEP'T OF ENVTL. PROT., AQUACULTURE DEVELOPMENT ZONE LEASE APPLICATION, https://www.njfishandwildlife.com/pdf/2011/adz_application_packet.pdf (last visited Apr. 30, 2020).
[125] *Id.*
[126] *Shellfish Leases Available in Delaware Bay*, N.J. DIV. OF FISH & WILDLIFE, https://www.njfishandwildlife.com/news/2011/shellfish_leases.htm (last visited Apr. 30, 2020).
[127] OR. ADMIN. R. 141-082.0265.
[128] OR. REV. STAT. § 274.040.
[129] 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." (emphasis added).
[130] OR. ADMIN. R. 141-125-0130.
[131] OR. ADMIN. R. 141-125-0150.
[132] OR. ADMIN. R. 141-125-0170.

In Oregon, a special use lease will not exceed 30 years unless otherwise approved by the Department. The term of a license will be less than 3 years, and only offers the holder a "non-exclusive, short-term use of a specific area of state-owned land."[133] In the state, a special use lease is assignable, while a special use license is not. However, the state allows subleases and sublicenses.[134] If the special use lease or license holder does not comply with the Department's rules, the lease or license holder will be considered in default. The Department will notify the holder of the default and demand correction within a specified time frame. Failure to do so may result in the Department modifying or terminating the authorization and requesting that the state Attorney General to take appropriate legal action against the holder.[135]

[133] OR. ADMIN. R. 141-125-0120.
[134] OR. ADMIN. R. 141-125-0200.
[135] OR. ADMIN. R. 141-125-0190.

VI. INTERNATIONAL MODELS

A. Norway

The Aquaculture Act of 2005 ("the Act") regulates the management, control and development of aquaculture in both inland waters and marine waters (internal waters, territorial waters, the exclusive economic zone and on the continental shelf), as well as land based aquaculture. The purpose of the Act is "to promote the profitability and competitiveness of the aquaculture industry within the framework of a sustainable development and contribute to the creation of value on the coast." The Act regulates both commercial aquaculture, as well as aquaculture carried out for scientific or educational purposes.

The Act establishes a licensing system, and broadly applies to issues like environmental standards, land utilization, registration, transfer and mortgaging of licences, as well as control and enforcement. The Ministry of Fisheries and Coastal Affairs ("the Ministry") is responsible for administering the Act and may prescribe regulations thereunder. Under the Act, an aquaculture license may be granted if: (1) it is environmentally responsible, the land use interests have been weighed, the requirements concerning land use plans and conservation have been met, and the applicant has also secured the appropriate licenses relating to food safety, pollution and waste management, and harbors and fairways. Aquaculture cannot be carried out without a license.

Under the Act, the Ministry is responsible for prescribing:

- The number of licences to be allocated.
- Geographic distribution of licenses.
- Prioritisation criteria.
- Selection of qualified applications in accordance with the prioritisation criteria in c), including the drawing of lots etc.
- Licence fees.

The Ministry releases license tranches from time to time at its discretion, and the licenses are typically auctioned. The licenses are issued in perpetuity to the highest bidder and become property assets; as a result, they can be mortgaged, bought or sold.[136] 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 and/or recreation. An area has to be assigned for aquaculture in order to be able to establish a fish farm at a particular coastal site, where the license authorizes and protects an aquaculture operation's use of space.[137]

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[136] Mary Moylan, et al., *Review of the aquaculture licensing process*, INDEPENDENT AQUACULTURE LICENSING REVIEW GROUP 33 (May 2017). Available at http://www.fishingnet.ie/media/fishingnet/content/ReviewoftheAquacultureLicensingProcess310517.pdf.

[137] Anne-Katrine Lundebye, *Aquaculture site selection and carrying capacity for inland and coastal aquaculture in Northern Europe*, FOOD AND AGRICULTURE ORGANIZATION (2013) at 173. Available at http://www.fao.org/tempref/FI/CDrom/P21/root/10.pdf.

B. Chile

Aquaculture in Chile is regulated by the Fisheries and Aquaculture Law of 1989 ("the Law") and its amendments. The Law establishes a system with three classes of concessions and authorizations to conduct aquaculture: beach; coastal areas; and water-column and sea-bed lots. No distinction is made with regard to different aquaculture techniques, such as sea ranching. 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.[138]

The concession or authorization confers the right to set up an aquaculture activity 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 Chilean legal entities, may apply for aquaculture concessions and/or authorizations. Aquaculture concessions are granted by the Ministry of Defense and confer the right to use and benefit from State property (marine beaches; public coastal areas; water-column and sea-bed 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. Aquaculture authorizations are granted by the Sub-Secretariat for Fisheries and 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.[139]

As required by the Fisheries and Aquaculture 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."[140]

[138] National Aquaculture Legislative Overview, *Chile*, FOOD AND AGRICULTURE ORG. (accessed Apr. 21, 2020). Available at http://www.fao.org/fishery/legalframework/nalo_chile/en.
[139] *Id*.
[140] *Id*.

VII. CURRENT FEDERAL FRAMEWORK FOR OFFSHORE AQUACULTURE

A. Shellfish

Much like wind energy, the lead federal permitting agency for offshore shellfish culture operations in the United States is the Corps. The Corps draws upon its aforementioned authority from the Rivers and Harbors Act ("RHA") to issue permits for obstructions "to the navigable capcity of any of the waters of the United States."[141] 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)."[142] 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.[143]

The Corps has also amplified its aquaculture permitting experience through Nationwide Permit 48 ("NWP 48"). Nationwide permits ("NWPs") authorize activities across the country. There are currently 54 Nationwide Permits 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.[144] The Corps renews and re-issues the nationwide general permits every five years, "...to update them, and provide clarity and certainty for the regulated public while protecting the aquatic environment."[145] Although NWPs authorize activities on a national level, Corps district commanders may revoke a nationwide permit in a state or other geographic area for various reasons, including specific concerns regarding adverse environmental impacts the implementation of a NWP may impose on an area. States also have some authority to prohibit the application of NWPs, as discussed below. The exercise of this authority can result in a patchwork of NWP coverage across the districts and states of the country.

The most recent iteration of Nationwide Permit 48 ("NWP 48") was finalized in March 2017 to allowing the permitting of commercial shellfish aquaculture activities predicted to have minimum individual and cumulative impacts. The permit "authorizes the installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures into navigable waters of the United States."[146] 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."[147] However, NWP 48 does not authorize cultivation of nonindigenous species (unless that species has previously been cultivated in the body of water in question),

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[141] 33 U.S.C. § 403.
[142] 33 C.F.R. § 329.12(a).
[143] *See Alliance to Protect Nantucket Sound, Inc. v. U.S. Dept. of Army*, 288 F.Supp.2d 64 (D. Mass. 2003) (Where the court concluded that the OSCLA 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. Dept. of Army*, 398 F.3d 105 (1st Cir. 2005).
[144] 33 U.S.C. § 1251.
[145] *Army Corps of Engineers Revises and Renews Nationwide Permits*, U.S. ARMY CORPS OF ENG'RS (Jan. 6, 2017).
[146] Decision Document Nationwide Permit 48, U.S. ARMY CORPS OF ENG'RS.
[147] *Id.*

cultivation of aquatic nuisance species, construction of attendant features,[148] the deposition of shell material back into waters of the United States as waste, or activities that directly impact more than one half-acre of submerged aquatic vegetation beds in "new" commercial shellfish aquaculture operations.

NWP 48 draws a clear distinction between "new" and "existing" commercial shellfish aquaculture operations. The 2017 reauthorization altered the definition of new operations to encompass areas where such activities have not occurred during the past one hundred years. This means that if *any* commercial shellfish aquaculture activity occurred at the site within the last one hundred years, the Corps would classify the operation as "existing" rather than "new." New operations, unlike existing operations, must submit pre-construction notification to the Corps. In addition, as noted above, new operations do not quality for permitting under NWP 48 if they would directly impact more than one half-acre of submerged aquatic vegetation beds.

However, several lawsuits have been filed over NWP 48, alleging—among other claims—that the Corps' environmental review in reissuing the permit was inadequate under the National Environmental Policy Act. One such lawsuit filed in a Washington federal district court has already been successful,[149] but the ramifications of that decision and the other pending suits on NWP 48's continued application and the Corps' aquaculture permitting authority more generally remain to be seen.

B. Finfish

In 2016, the National Oceanic and Atmospheric Administration ("NOAA") attempted to assert authority over the permitting of offshore aquaculture operations under the Magnuson-Stevens Act ("MSA"), the primary statute governing U.S. fisheries, based on the interpretation that inclusion of the term "harvesting" in the definition of "fishing" applies to harvested farm fish as well.[150] Acting through the regional council process of creating a fishery management plan, NOAA's National Marine Fisheries Service ("NMFS") issued the final rule to implement the Fishery Management Plan for Regulating Offshore Aquaculture in the Gulf of Mexico.[151] A coalition of fishing and public interest groups subsequently challenged the rule in court on the grounds that the MSA only allows NMFS to manage wild harvest fisheries and that aquaculture did not fit the definition of "fishing."[152] The federal Eastern District Court of Louisiana agreed

[148] Such as docks, piers, boat ramps, stockpiles, or staging areas. (Id.).
[149] *See* Zachary Klein, *Shell-Shocked in Seattle: Court Sets Aside Federal Aquaculture Permit Scheme in Washington*, 19 THE SANDBAR 1 at 8-11 (Jan. 2020).
[150] Alexandra Carter and Miriam Goldstein, *American Aquaculture,* CENTER FOR AMERICAN PROGRESS (May 13, 2019). Available at https://www.americanprogress.org/issues/green/reports/2019/05/13/469730/american-aquaculture/.
[151] National Oceanic and Atmospheric Administration, "Rule: Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture," Federal Register 81 (2016): 1761–1800, available at https://www.federalregister.gov/documents/2016/01/13/2016-00147/fisheries-of-the-caribbean-gulf-and-south-atlantic-aquaculture.
[152] *Gulf Fishermen's Association et al. vs National Marine Fisheries Service,* U.S. District Court Eastern District of Louisiana, No. 2:16-cv-01271-JTM-KWR (September 25, 2018), available at https://www.centerforfoodsafety.org/files/2018-09-25-dkt-94-order-re-x-msj-pl-granted-def-denied_05487.pdf.

with the coalition, but a decision from the Fifth Circuit Court of Appeals on NOAA's appeal has yet to be issued.[153]

In the meantime, the Environmental Protection Agency ("EPA") remains the lead federal permitting agency for offshore aquaculture activities through its authority under the Clean Water Act ("CWA"). The objective of the CWA is "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[154] To achieve this goal, the CWA makes unlawful "any discharge of any pollutant" without a permit[155] and confers broad authority on the EPA to protect water quality by regulating discharges of pollutants into the nation's waters.[156] More specifically, 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."[157] Thus, aquaculture facilities in federal ocean waters must obtain a NPDES permit to discharge pollutants, but only if they are "point sources" and not a "vessel or other floating craft."[158]

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. The CWA Section 402 requires that a NPDES permit for a discharge into federal waters of the ocean be issued in compliance with EPA's ocean discharge criteria within CWA Section 403 for preventing unreasonable degradation of the receiving waters (i.e., 40 CFR Section 125.121). Potential pollutant discharges from aquaculture operations include solids, nutrients, ammonia, fish waste, feed waste, pharmaceuticals, chemicals, and other industrial animal-processing byproducts. As a result, offshore aquaculture facilities in federal waters will require a NPDES permit because they will 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.[159]

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[153] *See* Zachary Klein, *Fifth Circuit Hears Oral Arguments on Aquaculture Regulations in the Gulf of Mexico,* NATL. SEA GRANT L. CTR. (Jan. 13, 2020). Available at http://nsglc.olemiss.edu/blog/2020/jan/13/index.html.

[154] 33 U.S.C. § 1251(a). This includes broad coverage of activities involving the "propagation of fish, shellfish, and wildlife."

[155] 33 U.S.C. § 1311(a).

[156] Harvard Law School Emmett Environmental Law & Policy Clinic, Environmental Law Institute, and The Ocean Foundation, *Offshore Aquaculture Regulation Under the Clean Water Act*, (December 2012) at 4. Available at http://eli-ocean.org/wp-content/blogs.dir/3/files/CWA-aquaculture.pdf.

[157] 33 U.S.C. § 1362(12)(B).

[158] *See* 33 U.S.C. § 1362(10) (defining "ocean" as "any portion of the high seas beyond the contiguous zone"). Many scholars have noted that the CWA applies in the EEZ. *See*, *e.g.,* Jeremy Firestone & Robert Barber, *Fish as Pollutants: Limitations and Crosscurrents in Law, Science, Management, and Policy*, 78 WASH. L. REV. 693, 752-53 (2003); Robin Kundis Craig & Sarah Miller, *Ocean Discharge Criteria and Marine Protected Areas: Ocean Water Quality Protection Under the Clean Water Act*, 29 B.C. ENVT'L AFF. L. REV. 1 (2001); D. Douglas Hopkins, et al., *An Environmental Critique of Government Regulations and Policies for Open Ocean Aquaculture*, 2 OCEAN & COASTAL L.J. 235, 243 n.41 (1997); George A. Gould, *Agriculture, Nonpoint Source Pollution, and Federal Law*, 23 U.C. DAVIS L. REV. 461, 474-75 (1990).

[159] Draft Environmental Assessment (EA), ENVTL. PROTECTION AGENCY (Apr. 2019) at 3. Available at https://www.epa.gov/sites/production/files/2019-08/documents/velella_environmental_assessment_draft.pdf.

Relevant to offshore aquaculture, the CWA implements NPDES regulations relating to concentrated aquatic animal production ("CAAP") facilities,[160] and requires technology-based effluent limitations for certain discharges of pollutants from CAAP facilities. CAAP facilities include cold-water facilities that discharge at least 30 days per year, produce more than 20,000 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 30 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).[161] Accordingly, many commercial-scale offshore aquaculture facilities are likely to trigger the NPDES permitting requirement, but pilot-scale facilities and facilities producing small volumes of very high-value species will likely escape CWA coverage.[162]

This permitting authority has been put to the test in the Gulf of Mexico, where EPA serves as the lead agency for the permitting of Kampachi Farms' pilot-scale marine aquaculture facility in federal waters.[163] Although an RHA permit is still required for structures and other work related to the project, the Corps' role has been substantially less significant in this permitting process as compared to shellfish operations of a similar nature.[164] Nevertheless, the permitting process for this project required coordination between not only EPA and the Corps, but also the Coast Guard, the Fish and Wildlife Service, NMFS, and the Department of Interior's Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement, in addition to any state agencies entitled to review under the Coastal Zone Management Act.[165] Like other NPDES permits, Kampachi Farms' permit would last for five years, and could be reissued in five-year cycles if it maintains compliance with the permit's terms.[166]

C. What's missing? – No Leasing Mechanism

Despite its successful navigation of the regulatory labyrinth, Kampachi Farms has not obtained a lease for the lands and waters to which it will gain access for its Gulf facility if a permit is issued by the EPA because the federal framework currently does not provide for a mechanism to lease federally-held resources to aquaculture operations. From a legal perspective, this raises concerns about site control and exclusive use of the resources that the facility will utilize for operations, such as the seabed and the water column. Clarification of offshore aquaculture's security of tenure is badly needed. Federal legislation would be needed to extend these property rights to aquaculture operations, as had occurred for oil and gas rigs under the OCSLA.

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[160] 40 CFR § 122.24.
[161] *Id. app.* C(b)(1-2).
[162] *Offshore Aquaculture Regulation Under the Clean Water Act*, *supra* n.154 at 6.
[163] *See id.* at 2.
[164] *See* Draft Environmental Assessment, supra n.157 at 4.
[165] *See id.* at 6, 10.
[166] *Id.* at 3, 52.

Figure 1. How to navigate the federal permitting and authorization process for offshore aquaculture operations in the Gulf

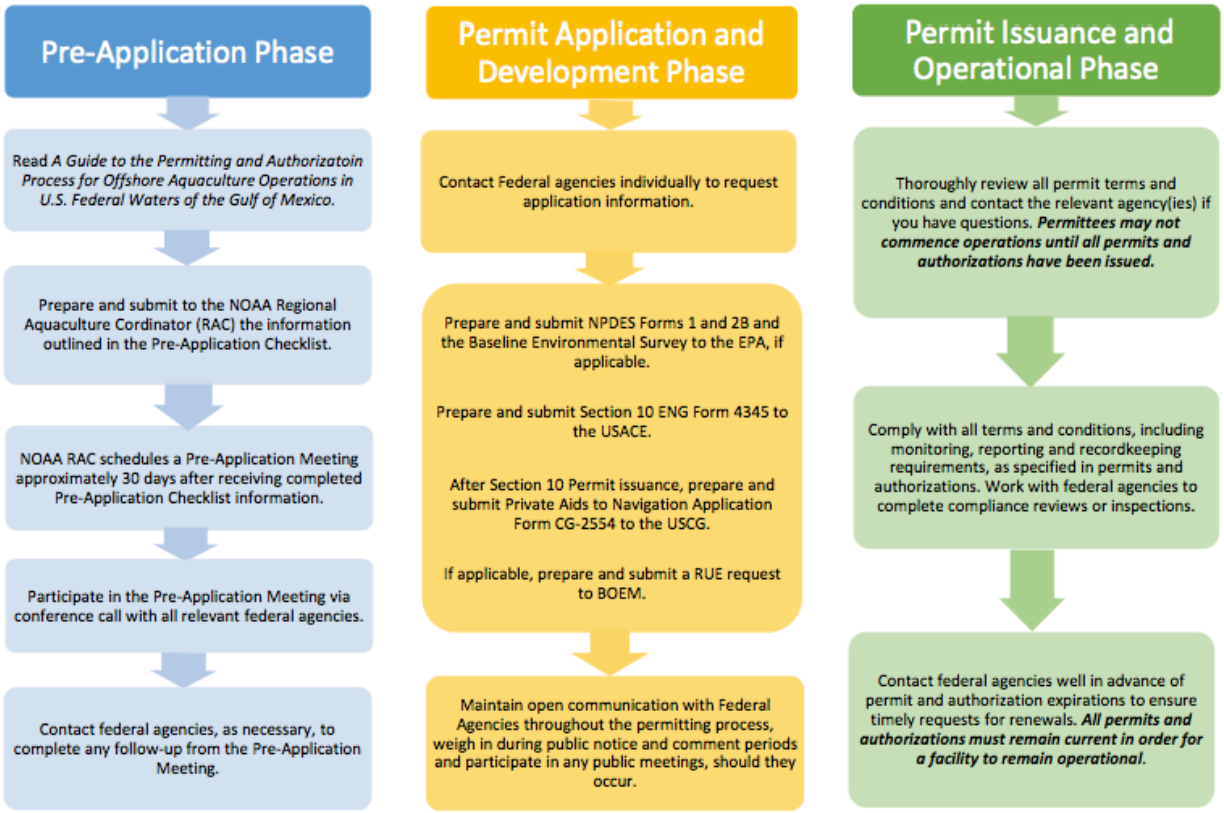

Image Courtesy of EPA

VIII. PROPOSALS UNDER CONSIDERATION

A. AQUAA Act

The Advancing the Quality and Understanding of American Aquaculture Act ("AQUAA") is a proposed bill that would create a regulatory and private rights regime for offshore aquaculture in the US. Although originally introduced by Senator Roger Wicker of Mississippi in 2018, an updated version of AQUAA was re-introduced in the House of Representatives by Minnesota Rep. Collin Peter in March 2020.

