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

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I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (Corps) currently authorize aquaculture operations in the U.S. Exclusive Economic Zone (EEZ) by issuing permits under the Clean Water Act (CWA) and the Rivers and Harbors Act (RHA). The current permitting regimes do not convey property rights to permit holders; rather, they authorize an activity that would otherwise be illegal under the current federal statutory regime.[2] The lack of a secure property right concerns aquaculture industry members, as it can have broad implications for those interested in starting an offshore operation, particularly with respect to accessing financing.[3] As part of a workshop that it hosted on the issue of security of tenure for offshore aquaculture operations in the United States, the National Sea Grant Law Center (NSGLC) prepared a comparative analysis of the property rights, or lack thereof, conveyed by federal authorization mechanisms that are currently used for offshore aquaculture and other long-term commercial activities on federal lands, as well as aquaculture-specific instruments that have recently been proposed for operations in the EEZ.[4] The comparative analysis is intended to impart lessons learned from the management schemes for other commercial activities on federal lands.

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[2] *See* NAT'L AQUACULTURE ASS'N., THE VALUE AND BENEFITS OF A LEASE TO SECURE FARMS AND ADVANCE OFFSHORE AQUACULTURE IN THE U.S. EXCLUSIVE ECONOMIC ZONE 1-2 (2019), http://thenaa.net/pub/Value-and-Benefits-of-a-Lease-for-Offshore-Aquaculture.pdf. For an analysis of the property interests conveyed by the current federal permitting framework in the U.S. EEZ, see Zachary Klein, *Exploring Options for Granting Property Rights to Offshore Aquaculture Operations in the Exclusive Economic Zone* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

[3] *See* NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1.

[4] For more information on conversations held at the workshop, *see* Stephanie Showalter Otts, *Exploring Options to Authorize Offshore Aquaculture: Facilitating Discussions among Regulators and Industry Members to Find Common Ground* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

This article proceeds by first exploring the criteria that workshop participants identified for the NSGLC to use for its comparative analysis. The workshop's participants included members of the aquaculture industry, academics who have published literature on the property rights framework for aquaculture in the EEZ, and representatives from federal agencies with a role in regulating aquaculture. The NSGLC initially created a table that reflected the aquaculture industry's needs, the various agencies' needs, and property rights characteristics that workshop participants identified as priorities during the workshop. The table was subsequently revised based on oral and written feedback from the workshop participants, producing the property rights criteria and other components of the finalized comparative analysis included as an appendix to this article.

After identifying and explaining these criteria, the article discusses the various resource management regimes included in the comparative analysis, as well as the underlying reasoning for the inclusion of each. To start, the article analyzes the baseline: the existing regulatory frameworks for offshore aquaculture under the CWA and RHA. Also included in this baseline analysis is a permitting mechanism that has been used to authorize offshore aquaculture under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act or MSA), which governs marine fisheries in U.S. waters. Next, the article examines regulatory frameworks for authorizing commercial activities on public land, specifically grazing and offshore energy production. The NSGLC recognized from the outset that some of the frameworks analyzed may not be perfect analogues for offshore aquaculture, but nevertheless provide important insights for aquaculture policy discussions. Lastly, the article examines the permitting regime proposed in the Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act, a bill currently under consideration by Congress that would create the first aquaculture-specific permitting scheme for waters in the U.S. EEZ. Both the criteria and the federal authorization instruments included in the comparative analysis are listed in Table 1 below.

Finally, the article examines key takeaways from the comparative analysis for parties interested in the present and potential federal authorizations for aquaculture in the EEZ. For example, the analysis reveals that an authorization mechanism's characteristics can be different than what the authorization mechanism is called; *i.e.*, calling an instrument a lease does not necessarily mean that it has the terms to operate like a lease. There is perhaps no clearer testament to this reality than grazing *leases* and grazing *permits* having nearly identical characteristics. Additionally, the analysis suggests that the aquaculture industry

and the federal government are not always at odds with respect to their preferred characteristics of an authorization instrument for operations in the EEZ. To the contrary, their preferences substantially overlap on issues like who the authorizing agency should be and the required amount of public participation. And, where differences between the preferences of government and industry arise, the comparative analysis highlights these gaps and evaluates whether any guidance on these issues can be extracted from the successes and pitfalls of models historically used for aquaculture in the EEZ and other authorization frameworks in place for commercial activities on federal lands.

TABLE 1 - COMPARATIVE ANALYSIS: INCLUDED REGIMES & CRITERIA

Federal Authorization Mechanisms	**Property Rights Criteria**
Magnuson-Stevens Act Special Coral Reef Ecosystem Permit	Duration
Rivers and Harbors Act § 10 Permit	Property interest granted
Clean Water Act § 402 Permit	Right to exclude others
Taylor Act grazing permit	Transferability
Taylor Act grazing lease	Enforcement
Outer Continental Shelf Lease Act lease for offshore oil and gas production	Rent & financial security
Outer Continental Shelf Lease Act lease for offshore renewable energy production	Public engagement
Gulf Aquaculture Permit (Vacated)	Legal classification by court
Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act (Proposed)	Compensation

II. THE CRITERIA

As discussed above, the NSGLC relied on workshop participants to develop criteria for the comparative analysis. Most of the criteria refer to aspects of property ownership traditionally associated with the "bundle of sticks" in the Anglo-American legal tradition, which is an abstract legal notion that captures the various rights and responsibilities that property ownership entails.[5] Some of these criteria, however, go beyond the "bundle of sticks" to capture other relevant characteristics, such as the public engagement process, financial burden, and agency responsible for administration.

A. Agency

The comparative analysis identifies the responsible federal agency for each of the authorization mechanisms. Knowing which agency is the lead under each management scheme provides insight into why the federal government is involved with authorizing the activity in the first place. For instance, the Corps is generally concerned with navigational hazards,[6] whereas the EPA is focused on environmental pollution.[7] Additionally, federal executive agencies can act only within the authority conveyed to them by Congress through statute. The comparative analysis highlights, for example, that the Department of the Interior (DOI) is currently vested with authority to confer leases for commercial activities in offshore federal waters, while the National Oceanic and Atmospheric Administration (NOAA) is not.

B. Duration

"Duration" refers to the period of time for which a legal instrument authorizes the specified activity. Whether some types of authorization mechanisms last for a longer period than others is an important consideration with respect to security of tenure. The longer an instrument's term, the more secure the tenure conveyed by that instrument is perceived to be, as the activity in question is authorized for a greater period of time. This, in turn, translates into less time and fewer resources being spent on frequent renewals of the instrument over

[5] Denise R. Johnson, *Reflections on the Bundle of Rights*, 32 VT. L. REV. 247, 247 (2007).
[6] *Navigation*, U.S. ARMY CORPS OF ENG'RS, https://www.usace.army.mil/Missions/Civil-Works/Navigation/ (last visited Aug. 24, 2021).
[7] *History of the Clean Water Act*, TULANE U. L. SCHOOL (June 15, 2021), https://online.law.tulane.edu/blog/clean-water-act-history.

time—a particularly important concern for those wishing to run a long-term operation.

Tension exists between industry and government with respect to the proper duration of an authorization instrument for aquaculture in the EEZ. Commercial offshore aquaculture operations are anticipated to have multi-year operational cycles and may take decades to become profitable.[8] As such, industry members tend to advocate for longer terms to ensure that operations are authorized for a sufficient period of time to allow for them to become profitable within the instrument's term.[9] Shorter terms, however, provide more frequent opportunities for the government to revisit the authorization in light of any new regulatory provisions or adapt the instrument's terms to evolving circumstances at aquaculture sites (*e.g.*, environmental conditions and use conflicts).