Under the most recent iteration of AQUAA, which was introduced in the House on March 24, 2020, offshore aquaculture permits would be administered by the Secretary of Commerce through NOAA—specifically, a new office that AQUAA would create within the National Marine Fisheries Service called the Office of Offshore Aquaculture.[167] Applications for these permits would need to specify: the proposed location of any offshore aquaculture facilities and any onshore facilities; the type of aquaculture operations that will be conducted at all facilities; the cultured species or specified range of species to be propagated or reared at the offshore aquaculture facility; the ways in which the permit holder will comply with the aforementioned national standards for sustainable offshore aquaculture; plans to respond to a natural disaster, escapement, and disease; and other design, construction, and operational information that the Secretary may require.[168] Additionally, permit holder would need to be a citizen or permanent resident of the US, or a domestically-organized entity that is not state-owned.[169] Under AQUAA, permit holders would also need to post a bond or other form of 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.[170]

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.[171] Applicants, however, would still be able to propose sites for offshore aquaculture facilities outside of these areas. Permits for facilities and operations within enteprise zones would last 25 years; for facilities and permits outside of enterprise zones, they would only last 15 years.[172] Upon their expiration, permits could be renewed for a period equal to their original duration.[173] 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.[174] Permit holders would be required to remove all structures, gear,

[167] Advancing the Quality and Understanding of American Aquaculture Act, H.R. 6191 § 401(a), 116th Congress (2020).
[168] *Id.* § 201(c).
[169] *Id.* § 201(d).
[170] *Id.* § 201(j)(3).
[171] *Id.* §§ 202(a)(4), 202(c)(1).
[172] *Id.* § 201(e).
[173] *Id.* § 201(f).
[174] *Id.* § 201(g).

and other property, as well as restore the site, within one year of an offshore aquaculture permit's expiration or revocation.[175]

Although AQUAA allows for offshore aquaculture facilities to be sited in areas that are currently leased under the OCSLA with the lessee's permission[176] 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],"[177] 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.[178]

AQUAA further directs the Secretary of Commerce to prepare a report within five years of the bill's enactment that would assess, among other things: the effect of shortening or lengthening permit terms on the risk of harm to the environment; the effect of shortening or lengthening permits terms on industry's access to capital markets; and whether a change to permit terms established by AQUAA is warranted.[179]

B. Literature review

Numerous entities recognize the lack of a federal offshore aquaculture legal framework as a barrier to industry growth.[180] While both the executive and legislative branches of the federal government promote implementing a permit system, as previously discussed, legal scholars widely prefer a leasing system instead. Both *Cicin-Sain* and *Firestone* claim a leasing system is the preferred method to convey such right due to exclusivity and site control.[181] Additionally, *Cicin-Sain* notes that leases can include more responsibilities and provide more protection than permits or licenses, such as provisions consistent with states public trust obligations.[182] These same ideas are found in the U.S. Commission of Ocean Policy's Blueprint.[183] Supporting *Cicin-Sain* and *Firestone*, *Oshernko* stresses that contract theories, such as rights of restitution and rescission, rather than property law, can provide security of investment for offshore leases.[184] In supporting a federal

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[175] *Id.* § 201(h).
[176] *Id.* §§ 201(n)(2)
[177] *Id.* § 404(b).
[178] *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 […].").
[179] *Id.* § 405(b).
[180] Hope M. Babcock, *Grotius, Ocean Fish Ranching, and the Public Trust Doctrine: Ride "Em Charlie Tuna*, 26 STAN. ENVTL. L.J. 3, 25 (2007); 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); Lowenstein, *supra* note 9, at 487-88; Melissa Schatzberg, *Salmon Aquaculture in Federal Waters: Shaping Offshore Aquaculture Through the Coastal Zone Management Act*, 55 STAN. L. REV. 249, 268-69 (2002).
[181] 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 Poer and Aquaculture: Messages From Land and Sea*, 35 ELR 10,289, 10,303-04 (2005).
[182] Cicin-Sain, *supra* n.159, at 36-37, 41 (Cicin-Sain proposes the leasing system should specify lease duration, exclusivity, and compensation.).
[183] Blueprint, *supra* note 26, at 334.
[184] Gail Oshernko, *New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust*, 21 J. ENVTL. L. & LITIG. 317, 363-64 (2007).

offshore aquaculture leasing program, *Bernadett*, *Cicin-Sain*, *Davies*, and *Lowenstain* discuss state programs implementing state aquaculture leasing programs and recommend modeling a new federal framework after a state, particularly Maine's, leasing program.[185] None of the legal scholars proposed a permitting system as opposed to a leasing system.

In addition to either a leasing or permitting system, some authors propose utilizing marine spatial planning ("MSP") to reduce use conflicts.[186] While there are many definitions of MSP, one of the more popular is "a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process."[187] MSP provides a step-by-step approach to balance the uses and users of the marine environment with a view to providing a coordinated system that results in the development of a marine spatial plan, which defines the strategic, forward-looking planning for the regulation, zoning, management, protection and sustainability of the marine environment.[188]

Many countries already have a national or regional marine plan, which can be conceived as providing the overall narrative on the optimum use of specific marine areas, whereas MSP may be thought of as the procedural mechanism by which space for all marine activities can be planned and implemented to achieve the marine plan's aims and objectives.[189] MSP allows for the development and implementation of an overall coordinated management plan based on an ecosystem approach, but recognizes that different activities (e.g. aquaculture development, oil and gas production, tourism), uses (e.g. marine parks, conservation areas) and services (e.g. ecology, habitats) will continue to require coordinated management in their own right. Implementation of MSP is achieved through the application of appropriate tools or activities, such as regulations, integrated coastal management, zoning, mapping and collected data, databases, software packages, and other tools and information that contribute to the development of marine spatial plans.[190] In practice, MSP's emphasis on reducing spatial conflicts and ensuring sustainable development may provide additional assurances for offshore aquaculture operations.

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[185] Lauren D. Bernadett, *State-Level Aquaculture Leasing and Permitting Regulations: Balancing a Growing American Industry with Environmental Protection*, 23 S.J. AGRIC. L. REV. 1, 19-30 (2013) (California, North Carolina, and Maine); Cicin-Sain, *supra* note 159, at 41 (Maine); Lynne D. Davies, *Revising the National Offshore Aquaculture Act of 2007: Using State of Marine Aquaculture Laws, Regulations, and Policy Recommendations as a Prototype for the Proposed Framework*, 13 OCEAN & COASTAL L.J. 95, 119 (2007) (Maine); 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, 492 (2009).

[186] Lauren D. Bernadett, *State-Level Aquaculture Leasing and Permitting Regulations: Balancing a Growing American Industry with Environmental Protection*, 23 S.J. AGRIC. L. REV. 1, 40 (2013); 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, 116 (2018); Lynne D. Davies, *Revising the National Offshore Aquaculture Act of 2007: Using State of Marine Aquaculture Laws, Regulations, and Policy Recommendations as a Prototype for the Proposed Framework*, 13 OCEAN & COASTAL L.J. 95, 103 (2007).

[187] Geoffrey J. Meadan, et al., *Marine spatial planning for enhanced fisheries and aquaculture sustainability: Its application in the Near East*, Food and Agriculture Organization, FAO Fisheries and Aquaculture Technical Paper 604 (2016) at 5.

[188] *Id.* at v.

[189] *Id.* at 5.

[190] *Id.*

Furthermore, *Craig* suggests that offshore wind turbines could double as aquaculture facilities once technology allows.[191] In fact, the current statutory framework is already equipped to accommodate co-location of offshore sites from these industries. As mentioned earlier, EPAct 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.[192] However, at present time, it does not appear that BOEM has exercised this authority to authorize offshore aquaculture in this manner.

[191] Craig, *supra* n.164, at 118.
[192] *Renewable Energy on the Continental Shelf*, BUREAU OF OCEAN ENERGY MANAGEMENT, https://www.boem.gov/renewable-energy/renewable-energy-program-overview (last visited Apr. 30, 2020).

IX. APPLICABILITY OF MODELS TO AQUACULTURE

A. Coordination of Interagency Review, Permitting, and Enforcement

In addition to the Department of Commerce, AQUAA calls for the involvement of and coordination between several government entities. The Department of Agriculture would be responsible for ensuring animal health at offshore aquaculture facilities,[193] as well as oversight of an aquaculture database and marketing and workforce development grants intended to promote the aquaculture industry.[194] Separately, the Secretary of the Interior would retain substantial authority over any actions that affect the outer continental shelf.[195] Moreover, AQUAA requires "the Secretary of the department in which the Coast Guard is operating" to consult with the Secretaries of Commerce, State, Defense, and the Interior to designate navigational safety zones around offshore aquaculture facilities.[196] The bill explicitly demands interagency coordination at the federal level, specifically through cooperation of the Departments of Commerce, Interior, Agriculture, the department in which the Coast Guard is operating, the EPA and the Corps to create to unified permit application, public notice, public comment and federal agency comment period for all permits related to offshore aquaculture.[197] Furthermore, AQUAA explicitly incorporates the coastal states's review powers under the Coastal Zone Management Act.[198]

The OCSLA similarly requires coordination between disparate federal agencies for wind and wave energy leasing. For example, the DOI must consult with the Coast Guard to determine if any of the proposed leasing areas will interfere with navigation and shipping routes, and the Department of the Defense is consulted on the leasing area's effect on training areas. Likewise, the U.S. Fish and Wildlife Service participates by identifying whether the area contains any critical habitat, and the National Marine Fisheries Service identifies the effect of proposed activities on fisheries. NOAA and even the Federal Aviation Administration must also be consulted for certain projects. Federal authorities should capitalize on the experience that these agencies have accrued in the realm of interagency coordination to implement a similar, or even improved, process for siting offshore aquaculture facilities.

B. Suspension of Leases in Federal Waters

Under the OCSLA, a lease may be suspended: (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; or (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.[199] The regulations also allow for a lease to be suspended: (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

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[193] *Id.* § 201(o).
[194] *Id.* §§ 402(a)-(c), (e).
[195] *See*, *e.g.*, *id.* §§ 201(n)(3), 201(n)(6), and 302(f)(3).
[196] *Id.* § 301(b).
[197] *Id.* §§ 407(a)-(b).
[198] *Id.* § 201(l).
[199] 43 U.S.C. §1334(a)(1).

other environmental review requirements, or (8) to allow for inordinate delays encountered in obtaining required permits or consents.[200]

Similarly, a leasing mechanism for offshore aquaculture could allow for the suspension of a lease as circumstances may require, ranging from complying with other legal obligations and accommodating other legitimate marine activities in the vicinity to national emergencies or the threat posed by a facility to its environment, such as in the case of net pen collapse.

C. Identify Federal Lands that Would be Open for Aquaculture Use

All federal models for the authorization of use of federal lands involve a planning process that identify areas that will be targeted for use. The EEZ of the United States is a large area, and authorization for aquaculture use could mirror this planning process. In addition, planning would help minimize conflicts with other users of the space.

D. Develop an Aquaculture Enterprise or Development Zone

Some states, like New Jersey, have developed aquaculature 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.

E. Lessons from Cape Wind

After the initial difficulties in authorizing the Cape Wind project, the Department of Interior has made efforts to streamline the leasing process, and others have advocated for further streamlining on both the federal and state level. However, the potential exists that by streamlining offshore projects in the U.S., public participation will be pushed until latter stages of individual projects, negatively affecting public buy-in for the project. This feeling of being left out of the process could strengthen the opposition of other ocean users and interest groups to an offshore aquaculture project. Further, projects may have environmental impacts that need to be considered, and decision-makers may have a hard decision to make in weighing environmental harms and benefits. A streamlined process should not overlook or fail to adequately consider these potential environmental impacts.

[200] 30 C.F.R. §250.173-250.175.

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.'s Exclusive Economic Zone 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 clarified. As reflected by the Outer Continental Shelf Lands Act and the Energy Policy Act, federal legislation will be required to lease resources vital to the industry—such as the seabed and the water column—to offshore aquaculture facilities. As the federal government weighs how to best proceed with this task, 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.

APPENDIX C

MIRO SLIDES FROM PRE-WORKSHOP BRIEFING ON MAY 5, 2020

Exploring Options to Authorize Offshore Aquaculture

Welcome by
Stephanie Otts

Sea Grant
Law Center

National Sea Grant Law Center, The University of Mississippi
Exploring Options to Authorize Offshore Aquaculture
May 5, 2020, 2-3:30 pm EDT

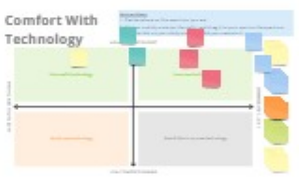
Meeting Materials

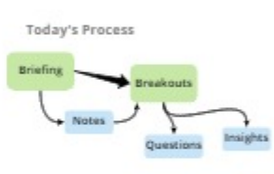
Parking Lot

Start Here

Welcome

Introduction





Briefing on Authorization Options

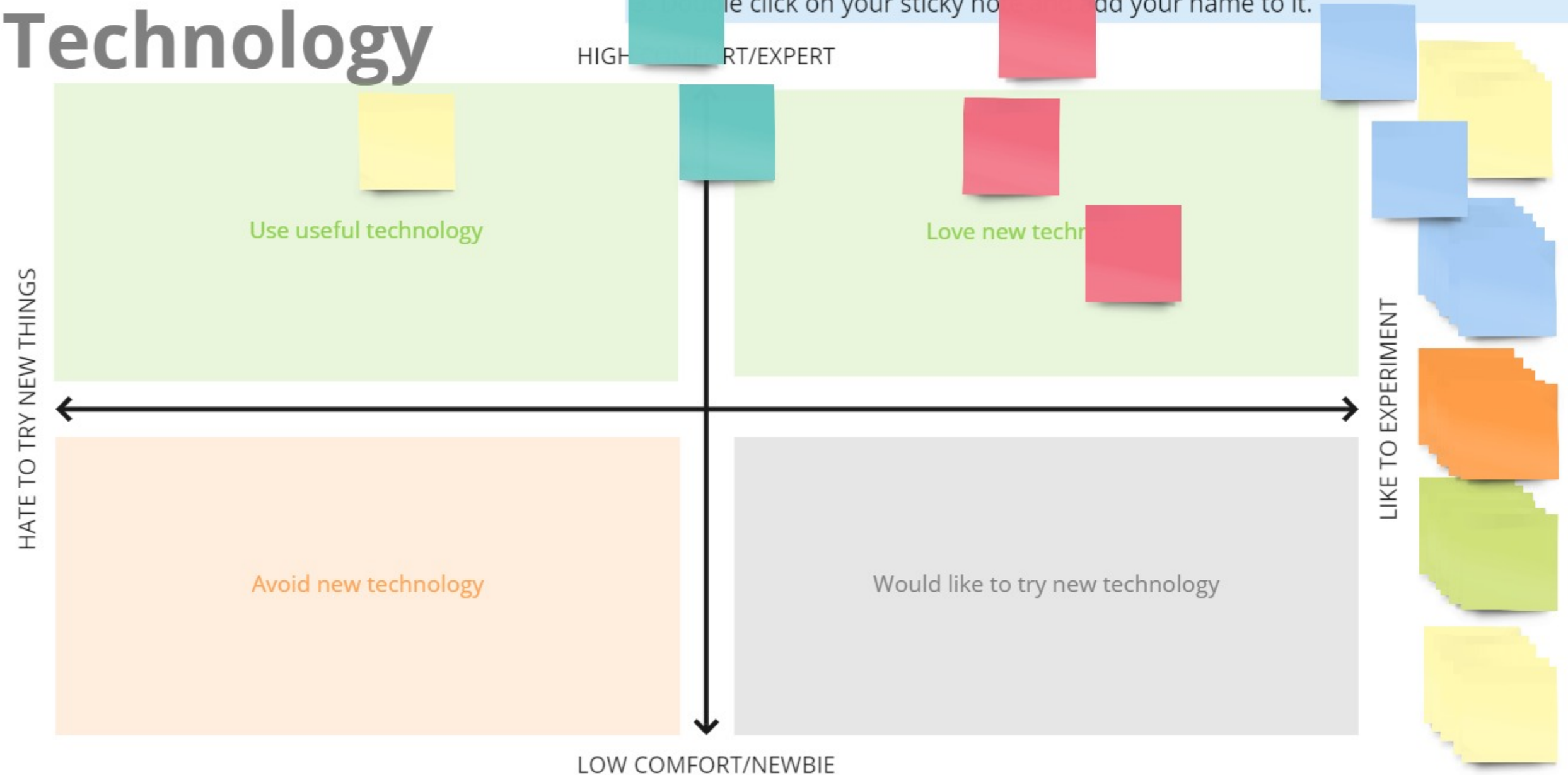
Breakout Exercise

Next Steps

Comfort With Technology

Instructions

1. Decide where on the spectrum you are.
2. Click on a sticky note (on the right), and drag it to your spot on the spectrum.
3. Double click on your sticky note and add your name to it.



Objectives

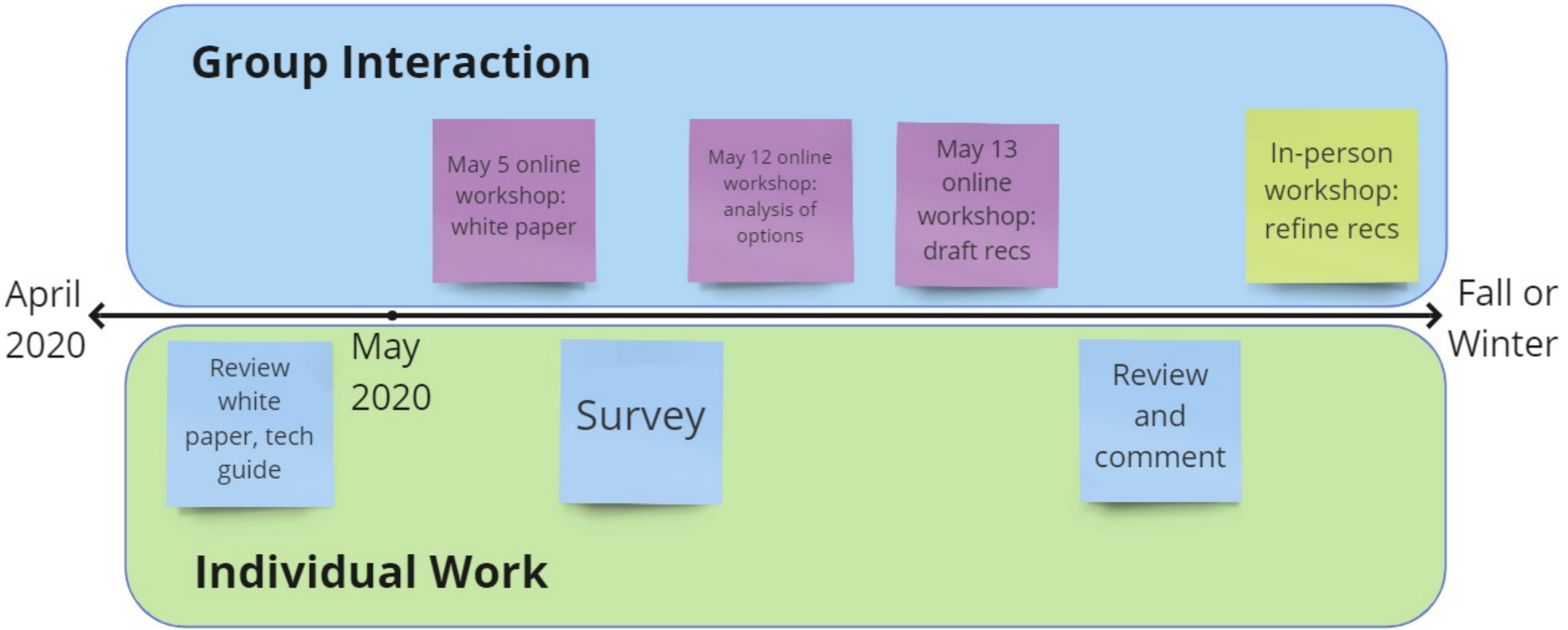
For the Workshop Series

- Establish a common understanding of the authorization options for aquaculture in federal waters
- Identify the needs of government and industry relative to the authorization process
- Evaluate the options for authorization
- Draft recommendations to advance passing legislation

For Today

- Begin to get to know each other
- Begin to establish a common understanding of the authorization options for aquaculture in federal waters

Timeline and Process



Workshop Norms & Logistics

1. Focus on the authorization regulatory and oversight process (not on a specific geographic area or type of aquaculture)
2. Today is to orient everyone, share research results and start the conversation.
3. Have patience with technology
4. Use Zoom chat for parking lot or parking lot frame above
5. Private chat on Zoom to Stephanie Otts for technical support
6. Session will be recorded for those unable to participate today
7. Participate and share generously!
8. Mute your microphone when not talking. Keep your camera on whenever possible.

Parking Lot

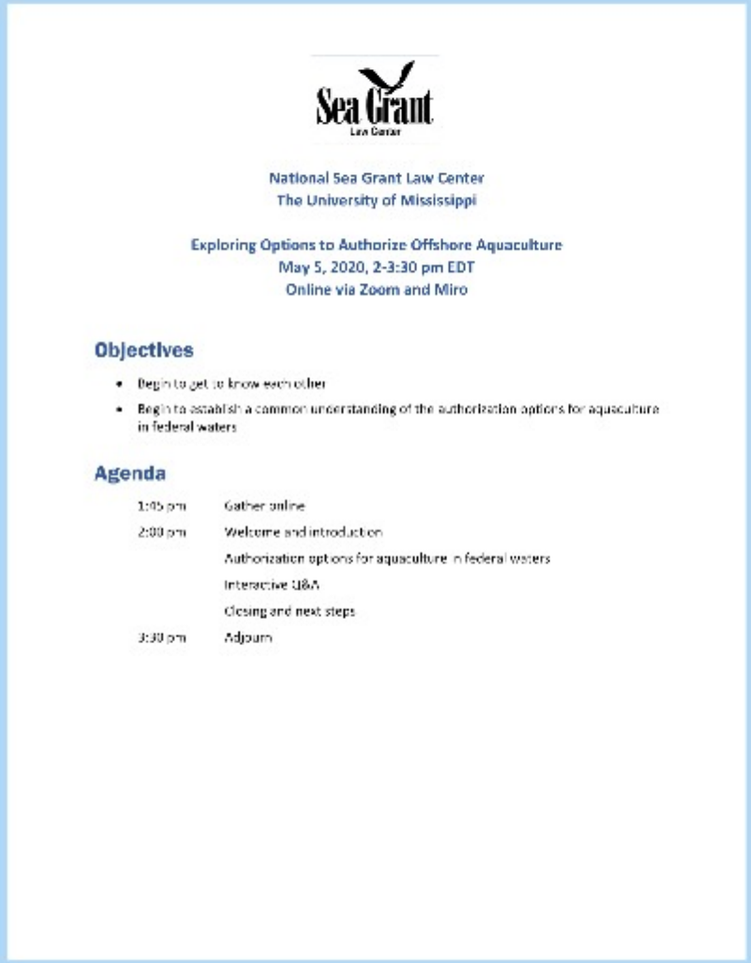
Additional tips and tricks for Miro -

Type something

Type something

Type something

Workshop Materials



National Sea Grant Law Center
The University of Mississippi

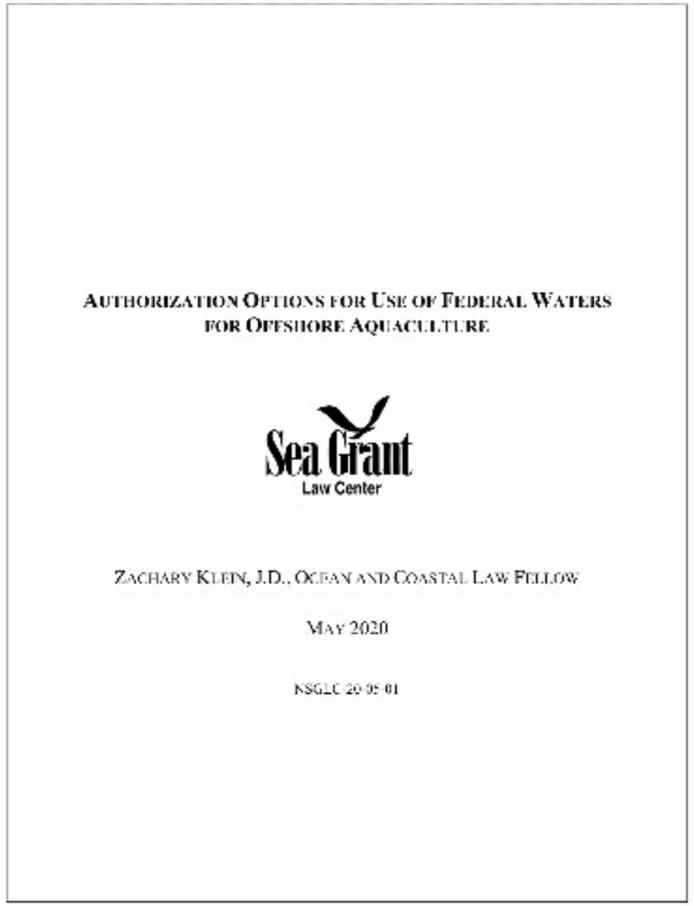
Exploring Options to Authorize Offshore Aquaculture
May 5, 2020, 2-3:30 pm EDT
Online via Zoom and Miro

Objectives

- Begin to get to know each other
- Begin to establish a common understanding of the authorization options for aquaculture in federal waters

Agenda

1:45 pm	Gather online
2:00 pm	Welcome and introduction
	Authorization options for aquaculture in federal waters
	Interactive Q&A
	Closing and next steps
3:30 pm	Adjourn



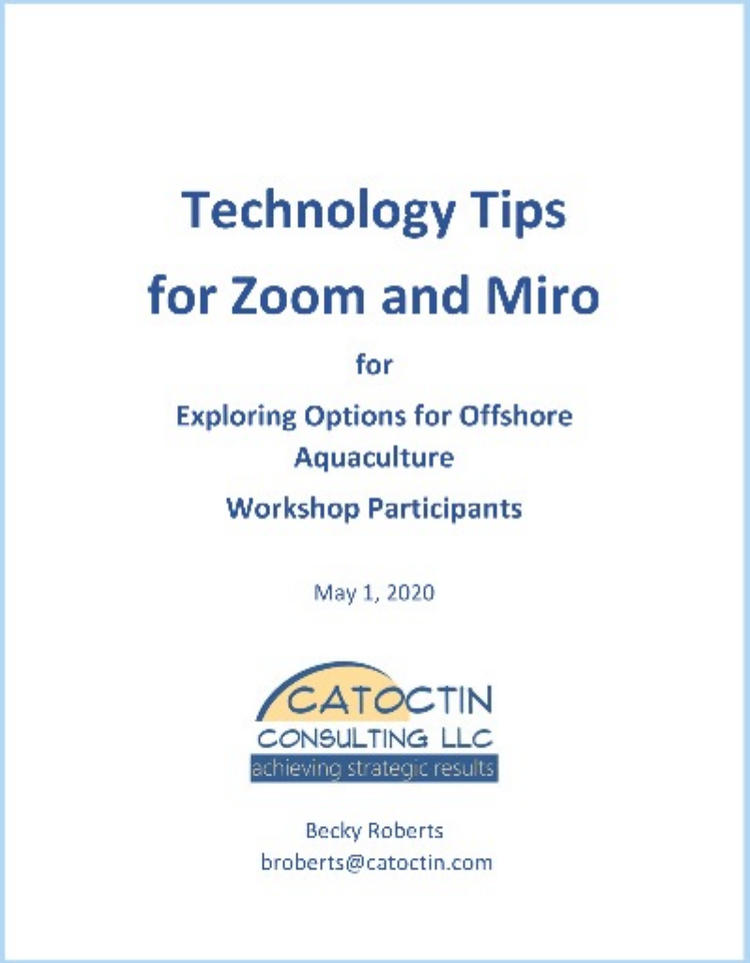
AUTHORIZATION OPTIONS FOR USE OF FEDERAL WATERS FOR OFFSHORE AQUACULTURE

Sea Grant Law Center

ZACHARY KLEIN, J.D., OCEAN AND COASTAL LAW FELLOW

MAY 2020

NSGLC 20-05-01



Technology Tips for Zoom and Miro

for

Exploring Options for Offshore Aquaculture

Workshop Participants

May 1, 2020

CATOCTIN CONSULTING LLC
achieving strategic results

Becky Roberts
broberts@catoctin.com

Bulletin Board

Feel free to use this space to post any documents, links or other resources that you think might be useful for participants. Click on the Upload icon on toolbar on the left edge of the Miro board

Roles

Facilitator

- Lead workshop
- Manage process

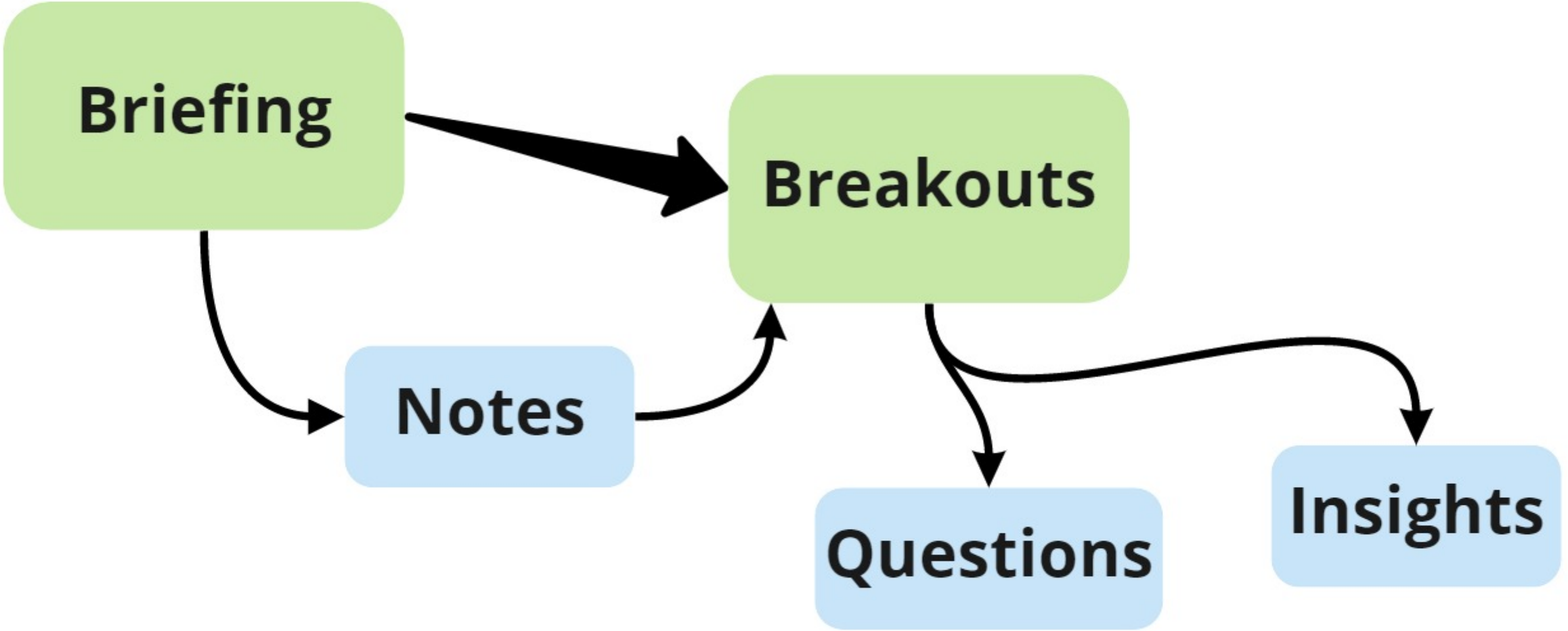
Hosts

- Convene meeting
- Share research
- Provide technical support
- Take notes and report results

Participants

- Provide and share subject matter expertise
- Listen and support each other
- Own the content

Today's Process



"Exploring Options for Authorizing Offshore Aquaculture" White Paper Debriefing

Zachary Klein, J.D., Ocean and Coastal Law Fellow

National Sea Grant Law Center

May 5, 2020

Sea Grant Law Center

International and Federal Legal Framework

- UN Convention on the Law of the Sea (UNCLOS)
  - Territorial Sea - 12 nm
  - Exclusive Economic Zone (EEZ) – 200 nm
  - Continental shelf – 200 nm or outer edge of cont'l margin
- Presidential Proclamations
  - Truman – Continental Shelf (1945)
  - Reagan – EEZ (1983) and territorial sea (1988)
- Outer Continental Shelf Lands Act (OSCLA) and Energy Policy Act (EPAct)
- Submerged Lands Act (SLA)
  - SLA = State jurisdiction out to 3 nm from shore
  - Texas and Gulf coast of FL = 9 nm

Sea Grant Law Center

Legal Mechanisms to Authorize Occupancy and Use of Property

- Lease
- Easement
- Right-of-way
- License
- Permit
- Don't get stuck on semantics!

Sea Grant
Law Center

Existing Models Explored

- Federal
  - Oil and gas leasing (OCSLA)
  - Offshore wind/wave energy
  - Leasing of grazing rights
- States
  - Maine
  - Florida
  - Hawaii
  - Oregon
  - New Jersey
- Foreign
  - Norway
  - Chile

Sea Grant
Law Center

So, where are we?