C. Property Interest Granted

Most government instruments clearly state that they do not convey property rights to the instrument holder. Consequently, the term "Property Interest Granted" as used in the comparative analysis refers to what the instrument authorizes the holder to do (e.g., occupy a particular area or engage in a particular activity). Whether an instrument grants a property interest is vital to determining whether the holder is entitled to compensation under the Fifth Amendment to the U.S. Constitution if the government "takes" the instrument. The U.S. Court of Appeals for the Federal Circuit has in the past determined that agency action resulting in the loss or denial of a federal fishing permit was not a taking of private property.[10] The analysis rested on three factors that a court will consider to determine if a party's legal interest rises to the level of a compensable property interest: (1) the instrument holder's ability to assign, sell, or transfer the permit; (2) whether the instrument confers exclusive privileges to engage in the activity in question; and (3) the extent of the government's right to revoke, suspend, or modify the instrument.[11]

The "Property Interest Granted" criteria in the comparative analysis reflects only the second factor: the degree of exclusivity to engage in an activity that is enjoyed by the lease or permit holder. The other factors that a federal court

[8] *See* NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1-2.
[9] *Id.*
[10] *See* Am. Pelagic Fishing Co., L.P. v. United States, 379 F.3d 1363 (Fed. Cir. 2004); Conti v. United States, 291 F.3d 1334 (Fed. Cir. 2002).
[11] *Id.*

will look to for constitutional takings purposes—*i.e.*, the ease with which the instrument can be assigned, sold, or transferred and the government's discretion to revoke, suspend, or modify the instrument—are considered separately in the comparative analysis and discussed in greater detail below.

D. Right to Exclude Others

The "Right to Exclude Others" refers to the instrument holder's ability to exclude others from the operation site. To this end, the comparative analysis looks to the sources of legal authority that empower the instrument holder to prevent persons unassociated with the commercial activity from entering the operation site. This is a slightly different concept than the degree of exclusivity to which the instrument holder is entitled for performing a specific activity at a particular location, which is discussed in "Property Interest Granted" above.

Workshop participants noted that the aquaculture industry and the federal government could have competing interests pertaining to the right to exclude others. The federal government, which has pre-existing legal obligations for lands in its possession, must protect public rights to ocean waters. Additionally, the government needs the right to access and enter sites in order to perform inspections and other enforcement activities. Industry, on the other hand, has a strong interest in an operator's ability to exclude trespassers to protect property from vandalism and theft, as well as for safety reasons. These concerns are not merely hypothetical. Catalina Sea Ranch, the first commercial shellfish aquaculture operation permitted in the U.S. EEZ, became embroiled in controversy after a man died when an unsecured 400-foot length of line from the farm wrapped around the outboard engine of his small fishing boat, causing it to capsize. The company would go on to declare bankruptcy after the man's family filed a $10 million wrongful death suit.[12]

E. Transferability

"Transferability" refers to the ability of and ease with which the instrument holder can give the instrument, or a subset of the rights and obligations granted by it, to another party. The ease with which an instrument can be transferred may have significant implications for the financial value of both the

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

instrument and the instrument holder's operation more generally. Individual fishing quotas (IFQs) authorized by the Magnuson-Stevens Act, for example, are less valuable when they cannot be transferred or sold. However, when IFQs are transferable, a robust market tends to emerge that turns them into a valuable asset for quotaholders.[13] Moreover, the inability to transfer or assign an instrument may impact the sale of a business to another party or inheritance by a family member.

F. Enforcement

"Enforcement" refers to the conditions upon which the federal government may sanction—*i.e.*, revoke, suspend, or modify—the instrument holder for noncompliance or violations of law. Workshop participants stressed the need for clarity regarding the government's authority to revoke, suspend, and modify an instrument. Federal agencies must be able to take action against "bad faith actors" and operations that violate the terms of the instrument for several reasons. First, the government must have the ability to ensure that harm created by an operation in violation of the terms of an authorization instrument or governing regulations will cease and be remediated at the operator's expense. Second, the threat of enforcement action incentivizes compliance among similarly situated operators. Finally, the government may want to revoke or suspend an authorization instrument due to changing environmental conditions at the site of operation.

But fairness and due process considerations place constraints on the government's discretion to modify, suspend, or revoke a permit. Instrument holders are generally entitled to due notice of government actions affecting their operations. In many cases the conditions that warrant a pause in operations are clearly set forth before any authorization instruments are issued, thereby providing instrument holders with greater stability and predictability in their operations. Procedural safeguards, such as a clearly delineated appeals process, facilitate a fair process for any agency decision that denies an application or alters the authorization instrument's terms.

G. Rent & Financial Security

"Rent and Financial Security" refer to the payment that the instrument holder must provide in exchange for holding the instrument (e.g., rent, royalties,

[13] *See* EUGENE H. BUCK, CONG. RSCH. SERV., INDIVIDUAL TRANSFERABLE QUOTAS IN FISHERY MANAGEMENT 4-6 (1995), http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4515/fishery.pdf.

bond, or guarantee). The federal government generally requires compensation in exchange for conveying the exclusive right to use an area within the EEZ, which the government effectively holds in trust on behalf of the general public. Additionally, some form of a financial guarantee—e.g., a bond—helps ensure that taxpayers do not bear the costs for environmental or other harms caused by operations. By requiring instrument holders to furnish a bond before commencing operations, the government is assured that instrument holders are able to pay for the closure or remediation of a site (or reimburse the federal government for costs it incurred in closing or remediating a site) regardless of how profitable their operations actually end up being. Industry, conversely, has an interest in ensuring that the fees or other financial burdens placed on applicants and operators are not unreasonable or otherwise prevent an authorized operations' profitability.

H. Public Engagement

"Public Engagement" refers to the process by which third parties may provide input to the federal government with respect to the issuance of the authorization instrument. The comparative analysis considers only the public engagement measures required by the law or regulations enabling the issuance of the instrument in question. It does not consider public engagement processes under other federal laws, such as the National Environmental Policy Act or the Endangered Species Act, that may be required during the authorization process. While a relevant and important part of the overall authorization process, these other federal laws are beyond the comparative analysis's narrow focus on the public engagement proceedings required by the authorization instruments themselves.

Transparency and opportunities for public input are crucial for good governance. This is especially true with respect to offshore aquaculture operations which struggle to obtain social license, which refers to the acceptability or perceived legitimacy of a project by a local community and other stakeholders.[14]

Industry and the federal government alike recognize the importance of both social license for aquaculture operations and the role that public engagement plays in securing social license. One reason this is the case is because a more collaborative, social license-driven approach to authorizing activity on federal

[14] John A. Hargreaves, *Aquaculture and Social License to Operate*, WORLD AQUACULTURE SOCIETY (June 21, 2021), https://www.was.org/articles/Editors-note-Aquaculture-and-Social-License-to-Operate.aspx#.YPCXtm5OlKM.

lands may help avoid litigation-related delays.[15] However, more opportunity for public engagement prolongs the application process, in turn requiring applicants to obtain more capital to remain solvent while they await approval to commence operations.

I. Legal Classification of Instrument by Court

"Legal Classification of Instrument by Court" refers to whether a judicial body has issued a decision regarding the legal status of the instrument in question. The legal classification of an instrument is significant, as it has important consequences regarding the legal rights to which the holder of that instrument is entitled. Permits, for example, are usually classified by courts as revocable licenses which are not generally considered compensable property for purposes of Fifth Amendment takings. Leases, on the other hand, are generally classified as binding contracts which entitle the leaseholder to compensation in the event they are breached.

J. Compensation

"Compensation" refers to whether the instrument holder is eligible to receive compensation from the federal government in the event that the federal government breaches the instrument's terms or acts in a manner that might give rise to a takings claim. In the context of offshore aquaculture, this might take the form of future regulations that make continued operations impossible or illegal, or perhaps an agency failing to consider documentation necessary for operations within the timeframe required by law. To members of industry, the ability to recover damages from the government in the event an operation is paused or terminated due to the government breaching the terms of the authorization instrument is particularly important, as it represents the security of their (likely substantial) investment in the operation.