- Current federal framework
  - Shellfish – RHA (Army Corps)
  - Finfish – CWA (EPA)
  - What's missing? → No leasing mechanism
- Gulf FMP
- AQUAA Act
- Key Takeaways from literature review
  - Unanimous preference for lease over permit
  - Marine Spatial Planning (MSP)
  - Co-location with offshore wind turbines (and even oil and gas rigs) when technology allows

Sea Grant Law Center

Thank you!

Webinar: Introduction and White Paper Debriefing

The National Sea Grant Law Center

May 5, 2020

Zachary Klein, J.D., Ocean and Coastal Law Fellow
zaklein@olemiss.edu

Sea Grant
Law Center

Questions and Insights

Questions

Insights

Breakout Instructions

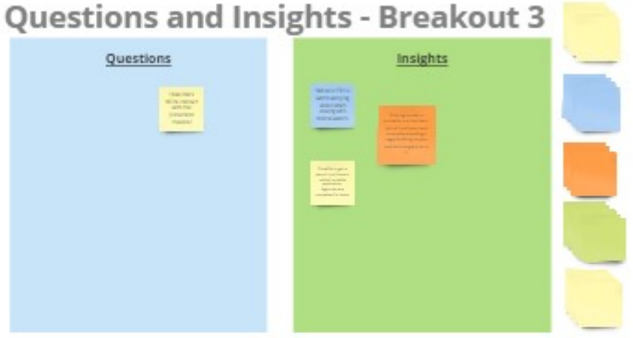
What question, insight or observation do you have?

1. Have a conversation about the white paper and briefing.
2. In your breakout group's workspace, record your questions and insights.
    a. Click on a sticky note (on the right), and drag it to the box for questions or insights.
    b. Double click on the sticky note and record your question or insight.
3. Select the most important questions and/or insights (1-3). Click on them and drag them to the Main Stage.

Questions and Insights - Breakout 1

Questions and Insights - Breakout 2

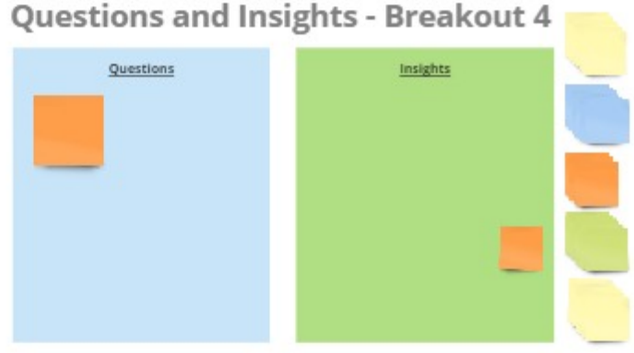
Questions and Insights - Breakout 3



Questions and Insights - Breakout 8

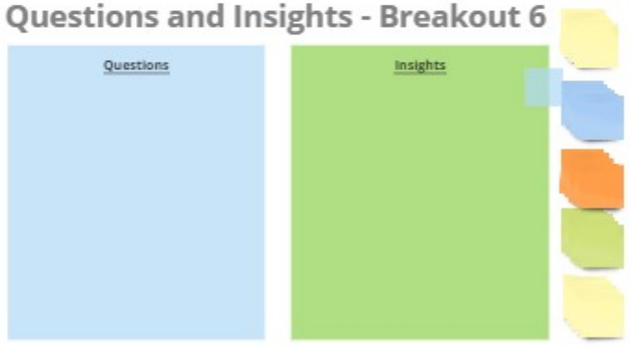
Questions and Insights - Main Stage

Questions and Insights - Breakout 4

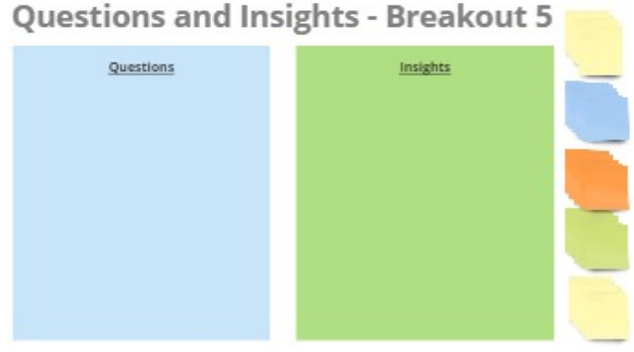


Questions and Insights - Breakout 7

Questions and Insights - Breakout 6



Questions and Insights - Breakout 5

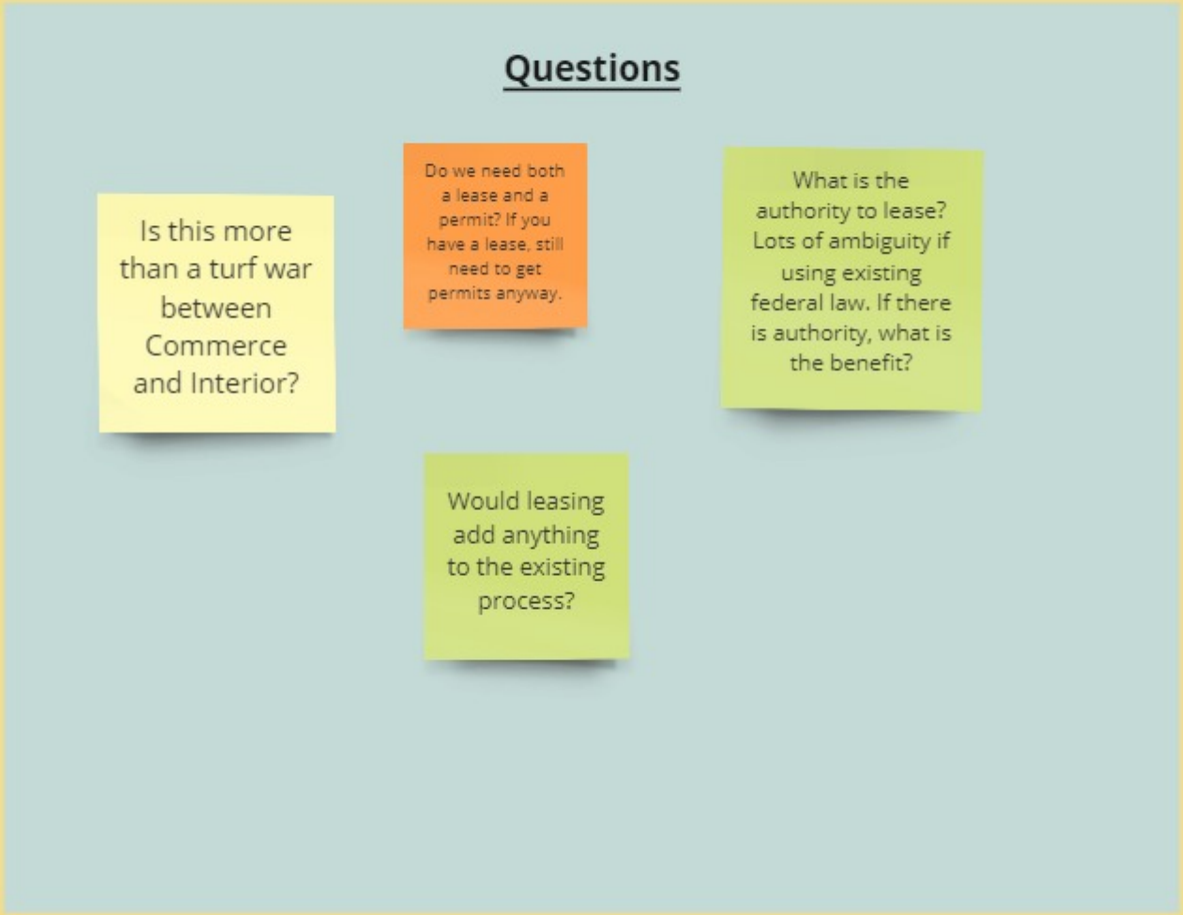


Questions and Insights - Breakout 1

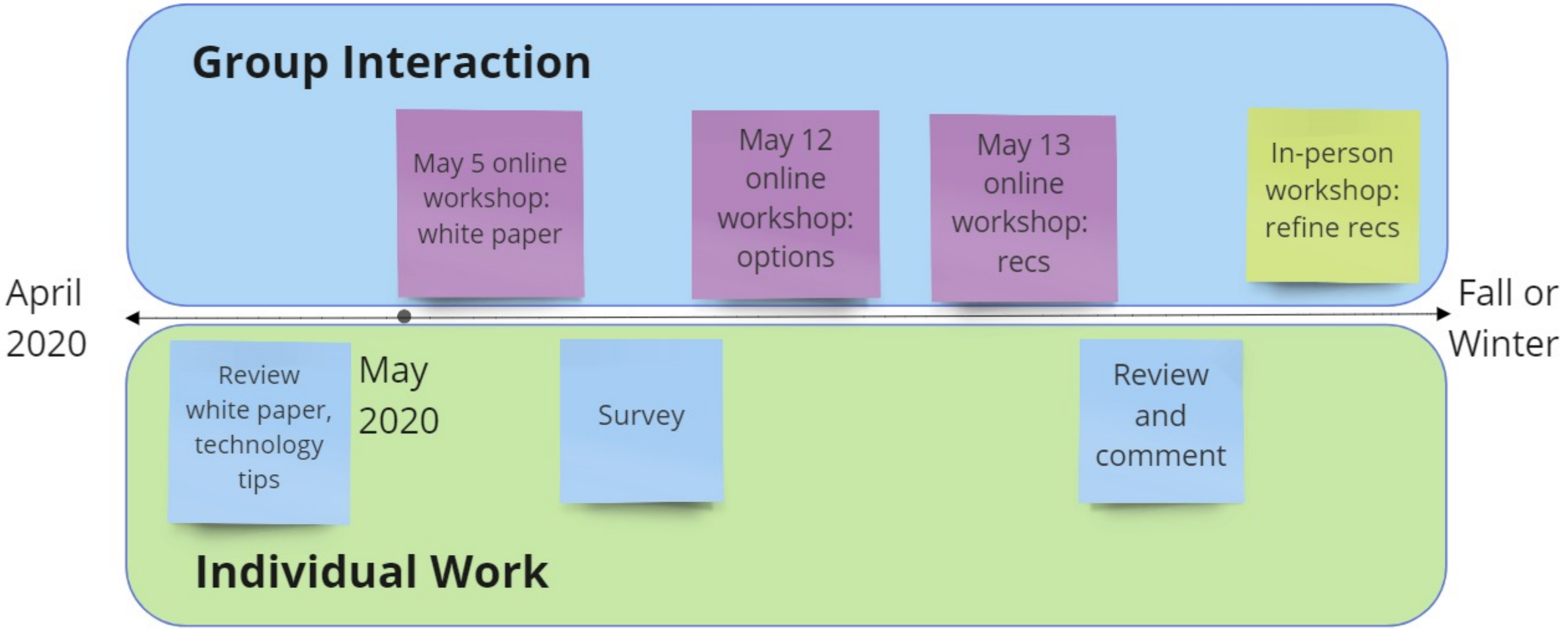
Questions

Insights

Questions and Insights - Main Stage



Next Steps


Group Interaction
May 5 online workshop: white paper
May 12 online workshop: options
May 13 online workshop: recs
In-person workshop: refine recs
April 2020
Fall or Winter
Review white paper, technology tips
May 2020
Survey
Review and comment
Individual Work


Thank you!

APPENDIX D

"EXPLORING OPTIONS TO AUTHORITY OFFSHORE AQUACULTURE" WORKSHOP AGENDAS

National Sea Grant Law Center
The University of Mississippi

Exploring Options to Authorize Offshore Aquaculture
May 12, 2020, 1:30-5 pm EDT
Online via Zoom and Miro

Objectives

- Become more comfortable with workshop technology
- Identify the needs of government and industry relative to the authorization process

Agenda

1:30 pm	Gather online and play with Miro
2:00 pm	Welcome
	Technology orientation and introductions
	Break
	Needs of government and industry
	Break
	Needs of government and industry, continued
	Closing and next steps
5:00 pm	Adjourn

National Sea Grant Law Center
The University of Mississippi

Exploring Options to Authorize Offshore Aquaculture
May 13, 2020, 2-5 pm EDT
Online via Zoom and Miro

Objective

- Evaluate the options for authorization of aquaculture in federal waters

Agenda

1:50 pm	Gather online
2:00 pm	Welcome and introduction
	Introductions exercise
	Evaluate options for authorization
	Break
	Evaluate options, continued
	Break
	Closing and next steps
5:00 pm	Adjourn

APPENDIX E

MIRO SLIDES FROM MAY 12, 2020

Exploring Options to Grant Property Rights for Offshore Aquaculture

Welcome by
Stephanie Otts

Sea Grant
Law Center

Objectives

Become more familiar with workshop technology

May 5 → • Establish a common understanding of the options to grant property rights for aquaculture in federal waters

May 12 → • Identify the needs of government and industry relative to the mechanism to grant property rights

May 13 → • Evaluate the options to grant property rights

TBD → • Draft recommendations for criteria to be included in legislation

Zoom Poll

What is your comfort level with technology?


Start Here to Play with Miro
Meeting Materials
Parking Lot
Meeting Starts Here
Welcome
Zoom Poll
Technology Orientation & Introductions
Needs
Wrapup and Closing
Plus
Delta
Group discussion
good mix of participants
Thanks
Industry and govt should be together. Thanks!

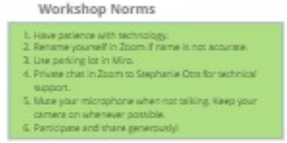
National Sea Grant Law Center, The University of Mississippi
Exploring Options to Grant Property Rights for Offshore Aquaculture
May 12, 2020, 2-5 pm EDT

Meeting Materials

Parking Lot

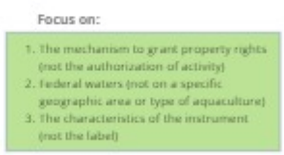
Meeting Starts Here

Welcome



Technology Orientation & Introductions

Needs



Wrap-up and Closing

Workshop Materials

National Sea Grant Law Center
The University of Mississippi

Exploring Options to Grant Property Rights for Offshore Aquaculture
May 12, 2020, 1:30-5 pm EDT
Online via Zoom and Miro

Objectives

Agenda

Welcome

Break

Needs of government and industry, continued

AUTHORIZATION OPTIONS FOR USE OF FEDERAL WATERS FOR OFFSHORE AQUACULTURE

Sea Grant Law Center

MAY 2020

Technology Tips for Zoom and Miro

for

Exploring Options to Grant Property Rights for Offshore Aquaculture

Workshop Participants

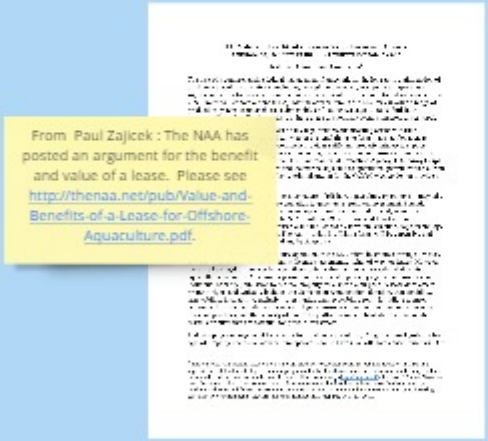
Version 2, May 11, 2020

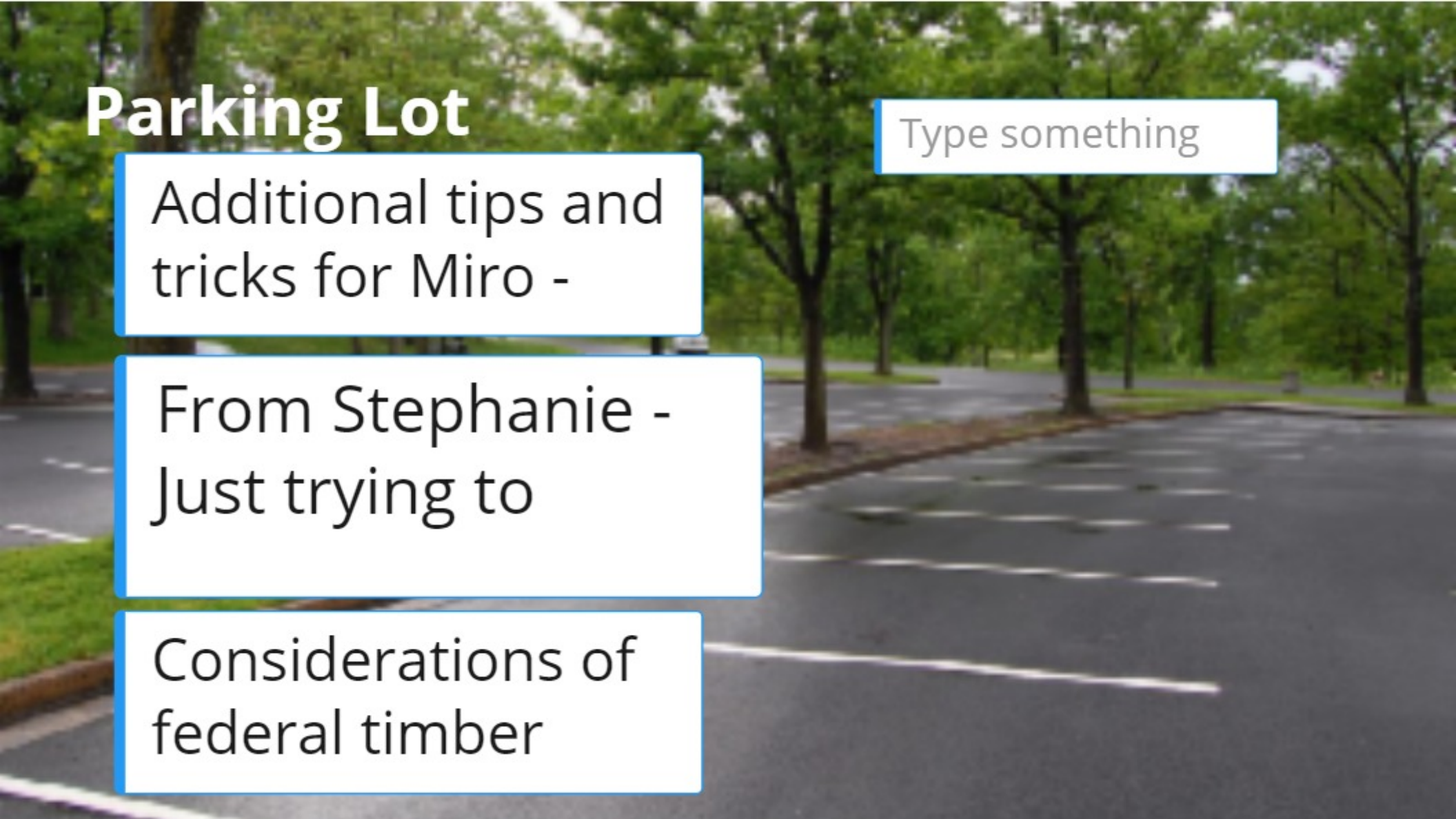
CATOCTIN CONSULTING LLC
achieving strategic results

Becky Roberts
broberts@catoctin.com

Bulletin Board

Feel free to use this space to post any documents, links or other resources that you think might be useful for participants. Click on the Upload icon on toolbar on the left edge of the Miro board to add a document.