III. FEDERAL AUTHORIZATION MECHANISMS

To conduct a comparative analysis of the above criteria, the NSGLC identified nine authorization mechanisms for commercial activities on federal lands. As discussed above, these regimes were chosen because of their applicability to aquaculture in the EEZ, and they can be divided into three

[15] Temple Stoellinger et al., *Collaboration Through NEPA: Achieving a Social License to Operate On Federal Public Lands*, 39 PUBLIC LAND & RES. L. R. 203, 206, 216-17, 218-23 (2018).

categories: (1) models currently or previously applied to an aquaculture operation in offshore federal waters; (2) models currently in use for non-aquaculture activities on federal lands; and (3) models proposed for aquaculture operations in federal waters but never used in practice.

The first group of authorization mechanisms are those that are currently required for commercial aquaculture operations in offshore federal waters or have previously been used by a federal agency to authorize an aquaculture operation in the EEZ. This includes RHA Section 10 permits issued by the Corps and Section 402 National Pollutant Discharge Elimination System (NPDES) permit issued by the EPA. This group also includes special permits issued by the National Marine Fisheries Service (NMFS), a division of NOAA, under the Magnuson-Stevens Act.

The second group of authorization mechanisms in the comparative analysis are those used for non-aquaculture commercial activities that take place on federal land. While there are a variety of commercial enterprises that operate on federal lands, ranging from extractive industries like mining to accommodations for visitors (*e.g.*, hotels, concessions, outfitters, and guided hikes) the comparative analysis focuses on two industries utilizing federal lands that were selected for their similarities to marine aquaculture. The first of these two industries is grazing, which relies on resources on federal lands to raise animals. The second is energy production on the outer continental shelf—namely, renewable energy and oil and gas. With offshore energy production, for example, the federal government authorizes a private party to occupy offshore waters for an extended period of time in order to conduct commercial activities—as is the case with aquaculture in the EEZ.

The third group of authorization mechanisms are models proposed to regulate marine aquaculture in the EEZ. This group comprises a permitting regime included in the fishery management plan (FMP) for aquaculture proposed by the Gulf of Mexico Fishery Management Council (GMFMC) in 2016 (Gulf FMP). Although the Gulf FMP was finalized, the U.S. Circuit Court of Appeals for the Fifth Circuit (Fifth Circuit) struck down the FMP in 2020.[16] The other model is the permitting regime contemplated by the AQUAA Act, which has been introduced in—but not passed by—Congress.[17]

[16] *See* Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 968 F.3d 454 (5th Cir. 2020).
[17] Advancing the Quality and Understanding of American Aquaculture Act, S.4723, 116th Cong. (2020) [hereinafter AQUAA Act].

A. Permits Issued to Offshore Aquaculture Operations

The first category of instruments included in the analysis are specific permits issued to aquaculture operations in the U.S. EEZ. This include a Special Coral Reef Ecosystem Fishing Permit, which NMFS first issued to Kampachi Farms in 2011; a RHA Section 10 permit, which the Corps issued to Catalina Sea Ranch in 2014; and a CWA Section 402 permit, which the EPA issued to Ocean Era in 2020.

i. Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms – 2013/2016)

In 2010, Kampachi Farms proposed an aquaculture operation in the U.S. EEZ off the coast of Hawaii.[18] The operation involved the culture and harvest of *Seriola rivoliana*, a species of fish known in the Hawaiian language as "kampachi" (and as "almaco jack" in English). The operations utilized a 132 m^3 containment system that was tethered to a twenty-meter steel schooner using a 122-m nylon towline.[19]

NOAA claimed authority over the proposed operation because *S. rivoliana* is a managed species pursuant to the Magnuson-Stevens Act—specifically, under the Pacific Regional Fishery Management Council's Fisheries Ecosystem Plan for the Hawaiian Archipelago (FEP).[20] The MSA tasks NOAA with regulating fishing activities in the EEZ.[21] But neither aquaculture nor aquaculture gear is

[18] NAT'L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT: PROPOSED ISSUANCE OF A PERMIT TO AUTHORIZE THE CULTURE AND HARVEST OF A MANAGED CORAL REEF FISH SPECIES (SERIOLA RIVOLIANA) IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII, STATE OF HAWAII 7 (2011) 7, https://repository.library.noaa.gov/view/noaa/691.

[19] Gavin Key and Neil Sims, *Velella project pioneers open ocean cage-farming technology*, GLOBAL AQUACULTURE ADVOCATE (Sept./Oct. 2012), https://www.aquaculturealliance.org/advocate/velella-project-pioneers-open-ocean-cage-farming-technology/.

[20] NAT'L MARINE FISHERIES SERV., *supra* note 18, at 8.

[21] *Id.* at 7. At the time of Kampachi Farm's proposal, NOAA interpreted the statute's definition of "fishing" as including aquaculture. NOAA's interpretation of the MSA that the statute conveys authority to the agency over aquaculture in the EEZ has since been struck down by the U.S. District Court for the Eastern District of Louisiana and the U.S. Circuit Court for the Fifth Circuit. *See* Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 341 F. Supp. 3d 632, 639-42 (E.D. La. 2018), *aff'd* Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 968 F.3d 454 (5th Cir. 2020), *as revised* (Aug. 4, 2020). However, the Fifth Circuit's decision is not binding outside of Texas, Louisiana, and Mississippi, and at present it appears NOAA is interested in testing the waters of

explicitly mentioned in the FEP, so it did not provide NOAA with the authority to permit the aquaculture gear used by Kampachi Farms' operation. Instead, NOAA needed to issue a special permit—the Special Coral Reef Ecosystem Fishing Permit (SCREFP)—to authorize the operation and its gear.[22]

NMFS issued a SCREFP to Kampachi Farms in July 2011 after a year-long review of the proposed operation's environmental assessment.[23] NMFS re-issued the SCREFP to Kampachi Farms in 2013 and 2016 with substantially similar terms, the only exception being that the permits issued in 2011 and 2013 each had a one year term, whereas the 2016 permit had a duration of two years.[24] The summary of the permits' characteristics were informed by the SCREFP's issued to Kampachi Farms, the regulatory framework, and the environmental assessments that NOAA published prior to issuing the permits in 2011, 2013, and 2016.

ii. Rivers and Harbors Act § 10 (Catalina Sea Ranch – 2014)

The Corps issued an RHA Section 10 permit for an aquaculture operation in offshore federal waters to Catalina Sea Ranch (CSR) in 2014.[25] The CSR project involved the cultivation of mussels on forty longlines at a 100-acre site off

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its authority over aquaculture in the EEZ elsewhere. *See* Environmental Impact Statements; Notice of Availability, 86 Fed. Reg. 24,616 (May 7, 2021), https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability; *Potential Aquaculture Management Program in the Pacific Islands*, NAT'L. MARINE FISHERIES SERV. PAC. REG'L OFFICE (last updated July 21, 2021), https://www.fisheries.noaa.gov/action/potential-aquaculture-management-program-pacific-islands.

[22] *Special Coral Reef Ecosystem Fishing Permit and Transshipment Requirements*, NAT'L. MARINE FISHERIES SERV. PAC. REG'L OFFICE, (last updated Jan. 15, 2021), https://www.fisheries.noaa.gov/permit/special-coral-reef-ecosystem-fishing-permit-and-transshipment-requirements.

[23] Key and Sims, *supra* note 19.

[24] See NAT'L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT AND ISSUANCE OF A PERMIT TO AUTHORIZE THE USE OF A NET PEN AND FEED BARGE MOORED IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII TO FISH FOR A CORAL REEF ECOSYSTEM MANAGEMENT UNIT SPECIES, SERIOLA RIVOLIANA (2016), https://repository.library.noaa.gov/view/noaa/14791; NAT'L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT AND ISSUANCE OF A PERMIT TO AUTHORIZE THE USE OF A NET PEN AND FEED BARGE MOORED IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII TO FISH FOR A CORAL REEF ECOSYSTEM MANAGEMENT UNIT SPECIES, SERIOLA RIVOLIANA (2013), https://repository.library.noaa.gov/view/noaa/876; NAT'L MARINE FISHERIES SERV., *supra* note 18.