Parking Lot
Type something
Additional tips and tricks for Miro -
From Stephanie - Just trying to
Considerations of federal timber

Workshop Norms

1. Have patience with technology.
2. Rename yourself in Zoom if name is not accurate.
3. Use parking lot in Miro.
4. Private chat in Zoom to Stephanie Otts for technical support.
5. Mute your microphone when not talking. Keep your camera on whenever possible.
6. Participate and share generously!

Roles

Facilitator

- Lead workshop
- Manage process

Hosts

- Convene meeting
- Share research
- Provide technical support
- Take notes and report results

Participants

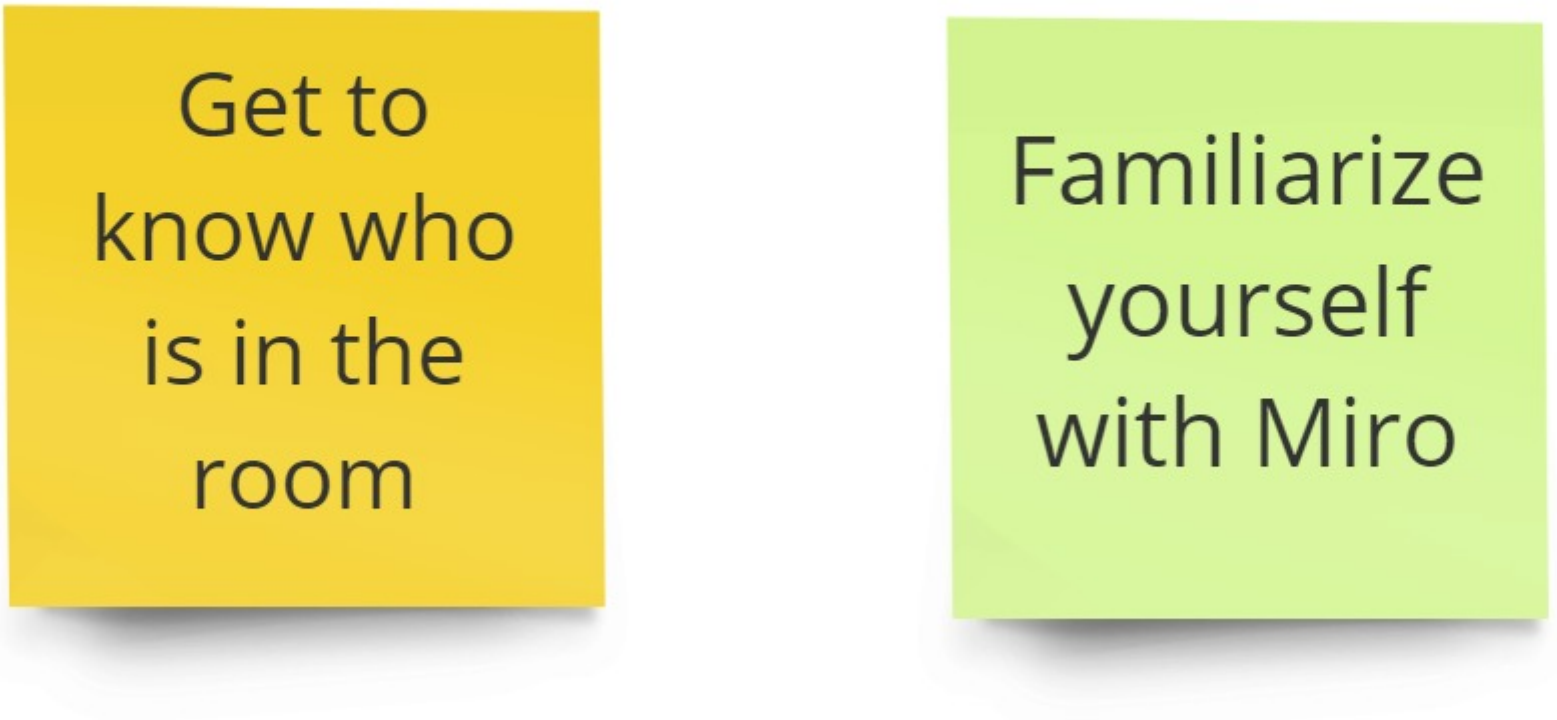
- Provide and share subject matter expertise
- Listen and support each other
- Own the content

Miro Demo

- Navigating board
- Getting in and out of presentation mode
- Frames view
- Card view to access Parking Lot

- Adding sticky note
- Editing sticky note (color, text, size, etc.)
- Adding and formatting text
- Drawing
- Adding picture

Introductions Exercise



Exercise Instructions

Pick a colored frame/box and introduce yourself. Include:

1. Name
2. Organization
3. Role
4. One thing you are proud of related to the workshop topic
5. Fun fact

Bonus: add an image or draw a picture!

Miro Instructions

Use toolbar on left of Miro window to:

- Add text
- Add stick note
- Add shapes
- Add lines and connectors
- Draw
- Upload pictures, etc.

Start Here to Play with Miro

Introductions Exercise

Exercise Instructions

Pick a colored frame/box and introduce yourself. Include:

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- Draw
- Upload pictures, etc.

Robin Kundis Craig

Becky Roberts
Catoctin Consulting
Facilitator
An honor to be working with all of you today!

Stephanie Otts
Director, National Sea Grant Law Center
Welcome!
Honored to have this opportunity to explore these issues with everyone.
Fun Fact: I worked one summer as a bird trainer at Busch Gardens

Susan Farady
University of New England
Associate professor, marine affairs
Looking forward to thinking about this issue with a great range of participants
Fun fact: I used to play in a Caribbean steel drum band

Bob Rheault
EAST COAST SHELLFISH GROWERS
Fun fact - announced at age 13 that I wanted to be a shellfish farmer
Proud of working with LDeil Group: Recommendations for an Operational Framework for Offshore Aquaculture in U.S. Federal Waters.

Robin K. Craig
University of Utah S.J. Quinney College of Law
ACADEMIC
Extended project on environmentally friendly marine aquaculture.
Fun Fact:
Boen to Midway Atoll
(Also, CANNOT write with computer pens.)

Jenny Molloy
U.S. EPA
The NPDES program brings lots of water quality and regulatory expertise to the table.

1. Formerly CEO of Hawaii Oceanic Technology, Inc. - Obtained eight (8) federal and state permits to demonstrate new mariculture technology for open ocean fin fish farming.
2. Lifelong photographer. Resident of Hawaii for 30 years. Formerly from Washington, DC and Houston, TX
3. My interest in being is to help align legislators and other stakeholders on the CRITICAL NEED for laws and regulations that facilitate INVESTMENT in a scalable and profitable industry.

Mark Rath
Aquaculture Manager, National Sea Grant Office
Primarily here to listen & learn.
Fun Fact: Used to farm freshwater fish, on a salt lake, in the desert.

Aquaculture

Zachary Klein
NSGLC Ocean and Coastal Law Fellow
Proud of: being the author of the workshop white paper
Fun fact: My uncle held the record for biggest yellowfish tuna caught in NJ

Brian Fredieu
Pre-children, I was a keeper of bees
NOAA Fisheries Office of Aquaculture
Proud: Work on 2011 DOC and NOAA Aquaculture Policies - happy to be back working with OAQ
Policy Analyst, attorney by training

Cathy Janasie
Grew oysters one summer in my town as part of a restoration project
NJ Shore Native
Proud of: working on regulatory issues with seaweed aquaculture
NSGLC staff attorney

Kelly Lucas

Don Kent
Hubbs-SeaWorld Research Institute
Tried to permit an offshore farm to grow yellowtail, but was halted by the lack of the delineated NEPA review process.

Luke Fairbanks
Project Coordinator
Bureau of Ocean Energy Management (BOEM)
We lease portions of the Outer Continental Shelf for renewable energy development, and I am happy to provide perspective based on that experience.
Once, I sailed down the east coast on this -->
BOEM

Read Porter
Attorney
RI Sea Grant Legal Program

Robert Gordon
Partner at Pacific6
Working with Hubbs to establish finfish farm in federal waters
had lunch in a cave in Iceland in dead of winter

Sebastian Belle
Maine Aquaculture
Farmer who has washed

Luke Fairbanks
Assistant Research Professor
University of Southern Mississippi
Long-term research on U.S. aquaculture policy, geography, and social science
Fun Fact: I've seen 60+ different species of birds in my neighborhood during covid quarantine

Robert Smith
K&L Gates LLP
Fun Fact: I used to be a semi-professional poker player
I represent several shellfish companies on the West Coast, including a potential shellfish aquaculture project in Southern California

Donna Lanzetta
Manna Fish Farm
CEO
Donna Lanzetta
manna fish farms
ceohttps://www.mannafishfarms.com/

Sarah Brenholt
Stronger America Through Seafood
Policy Associate
I am interested in learn about property rights and aquaculture.
I enjoy refinishing antique furniture.

Sean Roberts
NOAA General Counsel, Fisheries & Protected Resources Section
Aquaculture Lead for Section
Primarily here to listen and learn.

Neal McMillin
Legislative Assistant in Sen. Wicker's office
Something to ponder...Is catfish seafood?

Kat Montgomery
Sea Grant Knauss Marine Policy Fellow in Senator Wicker's office
I'm here to observe and learn. Excited to be here!

hgfhgf

For Breakouts

What sector do you represent?

- Please rename yourself in Zoom
- Add G or I after your name

Focus on:

1. The mechanism to grant property rights (not the authorization of activity)
2. Federal waters (not on a specific geographic area or type of aquaculture)
3. The characteristics of the instrument (not the label)

Needs Exercise

Identify needs of government and industry relative to mechanism to grant property rights

Prioritize needs

Instructions

For a mechanism to grant property rights for offshore aquaculture to be effective, what do government and industry need it to accomplish?

1. Go to your breakout group's workspace.
2. Brainstorm the needs of your assigned sector (government or industry).
3. Click on sticky note on tool bar on left to create one sticky note for each need. Record the need on the sticky note and place it in your workspace.
4. Rearrange the sticky notes to place them in priority order, with the most important at the top.
5. Select a spokesperson to debrief your work.

Breakout 1: Government Needs

clear legal authority

clear statutory authority to grant property rights- need Congressional action unless can pull the authority from elsewhere

is there existing statutory authority? sea bed v. water column?

Process

be able to respond quickly to aquaculture industry- need a clear and clean system

need a clear path with distinct roles for the different agencies- everyone needs to know their role

what does enforcement look like?

need level of ok-ness with new industry/ technologies

transferability? what are the constraints?

public engagement

way to communicate to public about regulatory regime

way to convey that there is tenure even in 5 yr permit

security of tenure

means to control the authorization in case something goes awry v. long-term need of industry

way to convey that there is tenure even in 5 yr permit

what do rights communicate to those outside the industry?

even if mechanism is longer term, is it still an issue to have to get other 5 year permits renewed?

property right issues

does the government need to give a property right?

what sticks are given? what ones are allowed to be given?

are uniform rights needed?

Priorities

what securities does industry want? who can give that?

need to know what property rights need to be given

Breakout 2: Government Needs

authority

Clear authority for site selection, leasing and permitting, as well as a framework for robust stakeholder engagement

Someone (some agency) needs to be assigned aquaculture, to be assigned the authority to grant property rights

Gov't agencies need legal cover to promote a particular usage of an area

Don't forget the DoD!!!

Gov't has a Trustee obligation

Need to have the property right privilege to be worth the government effort

Gov't needs some form of return to gov't to make it worthwhile and be good stewards. Fee, %, etc. as determined

Government needs a method to take lessons learned from other aquaculture experiences (see EU)

Government needs an understanding of aquaculture revenue streams and indication of competitiveness with existing markets.

Gov't needs to balance uses, so that property rights don't interfere. Site selection is key.

Property rights gained after going through a process run by a government agency.

Gov't needs an industry catalyst

clear delineation of where project revenues go - fed or state

Not in gov't interest to set up property rights in area that results in conflicts.

Transparency

Breakout 3: Industry Needs

Top Priorities:(1) Security of Tenure (2) Regulatory Stability (3) Regulatory Clarity

Exclusivity would be beneficial but not necessary for industry - industry's concerns likely addressed by liability regime for interfering with property, human safety, etc.

Will take time to set up infrastructure, become efficient, and go through enough production cycles to become attractive investment

Need better sense of upfront costs

What would lease get you in an enterprise zone that a permit would not? Compensation if instrument is cancelled

Having agency/agencies handle NEPA review and site location greatly eases burden on applicant

predictability of regulations - between agencies and over time

Need a way to weigh conflicting uses. e.g., what is the value of using space for a farm v. its use for fishing?
MSP with economic weighing added

Criteria for financing includes species, technology, and expertise

Breakout 4: Industry Needs

Create a property right that includes the elements of remuneration, duration, transferability, renewability, insurability, exclusivity, restitution and revocability (only for failure to meet certain performance standards).

Exclusivity? compatible with other uses

Exclusivity doesn't have to mean a large exclusion zone around the farm (surface area for farm might be small). That might not need to be a preferred option. But operator does need a certain amount of control to stop public from fish.

Long time frame for planning/investment purposes. 15 years for business cycles.

MSP may be a necessary first step towards any framework because it identifies areas ahead of time and can reduce conflicts.
(not really an aspect of the lease/permit

Transferability - Seamless as long as methods remain the same - to allow for a fungible asset

Inclusivity/Exclusivity continuum that a lease should give a node to. Could say what's allowed - navigation, for instance. What things are compatible? Can there be an element of negotiation with the federal government about what is allowed?

Need to have a right that is transferable so that a larger entity with more resources could go through the initial process and then transfer that right to smaller operators. (More like an industrial park model?) Similar to leasing areas within an aquaculture enterprise zones.

affordable remuneration to the sovereign

Predictable regulatory environment

questions of sub-leasing? (Might be a mechanism to lower barriers for smaller growers)

Needs to have a duration that conveys a value.

Do you need different instruments for different types of aquculture? Because of the different business models. What are the instruments that would have these elements? Transferable licenses (like IFQs or if they are a transferrable like in Magnuson)

Permitting time frame that is practical and affordable with assurances that the process won't last forever

Need to be able to sell business - shouldn't just revert back to the government.

In addition to talk about transferability, also consider issue associated with expansion.

Needs Exercise: For a mechanism to grant property rights for offshore aquaculture to be effective, what do government and industry need it to accomplish?

Instructions

For a mechanism to grant property rights for offshore aquaculture to be effective, what do government and industry need it to accomplish?

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5. Select a spokesperson to debrief your work.

Breakout 1: Government Needs

Breakout 2: Government Needs

Breakout 3: Industry Needs

Breakout 4: Industry Needs

Additional Needs Identified in Discussion

Government Needs

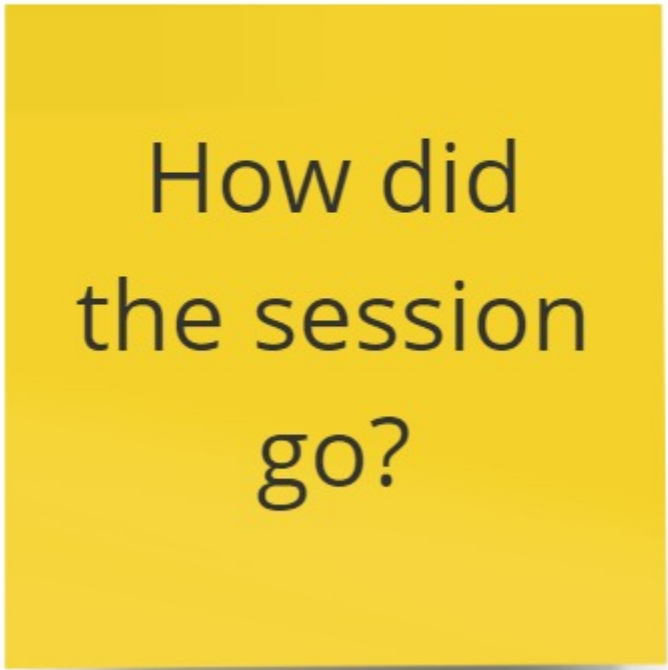
Who was the authority to issue a lease?

If different farms are different, then who decides which property rights are needed for different operations?

Considerations of financial assurance?

Industry Needs

Plus/Delta Exercise



Plus/Delta

Plus

What went well / do we want more of?

break out rooms

Break out rooms

I enjoyed when people were bold enough to share & when they refocused the conversation - heroes of the group

Cathy did a great job tracking our breakout conversation. So, huge thanks to her!

Agree with this! Cathy was great! Sounds like she could give some guidance to SG note-takers in other breakout groups

Group discussion

breakouts -- good amt of time / size of group for discussion

good mix of participants

Thanks

Delta

What didn't go well / could be improved?

have breakout rooms automatically end at the end of the session so we all go back to the main zoom at the same time

Use SeaGrant note takers; assign as spokes personl

clarify end goal of the workshop

having a hard time moving sticky notes

Maybe tomorrow be clear about the objectives, desired outcomes and follow-up, if any.

need a better statement of objectives so we don't get sidetracked

almost wonder if there was an anonymous way to share you might get more perspectives / more challenging or critical perspectives; though intro time was good not everyone may be comfortable enough

Industry and gov't should be together. Thanks!

Might be useful for Bcky or Stephanie to "float" in and out of b-out rooms to keep things on track

Provide a summary via email /downld before tomorrow


Thank you!

APPENDIX F

DRAFT ANALYTICAL MATRIX TEMPLATE

Breakout #:

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.			
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.			
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable balancing of conflicting uses of space. Needs to be transparent.	Needs to balance conflicting uses of space.			
Enforcement	Need to be able to take actions against bad actors. Not necessarily revoking permits, but could be other options such as fines.				
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance).				

APPENDIX G

MIRO SLIDES AND ANALYTICAL MATRICES FROM MAY 13, 2020

Exploring Options to Grant Property Rights for Offshore Aquaculture

Welcome by
Stephanie Otts

Sea Grant
Law Center

Objectives

May 5 → • Establish a common understanding of the options to grant property rights for aquaculture in federal waters

May 12 → • Identify the needs of government and industry relative to the mechanism to grant property rights

May 13 → • Evaluate the options to grant property rights

TBD → • Draft recommendations for criteria to be included in legislation

National Sea Grant Law Center, The University of Mississippi
Exploring Options to Grant Property Rights for Offshore Aquaculture
May 13, 2020, 2-5 pm EDT

Meeting Materials

Parking Lot

Meeting Starts Here

Welcome & Introduction

Objectives

- May 1 – Establish a common understanding of the options to grant property rights for aquaculture in federal waters.
- May 12 – Identify the needs of government and industry relative to the mechanism to grant property rights
- May 13 – Evaluate the options to grant property rights
- TBD – Draft recommendations for criteria to be included in legislation

Workshop Norms

1. Have patience with technology.
2. Rename yourself in Zoom if name is not accurate.
3. Use parking lot in Miro.
4. Private chat in Zoom to Stephanie Otts for technical support.
5. Mute your microphone when not talking. Keep your camera on whenever possible.
6. Participate and share generously, and listen!

Focus on Property Rights:

1. The authorization regulatory and oversight process (not on a specific geographic area or type of aquaculture).
2. Authorization for space (not operations / activity)
3. The characteristics of the instrument (not the label)

Define Characteristics & Requirements

Copy of Options Exercise

Characteristics

What are the broad features or qualities that any property rights mechanism should address?

Requirements

For each characteristic, what should the mechanism be able to do to meet the needs of government and industry?

Evaluate Options

Options

Lease | Permit | License

Options

How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

Wrap-up and Closing

Next Steps

Draft workshop proceedings report

Recommendations workshop

Closing Thoughts

Evaluate Options Exercise: How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

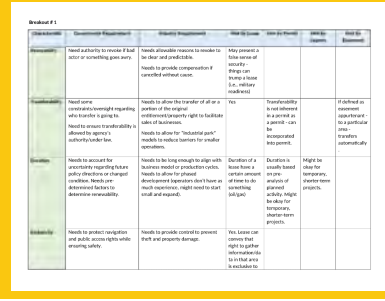
Instructions for Round 1. Requirements
Focusing on property rights for offshore aquaculture, what does the selected mechanism need to be able to do for government and industry. What are the requirements?

1. Column 1: Review the list of characteristics identified during the breakouts and discussion yesterday. Add any characteristics that are missing.
2. Columns 2 & 3: For each characteristic, determine and record the requirements for government and industry.
3. Record any additional thoughts that should be considered.
4. Select a spokesperson to debrief your work.

Instructions for Round 2. Evaluation of Options
How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

1. Go to your breakout group's workspace.
2. Columns 4, 5 &6: Evaluate how well each option (lease, permit, license) meets the requirements for each characteristic for both government and industry. Record how well each requirement is met: fully, partially, or not met.
3. Add any notes or comments.
4. Select a spokesperson to debrief your work.

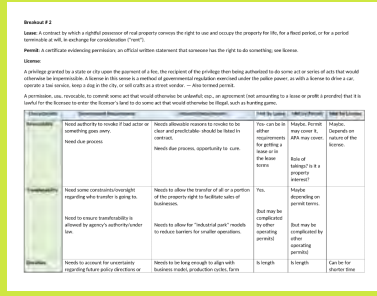
Breakout 1:



Breakout # 1

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License	Met by Easement
Revocability	Need authority to revoke if bad actor or something goes awry. Need due process	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	May present a false sense of security - things can trump a lease (i.e., military readiness)			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the original entitlement/property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operators.	Yes	Transferability is not inherent in a permit as a permit - can be incorporated into permit.		If defined as easement appurtenant - to a particular area - transfers automatically
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles. Needs to allow for phased development (operators don't have as much experience, might need to start small and expand).	Duration of a lease have a certain amount of time to do something (all/gas)	Duration is usually based on pre-analysis of public interest activity. Might be okay for temporary, shorter-term projects.	Might be okay for temporary, shorter-term projects.	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Yes. Lease can convey that right to gather information/data in that area is exclusive to			

Breakout 2:



Breakout # 2

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").

Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; see license.

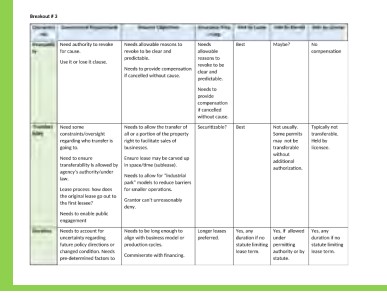
License:

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, use, 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.

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry. Need due process	Needs allowable reasons to revoke to be clear and predictable- should be listed in contract. Needs due process, opportunity to cure.	Yes- can be in either requirements for getting a lease or in the lease terms Role of tabling? Is it a property interest?	Maybe, Permit may cover it, APA may cover.	Maybe, Depends on nature of the license.
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operators.	Yes. (but may be complicated by other operating permits)	Maybe depending on permit terms. Bot may be complicated by other operating permits)	
Duration	Needs to account for uncertainty regarding future policy directions or	Needs to be long enough to align with business model, production cycles, term	Is length	Is length	Can be for shorter time

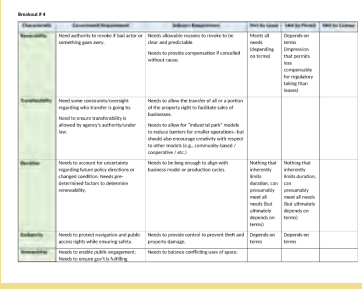
Breakout 3:



Breakout # 3

Characteristic	Government Requirement	Industry Objectives	Industry Req. / Info	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke for cause. Use it or lose it clause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Best	Maybe?	No compensation
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law. Lease process: how does the original lease go out to the first lessee? Needs to enable public engagement	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Ensure lease may be carved up in space/time (sublease). Needs to allow for "industrial park" models to reduce barriers for smaller operations. Grantor can't unreasonably deny.	Securitizable?	Best	Not usually. Some permits may not be transferable without additional authorization.	Typically not transferable. Held by licensee.
Duration	Needs to account for uncertainty regarding future policy directions or changed conditions. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles. Commiserate with financing.	Longer leases preferred.	Yes, are duration if no statute limiting lease terms.	Yes, if allowed under permitting authority in by statute.	Yes, are duration if no statute limiting lease term.

Breakout 4:



Breakout # 4

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry. Needs to provide compensation if cancelled without cause.	Needs allowable reasons to revoke to be clear and predictable.	Meets all needs (depending on terms)	Depends on terms (impression, that permits less compensable for regulatory taking than leases)	
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operators--but should also encourage creativity with respect to other models (e.g., community-based / cooperative / etc.)			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Depends on terms	Depends on terms	
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling	Needs to balance conflicting uses of space.			

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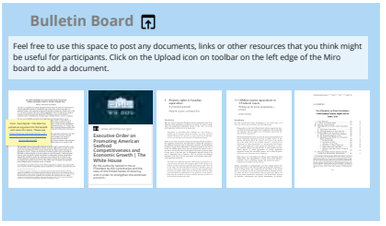
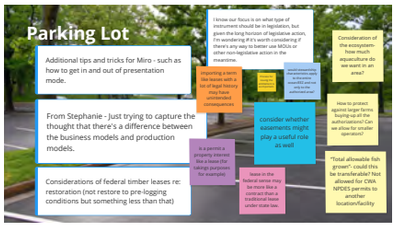


Parking Lot



Meeting Starts Here

Welcome & Introduction

Objectives

- May 5 → Establish a common understanding of the options to grant property rights for aquaculture in federal waters
- May 12 → Identify the needs of government and industry relative to the mechanism to grant property rights
- May 13 → Evaluate the options to grant property rights
- TBD → Draft recommendations for criteria to be included in legislation

Workshop Norms

1. Have patience with technology.
2. Rename yourself in Zoom if name is not accurate.
3. Use parking lot in Miro.
4. Private chat in Zoom to Stephanie Otts for technical support.
5. Mute your microphone when not talking. Keep your camera on whenever possible.
6. Participate and share generously, and listen!

Focus on Property Rights:

1. The authorization regulatory and oversight process (not on a specific geographic area or type of aquaculture).
2. Authorization for space (not operations / activity)
3. The characteristics of the instrument (not the label)

Define Characteristics & Requirements

Copy of Options Exercise

Characteristics

What are the broad features or qualities that any property rights mechanism should address?

Requirements

For each characteristic, what should the mechanism be able to do to meet the needs of government and industry?

Evaluate Options

Options

Lease | Permit | License

Options – Definitions (Generic)

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").

Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; see license.

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, usu. 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.

Options

How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

Wrap-up and Closing

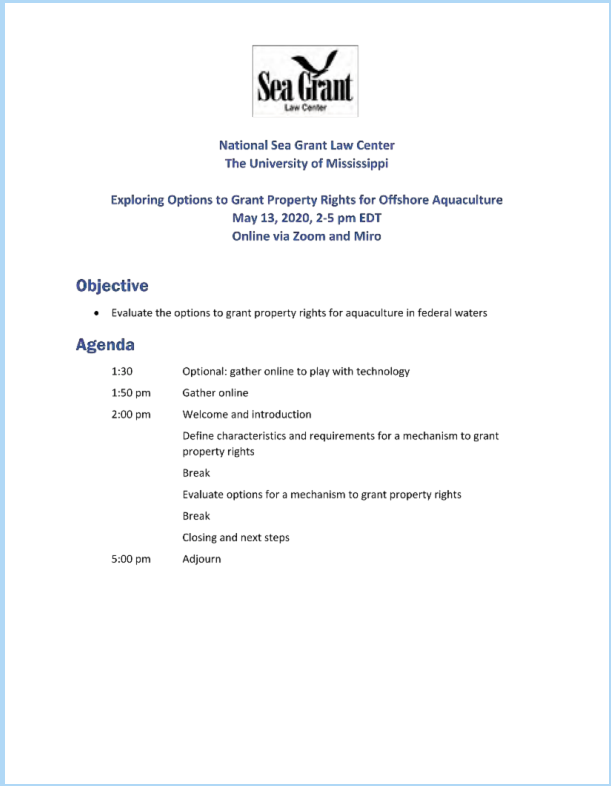
Next Steps

Draft workshop proceedings report

Recommendations workshop

Closing Thoughts

Workshop Materials



National Sea Grant Law Center
The University of Mississippi

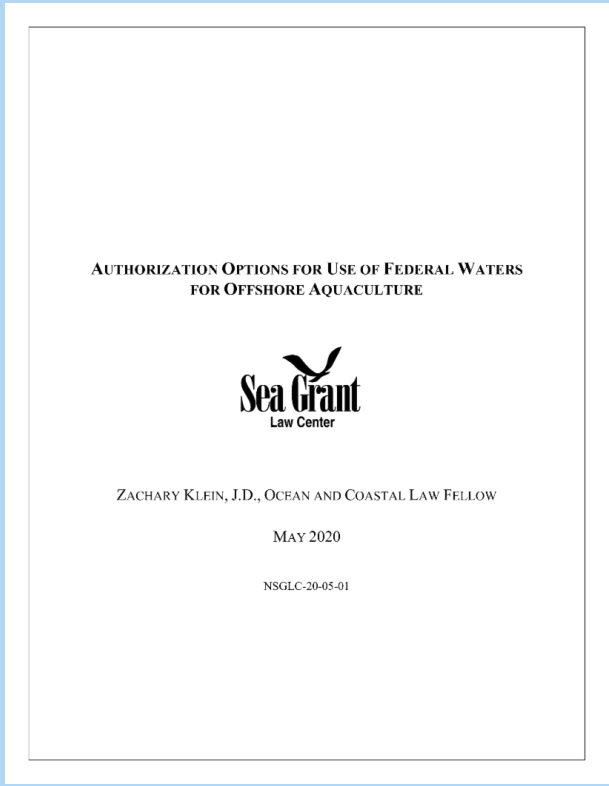
Exploring Options to Grant Property Rights for Offshore Aquaculture
May 13, 2020, 2-5 pm EDT
Online via Zoom and Miro

Objective

- Evaluate the options to grant property rights for aquaculture in federal waters

Agenda

1:30	Optional: gather online to play with technology
1:50 pm	Gather online
2:00 pm	Welcome and introduction
	Define characteristics and requirements for a mechanism to grant property rights
	Break
	Evaluate options for a mechanism to grant property rights
	Break
	Closing and next steps
5:00 pm	Adjourn



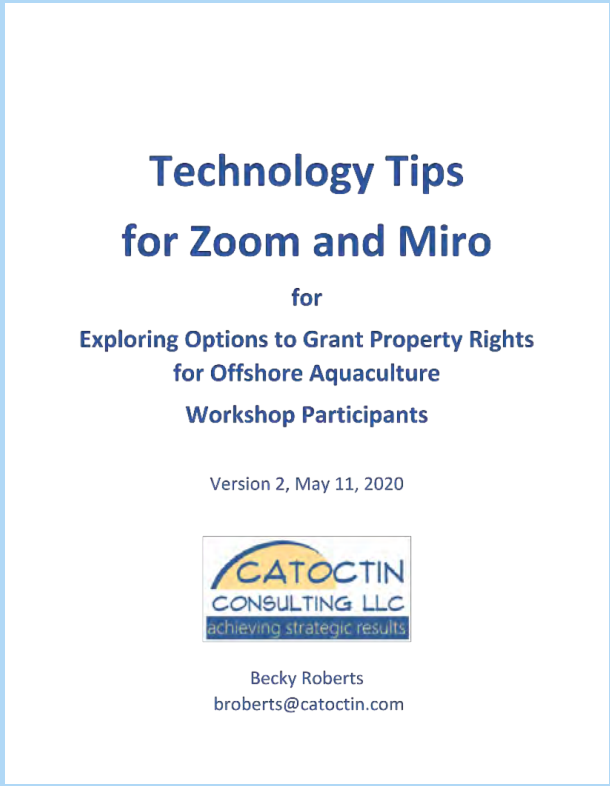
AUTHORIZATION OPTIONS FOR USE OF FEDERAL WATERS FOR OFFSHORE AQUACULTURE

Sea Grant Law Center

ZACHARY KLEIN, J.D., OCEAN AND COASTAL LAW FELLOW

MAY 2020

NSGLC-20-05-01



Technology Tips for Zoom and Miro

for

Exploring Options to Grant Property Rights for Offshore Aquaculture

Workshop Participants

Version 2, May 11, 2020

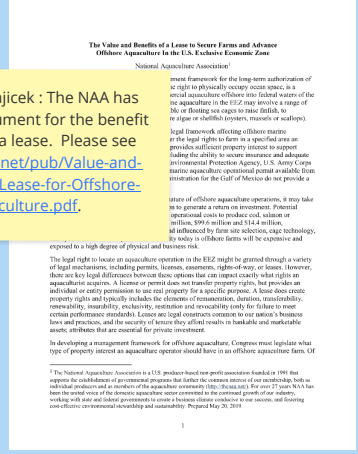
CATOCTIN CONSULTING LLC
achieving strategic results

Becky Roberts
broberts@catoctin.com

Bulletin Board

Feel free to use this space to post any documents, links or other resources that you think might be useful for participants. Click on the Upload icon on toolbar on the left edge of the Miro board to add a document.

From Paul Zajicek : The NAA has posted an argument for the benefit and value of a lease. Please see http://thenaa.net/pub/Value-and-Benefits-of-a-Lease-for-Offshore-Aquaculture.pdf.



The Value and Benefits of a Lease to Secure Farms and Advance Offshore Aquaculture In the U.S. Exclusive Economic Zone

National Aquaculture Association[1]

...sment framework for the long-term authorization of ...e right to physically occupy ocean space, is a ...ercial aquaculture offshore into federal waters of the ...se aquaculture in the EEZ may involve a range of ...ble or floating sea cages to raise finfish, to ...re algae or shellfish (oysters, mussels or scallops).

...legal framework affecting offshore marine ...er the legal rights to farm in a specified area an ...provides sufficient property interest to support ...fading the ability to secure insurance and adequate ...nvironmental Protection Agency, U.S. Army Corps ...marine aquaculture operational permit available from ...inistration for the Gulf of Mexico do not provide a

...iture of offshore aquaculture operations, it may take ...m to generate a return on investment. Potential ...perational costs to produce cod, salmon or ...million, $99.6 million and $14.4 million, ...d influenced by farm site selection, cage technology, ...ly today is offshore farms will be expensive and exposed to a high degree of physical and business risk.

The legal right to locate an aquaculture operation in the EEZ might be granted through a variety of legal mechanisms, including permits, licenses, easements, rights-of-way, or leases. However, there are key legal differences between these options that can impact exactly what rights an aquaculturist acquires. A license or permit does not transfer property rights, but provides an individual or entity permission to use real property for a specific purpose. A lease does create property rights and typically includes the elements of remuneration, duration, transferability, renewability, insurability, exclusivity, restitution and revocability (only for failure to meet certain performance standards). Leases are legal constructs common to our nation's business laws and practices, and the security of tenure they afford results in bankable and marketable assets; attributes that are essential for private investment.

In developing a management framework for offshore aquaculture, Congress must legislate what type of property interest an aquaculture operator should have in an offshore aquaculture farm. Of

[1] The National Aquaculture Association is a U.S. producer-based non-profit association founded in 1991 that supports the establishment of governmental programs that further the common interest of our membership, both as individual producers and as members of the aquaculture community (http://thenaa.net/). For over 27 years NAA has been the united voice of the domestic aquaculture sector committed to the continued growth of our industry, working with state and federal governments to create a business climate conducive to our success, and fostering cost-effective environmental stewardship and sustainability. Prepared May 28, 2010.

1

Parking Lot

Additional tips and tricks for Miro - such as how to get in and out of presentation mode.

From Stephanie - Just trying to capture the thought that there's a difference between the business models and production models.

Considerations of federal timber leases re: restoration (not restore to pre-logging conditions but something less than that)

Workshop Norms

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Focus on Property Rights:

1. The authorization regulatory and oversight process (not on a specific geographic area or type of aquaculture).
2. Authorization for space (not operations / activity)
3. The characteristics of the instrument (not the label)

Evaluate Options Exercise: How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

Instructions for Round 1, Requirements

Focusing on property rights for offshore aquaculture, what does the selected mechanism need to be able to do for government and industry. What are the requirements?

1. Column 1: Review the list of characteristics identified during the breakouts and discussion yesterday. Add any characteristics that are missing.
2. Columns 2 & 3: For each characteristic, determine and record the requirements for government and industry.
3. Record any additional thoughts that should be considered.
4. Select a spokesperson to debrief your work.

Instructions for Round 2, Evaluation of Options

How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

1. Go to your breakout group's workspace.
2. Columns 4, 5 &6: Evaluate how well each option (lease, permit, license) meets the requirements for each characteristic for both government and industry. Record how well each requirement is met: fully, partially, or not met.
3. Add any notes or comments.
4. Select a spokesperson to debrief your work.

Breakout 1:

Breakout # 1

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License	Met by Easement
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	May present a false sense of security - things can trump a lease (i.e., military readiness)			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the original entitlement/property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes	Transferability is not inherent in a permit as a permit - can be incorporated into permit.		If defined as easement appurtenant - to a particular area - transfers automatically .
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles. Needs to allow for phased development (operators don't have as much experience, might need to start small and expand).	Duration of a lease have a certain amount of time to do something (oil/gas)	Duration is usually based on pre-analysis of planned activity. Might be okay for temporary, shorter-term projects.	Might be okay for temporary, shorter-term projects.	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Yes. Lease can convey that right to gather information/data in that area is exclusive to			

Breakout 2:

Breakout # 2

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").

Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; see license.

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, usu. 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.

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry. Need due process	Needs allowable reasons to revoke to be clear and predictable- should be listed in contract. Needs due process, opportunity to cure.	Yes- can be in either requirements for getting a lease or in the lease terms	Maybe. Permit may cover it, APA may cover. Role of takings? is it a property interest?	Maybe. Depends on nature of the license.
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes. (but may be complicated by other operating permits)	Maybe depending on permit terms. (but may be complicated by other operating permits)	
Duration	Needs to account for uncertainty regarding future policy directions or	Needs to be long enough to align with business model, production cycles, farm	Is length	Is length	Can be for shorter time

Breakout 3:

Breakout # 3

Characteristic	Government Requirement	Industry Objectives	Insurance/Financing	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke for cause. Use it or lose it clause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Best	Maybe?	No compensation
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law. Lease process: how does the original lease go out to the first lessee? Needs to enable public engagement	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Ensure lease may be carved up in space/time (sublease). Needs to allow for "industrial park" models to reduce barriers for smaller operations. Grantor can't unreasonably deny.	Securitizable?	Best	Not usually. Some permits may not be transferable without additional authorization.	Typically not transferable. Held by licensee.
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to	Needs to be long enough to align with business model or production cycles. Commiserate with financing.	Longer leases preferred.	Yes, any duration if no statute limiting lease term.	Yes, if allowed under permitting authority or by statute.	Yes, any duration if no statute limiting lease term.

Breakout 4:

Breakout # 4

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Meets all needs (depending on terms)	Depends on terms (impression that permits less compensable for regulatory taking than leases)	
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations--but should also encourage creativity with respect to other models (e.g., community-based / cooperative / etc.)			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Depends on terms	Depends on terms	
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling	Needs to balance conflicting uses of space.			

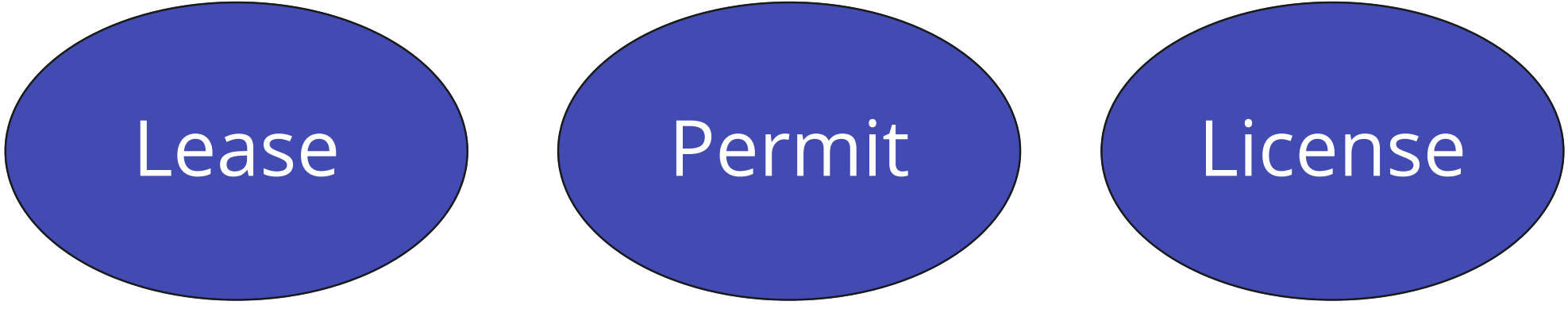
Characteristics

What are the broad features or qualities that any property rights mechanism should address?

Requirements

For each characteristic, what should the mechanism be able to do to meet the needs of government and industry?

Options



Options – Definitions (Generic)

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").

Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; *see* license.

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*.
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Options

How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

Breakout #:

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.			
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.			
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable balancing of conflicting uses of space. Needs to be transparent.	Needs to balance conflicting uses of space.			
Enforcement	Need to be able to take actions against bad actors. Not necessarily revoking permits, but could be other options such as fines.				
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance).				

Evaluate Options Exercise: How well does each option to grant prop

Instructions for Round 1, Requirements

Focusing on property rights for offshore aquaculture, what does the selected mechanism need to be able to do for government and industry. What are the requirements?

1. Column 1: Review the list of characteristics identified during the breakouts and discussion yesterday. Add any characteristics that are missing.
2. Columns 2 & 3: For each characteristic, determine and record the requirements for government and industry.
3. Record any additional thoughts that should be considered.
4. Select a spokesperson to debrief your work.

perty rights for offshore aquaculture meet the needs of government and industry?

Instructions for Round 2, Evaluation of Options

How well does each option to grant property rights for offshore aquaculture meet the needs of government and industry?

1. Go to your breakout group's workspace.
2. Columns 4, 5 &6: Evaluate how well each option (lease, permit, license) meets the requirements for each characteristic for both government and industry. Record how well each requirement is met: fully, partially, or not met.
3. Add any notes or comments.
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Breakout 1:

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Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License	Met by Easement
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	May present a false sense of security - things can trump a lease (i.e., military readiness)			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the original entitlement/property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes	Transferability is not inherent in a permit as a permit - can be incorporated into permit.		If defined as easement appurtenant - to a particular area - transfers automatically .
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles. Needs to allow for phased development (operators don't have as much experience, might need to start small and expand).	Duration of a lease have a certain amount of time to do something (oil/gas)	Duration is usually based on pre-analysis of planned activity. Might be okay for temporary, shorter-term projects.	Might be okay for temporary, shorter-term projects.	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Yes. Lease can convey that right to gather information/data in that area is exclusive to			

Breakout # 1

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License	Met by Easement
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	May present a false sense of security - things can trump a lease (i.e., military readiness)			
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the original entitlement/property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes	Transferability is not inherent in a permit as a permit - can be incorporated into permit.		If defined as easement appurtenant - to a particular area - transfers automatically .
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles. Needs to allow for phased development (operators don't have as much experience, might need to start small and expand).	Duration of a lease have a certain amount of time to do something (oil/gas)	Duration is usually based on pre-analysis of planned activity. Might be okay for temporary, shorter-term projects.	Might be okay for temporary, shorter-term projects.	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Yes. Lease can convey that right to gather information/data in that area is exclusive to the operator.			
Stewardship	Needs to facilitate public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable	Needs to balance conflicting uses of space. Needs the process to be manageable for industry (can't be too				

Commented [1]: Note: actual transfer of a property right. Right to occupy the seafloor.

Commented [2]: Note: When thinking about permits, traditionally this just means permission.

Commented [3]: Permissions. Can alter terms and put durations. Subject to politics and can be revoked.

Commented [4]: Property right - "right to use"

Commented [5]: Transfer of the original entitlement is different than subleasing. There are different rules and different kinds of transfers.

	balancing of conflicting uses of space. Needs to be transparent. Needs to be manageable so that the government can enact the process.	cumbersome or burdensome) that erects a barrier to moving forward.				
Enforcement	Need to be able to take actions against bad actors. Not necessarily revoking permits, but could be other options such as fines.	Need to protect safety and security of geographic area.				
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance).	Need financial assurances are secure and transparent.				
Geography	Needs to identify what spatial/geographic area the operation is located in and whether it can move around, expand/contract footprint	Needs to identify what spatial area the operation is located In and whether it can move around, expand footprint. Needs to permit subdivision.				Easement could provide a right to roam (or use within) a particular area.
Decommissioning	The government needs to have assurances that assets installed on public space will be properly decommissioned in a manner compliant with the law.	Industry needs clarity on the requirements for decommissioning and the applicable mechanism for providing financial assurance.		Could be met by the regulatory scheme from which a lease is derived.		

Parking Lot:

- Process by which the entitlement is granted is as important as the entitlement itself. If it is too burdensome it can create a barrier to entry.

- NEPA - any mechanism used to convey property rights should be integrated into existing environmental review process - not added on top. Again this can create a barrier to entry.
    - Consultations under other laws (ESA, etc.) are not permits. They are federal obligations that agencies must meet.
    - There would be benefits if these same consultations could be coordinated to apply for all permits needed.
- Sequencing of whether permit/lease comes first varies by how the federal and state governments set up their process.
- Offshore is very different from nearshore - what if the federal government identified an area offshore and offered to grant the 10 best applicants the authority to operate. Would that be acceptable to industry?

Commented [6]: This is very similar to the model of several European countries regarding offshore wind. It is a matter of allocating risk, here the government takes a bulk of the risk and expense of site exploration. It is just a question of whether taking that risk is in the public interest.

Breakout 2:

Breakout # 2

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").

Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; see license.

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.

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Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry. Need due process	Needs allowable reasons to revoke to be clear and predictable- should be listed in contract. Needs due process, opportunity to cure.	Yes- can be in either requirements for getting a lease or in the lease terms	Maybe. Permit may cover it, APA may cover. Role of takings? is it a property interest?	Maybe. Depends on nature of the license.
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes. (but may be complicated by other operating permits)	Maybe depending on permit terms. (but may be complicated by other operating permits)	
Duration	Needs to account for uncertainty regarding future policy directions or	Needs to be long enough to align with business model, production cycles, farm	Is length	Is length	Can be for shorter time

Breakout # 2

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").

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Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry. Need due process	Needs allowable reasons to revoke to be clear and predictable- should be listed in contract. Needs due process, opportunity to cure.	Yes- can be in either requirements for getting a lease or in the lease terms	Maybe. Permit may cover it, APA may cover. Role of takings? is it a property interest?	Maybe. Depends on nature of the license.
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations.	Yes. (but may be complicated by other operating permits)	Maybe depending on permit terms. (but may be complicated by other operating permits)	
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs predetermined factors to determine renewability.	Needs to be long enough to align with business model, production cycles, farm design, construction and operation. Need a duration to allow for financing needs. Long enough to get to stabilization.	Is length satisfactory?	Is length satisfactory?	Can be for shorter time periods

		Needs pre-determined factors to determine renewability. Should be automatic if factors meant.			
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage. Not too many farms that have trouble accessing.	Talks more about space- better defined in a lease (may be complicated by other required authorizations)	Not sure speaks to use of space as well as to needs of industry- govt needs may be met (may be complicated by other required authorizations)	Not sure speaks to use of space as well (may be complicated by other required authorizations)
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable balancing of conflicting uses of space. Needs to be transparent. Managing so not too much negative impact on the environment (maybe in connection with NPDES permit) Can consider density in the area	Needs to enable public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable balancing of conflicting uses of space. Needs to be transparent. Managing so not too much negative impact on the environment (maybe in connection with NPDES permit) Can consider density in the area	Maybe- factors may be more rigorously discussed if longer term.	Maybe- If shorter term, may not be discussed as fully as a lease	
Enforcement	Need to be able to take actions against bad actors. Not necessarily revoking permits, but could be other options such as fines. Clear expectations for monitoring and reporting.	Inspection should be allowed, but need notice and warrants if necessary. Clear expectations for monitoring and reporting.	can be revoked, but maybe not other operational aspects can link to other	compliance may be a bigger issue with a permit-	

			permits and lose lease if lose other permits		
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance). Need to be covered from cradle-to-grave, need a sound business	Bankable, marketable asset for sale. Flat fee model. Too hard to manage if tied to revenue. Allow phased-in fees until farm is up and running.	View lease as an asset- don't view lease and permits as the same.		
Restitution	Need clear procedures.	Needs to provide compensation if cancelled without cause., whether financial or in-kind (other location)	Lease contract has more legal protections	Permit may not have same legal protections- some permits to have a due process requirement	
Conditions of Operations	Procedures for amendment, modification, operation plans, decommissioning, etc.	Procedures for amendment, modification, operations plan, decommissioning, etc.			

Parking Lot:

"Total allowable fish grown"- could this be transferable? Not allowed for CWA NPDES permits to another location/facility (on Miro)

Consideration of the ecosystem- how much aquaculture do we want in an area? (on Miro)

How to protect against larger farms buying-up? Can we allow for smaller operators? (on Miro)

Stewardship characteristics may need to apply to the entire ocean/EEZ (on Miro)

Side discussion- property right distinction btw. leases and permits:

Does the permit have the same property right characteristics as lease? Property right gives the holder certain rights, but also comes with obligations.

- lease holders often take stewardship more seriously if they view the space as their own.
- intangible effect on the holder?

Can permit give the same rights to use of space as a lease? (on Miro)

Breakout 3:

Breakout # 3

Characteristic	Government Requirement	Industry Objectives	Insurance/Financing	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke for cause. Use it or lose it clause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Best	Maybe?	No compensation
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law. Lease process: how does the original lease go out to the first lessee? Needs to enable public engagement	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Ensure lease may be carved up in space/time (sublease). Needs to allow for "industrial park" models to reduce barriers for smaller operations. Grantor can't unreasonably deny.	Securitizable?	Best	Not usually. Some permits may not be transferable without additional authorization.	Typically not transferable. Held by licensee.
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to	Needs to be long enough to align with business model or production cycles. Commiserate with financing.	Longer leases preferred.	Yes, any duration if no statute limiting lease term.	Yes, if allowed under permitting authority or by statute.	Yes, any duration if no statute limiting lease term.

Breakout # 3

Characteristic	Government Requirement	Industry Objectives	Insurance/Financing	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke for cause. Use it or lose it clause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Best	Maybe?	No compensation
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law. Lease process: how does the original lease go out to the first lessee? Needs to enable public engagement	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Ensure lease may be carved up in space/time (sublease). Needs to allow for "industrial park" models to reduce barriers for smaller operations. Grantor can't unreasonably deny.	Securitizable?	Best	Not usually. Some permits may not be transferable without additional authorization.	Typically not transferable. Held by licensee.
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability. Renewability of terms. 10 years?	Needs to be long enough to align with business model or production cycles. Commiserate with financing. 25 years?	Longer leases preferred.	Yes, any duration if no statute limiting lease term.	Yes, if allowed under permitting authority or by statute.	Yes, any duration if no statute limiting lease term.
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	liability for the farm. LIability for thieves	Best	Typically wouldn't work, but is possible.	Can work if defined in the license.

		Lessee able to enforce rights against 3rd parties.				
Stewardship/other federal responsibilities	Needs to ensure gov't is fulfilling trustee obligations. Needs to be transparent. Security	Needs to balance conflicting uses of space.		Constrained by trustee obligations	Best	Constrained.
Enforcement	Need to be able to take actions against noncompliance. Not necessarily revoking permits, but could be other options such as fines.	Need to know what the enforcement actions are- outlined in escalating steps. Reasonable.		Provides more flexibility to address concerns.	Opportunity to address noncompliance	Equal to others
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance).	Costs need to be predictable for effective business modeling: permitting, regulatory costs, any lease/license/royalty fees.		More expensive.	Equivalent	Equivalent
Compatibility Use/Requirements.	Needs to enable balancing of conflicting uses of space.	Equivalent consideration of other uses. Are other uses presumed to be compatible. Consider farming needs of applicant.		Equivalent	Equivalent	Equivalent

Breakout 4:

Breakout # 4

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Meets all needs (depending on terms)	Depends on terms (impression that permits less compensable for regulatory taking than leases)	
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations--but should also encourage creativity with respect to other models (e.g., community-based / cooperative / etc.)			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Depends on terms	Depends on terms	
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling	Needs to balance conflicting uses of space.			

Breakout # 4

Characteristic	Government Requirement	Industry Requirement	Met by Lease	Met by Permit	Met by License
Revocability	Need authority to revoke if bad actor or something goes awry.	Needs allowable reasons to revoke to be clear and predictable. Needs to provide compensation if cancelled without cause.	Meets all needs (depending on terms)	Depends on terms (impression that permits less compensable for regulatory taking than leases)	
Transferability	Need some constraints/oversight regarding who transfer is going to. Need to ensure transferability is allowed by agency's authority/under law.	Needs to allow the transfer of all or a portion of the property right to facilitate sales of businesses. Needs to allow for "industrial park" models to reduce barriers for smaller operations--but should also encourage creativity with respect to other models (e.g., community-based / cooperative / etc.)			
Duration	Needs to account for uncertainty regarding future policy directions or changed condition. Needs pre-determined factors to determine renewability.	Needs to be long enough to align with business model or production cycles.	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	Nothing that inherently limits duration, can presumably meet all needs (but ultimately depends on terms)	
Exclusivity	Needs to protect navigation and public access rights while ensuring safety.	Needs to provide control to prevent theft and property damage.	Depends on terms	Depends on terms	
Stewardship	Needs to enable public engagement; Needs to ensure gov't is fulfilling trustee obligations. Needs to enable balancing of conflicting uses of space. Needs to be transparent.	Needs to balance conflicting uses of space. Sharing cost between government and industry -- related to transparency. Eases financial burden on industry, but eager to be working with best data. (monitoring issue related to enforcement)			

Enforcement	Need to be able to take actions against bad actors. Not only with respect to revoking permits, which they need to do, but could be other options such as fines. Perhaps worth considering observer model?	Instrument can only be revoked for cause, transparency and predictability for fines from the get-go. Should be in line with fines from other agencies for similar violations in similar space (offshore waters -- e.g., EPA and Corps) Monitoring issue -- related to stewardship.	Lease (presumably) administered by one agency	Permit may allow for interagency cooperation on enforcement issues, more flexibility	
Financial	Needs to provide for revenue recovery or fees because commercial activity taking place on public land. Need to provide financial assurance to address environmental damage, abandoned sites, etc. (e.g., bonds or insurance).	Need to provide sufficient right for bank or lender to put lien on. Where do we derive value from the asset? Insurability of equipment, operations, husbandry practices.	Depends on terms	Depends on terms	
		Flexibility of instrument to allow for operations to expand/contract or become other type of operation (separate issue from transferability) - adaptability of instrument Pushback to sliding scale for fees, feeling that it disincentivizes growth -- preference for flat fee			

Next Steps

Draft workshop proceedings report

Recommendations workshop

Closing Thoughts

Zoom Meeting

03:31:59 Speaker View

Paul Zajicek | Becky Roberts | Stephanie Otts | Bob Rheault | Jenny Molloy

Zachary Klein | Robin Craig | Robert Smith I | Susan Farady | Ev Ashworth - I

dpeters | robertgordon | Kelly Lucas | Sebastian Belle | Luke Fairbanks

Brian Fredieu-G | alyson myers | Sarah Brenholt | Neal McMillin | Kat Montgomery

Cathy Janasie | Bill Spencer | Donna Lanzetta | Read Porter | Don Kent-I

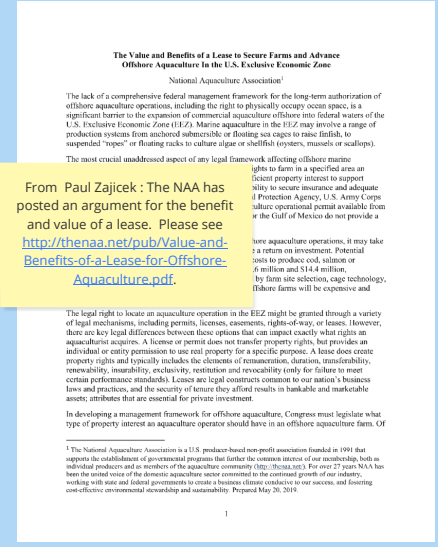
John.Duff

Sean Roberts


Thank you!

Bulletin Board

Feel free to use this space to post any documents, links or other resources that you think might be useful for participants. Click on the Upload icon on toolbar on the left edge of the Miro board to add a document.



The Value and Benefits of a Lease to Secure Farms and Advance Offshore Aquaculture In the U.S. Exclusive Economic Zone

National Aquaculture Association[1]

The lack of a comprehensive federal management framework for the long-term authorization of offshore aquaculture operations, including the right to physically occupy ocean space, is a significant barrier to the expansion of commercial aquaculture offshore into federal waters of the U.S. Exclusive Economic Zone (EEZ). Marine aquaculture in the EEZ may involve a range of production systems from anchored submersible or floating sea cages to raise finfish, to suspended "ropes" or floating racks to culture algae or shellfish (oysters, mussels or scallops).

The most crucial unaddressed aspect of any legal framework affecting offshore marine

ights to farm in a specified area an

fficient property interest to support

bility to secure insurance and adequate

l Protection Agency, U.S. Army Corps

ulture operational permit available from

r the Gulf of Mexico do not provide a

hore aquaculture operations, it may take

a return on investment. Potential

osts to produce cod, salmon or

.6 million and $14.4 million,

by farm site selection, cage technology,

ffshore farms will be expensive and

The legal right to locate an aquaculture operation in the EEZ might be granted through a variety of legal mechanisms, including permits, licenses, easements, rights-of-way, or leases. However, there are key legal differences between these options that can impact exactly what rights an aquaculturist acquires. A license or permit does not transfer property rights, but provides an individual or entity permission to use real property for a specific purpose. A lease does create property rights and typically includes the elements of remuneration, duration, transferability, renewability, insurability, exclusivity, restitution and revocability (only for failure to meet certain performance standards). Leases are legal constructs common to our nation's business laws and practices, and the security of tenure they afford results in bankable and marketable assets; attributes that are essential for private investment.

In developing a management framework for offshore aquaculture, Congress must legislate what type of property interest an aquaculture operator should have in an offshore aquaculture farm. Of

[1] The National Aquaculture Association is a U.S. producer-based non-profit association founded in 1991 that supports the establishment of governmental programs that further the common interest of our membership, both as individual producers and as members of the aquaculture community (http://thenaa.net/). For over 27 years NAA has been the united voice of the domestic aquaculture sector committed to the continued growth of our industry, working with state and federal governments to create a business climate conducive to our success, and fostering cost-effective environmental stewardship and sustainability. Prepared May 20, 2019.

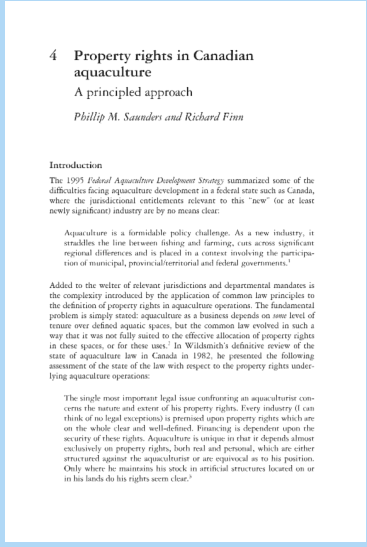
1

From Paul Zajicek : The NAA has posted an argument for the benefit and value of a lease. Please see http://thenaa.net/pub/Value-and-Benefits-of-a-Lease-for-Offshore-Aquaculture.pdf.

www.whitehouse.gov

Executive Order on Promoting American Seafood Competitiveness and Economic Growth | The White House

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to strengthen the American econom...



4 Property rights in Canadian aquaculture

A principled approach

Phillip M. Saunders and Richard Finn

Introduction

The 1995 *Federal Aquaculture Development Strategy* summarized some of the difficulties facing aquaculture development in a federal state such as Canada, where the jurisdictional entitlements relevant to this "new" (or at least newly significant) industry are by no means clear:

> Aquaculture is a formidable policy challenge. As a new industry, it straddles the line between fishing and farming, cuts across significant regional differences and is placed in a context involving the participation of municipal, provincial/territorial and federal governments.[1]

Added to the welter of relevant jurisdictions and departmental mandates is the complexity introduced by the application of common law principles to the definition of property rights in aquaculture operations. The fundamental problem is simply stated: aquaculture as a business depends on *some* level of tenure over defined aquatic spaces, but the common law evolved in such a way that it was not fully suited to the effective allocation of property rights in these spaces, or for these uses.[2] In Wildsmith's definitive review of the state of aquaculture law in Canada in 1982, he presented the following assessment of the state of the law with respect to the property rights underlying aquaculture operations:

> The single most important legal issue confronting an aquaculturist concerns the nature and extent of his property rights. Every industry (I can think of no legal exceptions) is premised upon property rights which are on the whole clear and well-defined. Financing is dependent upon the security of these rights. Aquaculture is unique in that it depends almost exclusively on property rights, both real and personal, which are either structured against the aquaculturist or are equivocal as to his position. Only where he maintains his stock in artificial structures located on or in his lands do his rights seem clear.[3]

14 Offshore marine aquaculture in US federal waters

Picking up the pieces and painting a picture

Jeremy Firestone

Introduction

The state of mariculture policy development in the United States as of December 2004 is aptly described in the following passages:

> [A]quaculture in the United States lacked coherent support and direction from the federal government. Poor coordination, lack of leadership, and inadequate financial support have traditionally characterized programs related to aquaculture.[1]

> [N]o formal framework exists to govern the leasing and development of private commercial aquaculture activities in public waters. A predictable and orderly process for ensuring a fair return to the operator and to the public for the use of public resources is necessary to the development of marine aquaculture. It is recommended that Congress create a legal framework to foster appropriate development, to anticipate potential conflicts over proposed uses, to assess potential environmental impacts of marine aquaculture, to develop appropriate mitigation measures for unavoidable impacts, and to assign fair public and private rents and returns on such operations.[2]

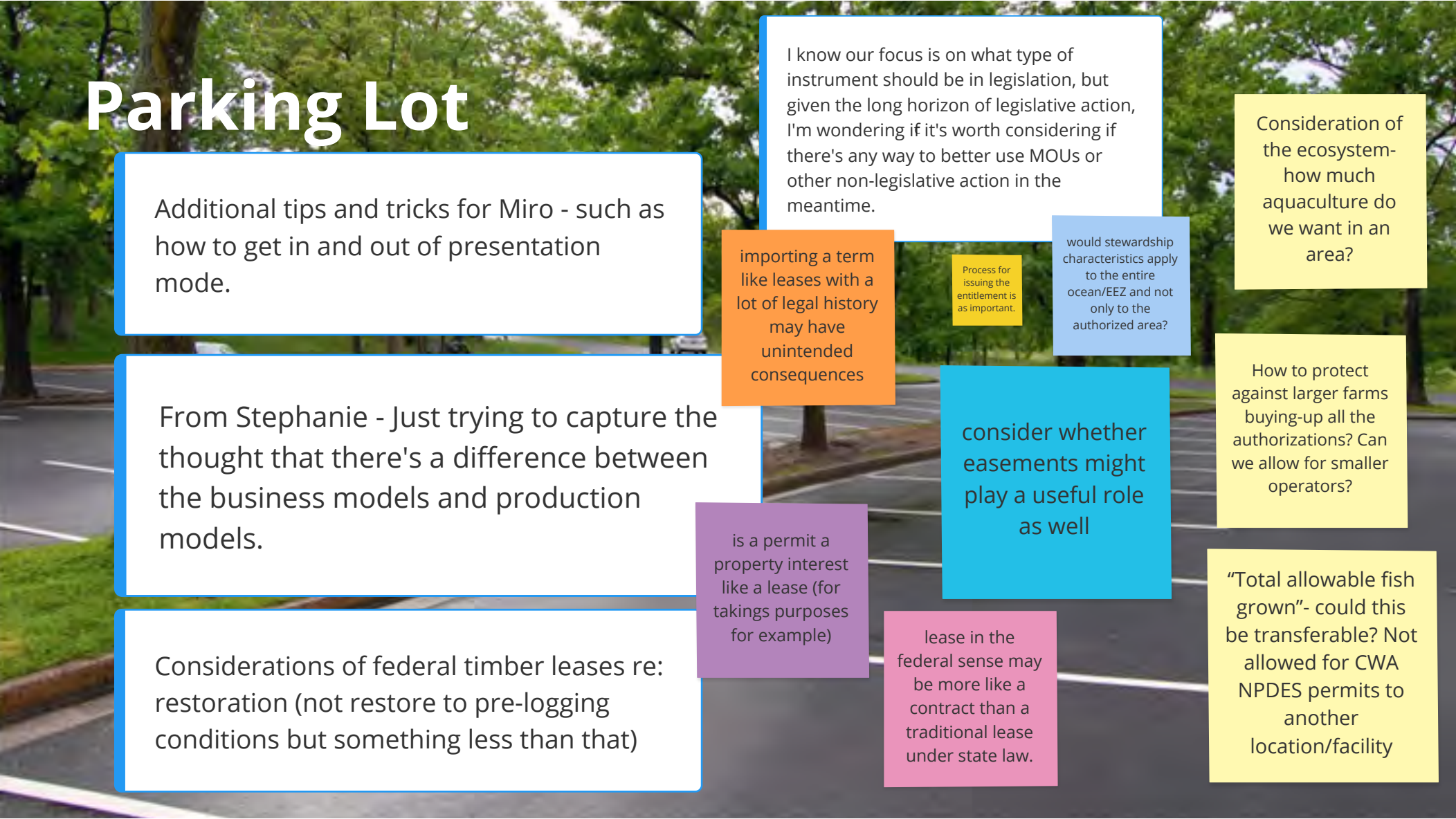
> [T]he absence of a well-defined and efficient policy framework which fulfills public trust responsibilities in public waters while offering a predictable review, permitting, leasing, and monitoring process . . . hinder[s] the development of this industry.[3]

Perhaps surprisingly (or unsurprisingly?), the three passages quoted were written respectively in 1978, 1992 and 2000. By sharing their sentiments, I intend to imply neither that a framework for mariculture in the United States is non-existent nor that the existing framework is unworthy of study, but rather, only that it is poorly defined. Thus, one goal of this chapter is to review the present framework for mariculture in the United States, focusing on legislative, administrative and judicial developments. In addition,

GAIL OSHERENKO*

New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust

* Gail Osherenko is a Research Scientist, Marine Science Institute, University of California, Santa Barbara, CA 93106-6150. This research has been supported by the Marine Science Institute and the Bren School of Environmental Science and Management at UCSB, as well as by a grant from the David and Lucile Packard Foundation. The Article has benefitted greatly from ongoing discussions and review by my colleague and partner, Oran R. Young. Peter H. Sand has provided extensive comments and suggestions regarding fiduciary and trust responsibility. I am indebted to Professors Harrison C. Dunning and Jon Van Dyke for providing useful and detailed comments on earlier versions. Please address comments to osherenko@msi.ucsb.edu.


Parking Lot
Additional tips and tricks for Miro - such as how to get in and out of presentation mode.
From Stephanie - Just trying to capture the thought that there's a difference between the business models and production models.
Considerations of federal timber leases re: restoration (not restore to pre-logging conditions but something less than that)
I know our focus is on what type of instrument should be in legislation, but given the long horizon of legislative action, I'm wondering if it's worth considering if there's any way to better use MOUs or other non-legislative action in the meantime.
importing a term like leases with a lot of legal history may have unintended consequences
Process for issuing the entitlement is as important.
would stewardship characteristics apply to the entire ocean/EEZ and not only to the authorized area?
Consideration of the ecosystem- how much aquaculture do we want in an area?
How to protect against larger farms buying-up all the authorizations? Can we allow for smaller operators?
consider whether easements might play a useful role as well
is a permit a property interest like a lease (for takings purposes for example)
lease in the federal sense may be more like a contract than a traditional lease under state law.
"Total allowable fish grown"- could this be transferable? Not allowed for CWA NPDES permits to another location/facility