[25] Lynda Kiernan, *Offshore Aquaculture Operation, Catalina Sea Ranch, Closes on $2M Round*, GLOBALAGINVESTING (Jan. 18, 2017), https://www.globalaginvesting.com/offshore-aquaculture-operation-catalina-sea-ranch-closes-2m-round/.

the California coast.[26] The authorization process went through the Corps because a permit from the Corps is required for structures or work in navigable waters of the U.S. under Section 10 of the RHA,[27] and pens (or other structures) used for marine aquaculture may obstruct navigation at the site of operation.[28]

The details in the comparative analysis about the CSR permit were compiled directly from CSR's permit, an electronic copy of which is on file with the NSGLC, as well as the statutory and regulatory scheme governing the Corps' issuance of Section 10 permits at 33 U.S.C. § 1344 and 30 C.F.R. § 320.4.

iii. Clean Water Act § 402 (Ocean Era – 2020)

The EPA recently issued a CWA permit for an aquaculture operation in the EEZ: a permit for a pilot finfish aquaculture operation to Ocean Era in September 2020.[29] Ocean Era, it should be noted, is the same entity as Kampachi Farms discussed above; the company rebranded in February 2020.[30] Section 402 of the CWA governs the NPDES permit program that regulates the discharge of pollutants into U.S. waters.[31] Unlike the Corps' Section 10 permit, which all offshore aquaculture operations—shellfish, seaweed, and finfish—must obtain

[26] U.S. ARMY CORPS OF ENG'RS, PERMIT No. SPL-2012-00042-DPS (June 5, 2014).
[27] *See* 33 U.S.C. § 403. The Supreme Court of the United States historically interpreted the phrase "navigable waters of the United States" as used in the RHA as applying only to waters that are "navigable-in-fact," meaning that they are "used, or are susceptible of being used, [...] as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water." *See The Daniel Ball*, 77 U.S. 557, 563 (1870).
[28] In addition to its authority over navigational obstructions under the RHA, the Corps would also have authority under CWA § 404 over any aquaculture operations that it determines to discharge dredge or fill materials into waters of the United States. Separately, offshore finfish aquaculture operations must also obtain a Clean Water Act § 402 permit, which is further described below.
[29] Timothy Fanning, *The battle over fish farming in the open ocean heats up, as EPA OKs permit*, SARASOTA HERALD-TRIBUNE (Oct. 2, 2020), https://www.heraldtribune.com/story/news/local/sarasota/2020/10/02/battle-over-fish-farming-open-ocean-heats-up-epa-oks-permit/3595197001/; *see* EPA, AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), PERMIT NO. FL0A0001 (Sept. 30, 2020), https://www.epa.gov/sites/production/files/2020-10/documents/npdes_permit_for_ocean_era_inc._-_velella_epsilon_fl0a00001.pdf.
[30] Madelyn Kearns, *Offshore aquaculture firm, formerly known as Kampachi Farms, rebrands as Ocean Era*, SEAFOODSOURCE (Feb. 10, 2020), https://www.seafoodsource.com/news/business-finance/offshore-aquaculture-firm-formerly-known-as-kampachi-farms-rebrands-as-ocean-era.
[31] The CWA defines "navigable waters" differently than the RHA. Under the CWA, "the term 'navigable waters' means the waters of the United States, including the territorial seas." Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, § 502(7), 86 Stat. 816, 886 (codified in § 1362(7)).

before they begin operations, a CWA Section 402 permit from the EPA is currently required only for finfish aquaculture in the EEZ.[32] This distinction exists due to the EPA's position that offshore finfish aquaculture operations emit enough pollutants (e.g., feed waste, fish waste, pharmaceuticals, etc.) to rise to the level of a point source of discharge for purposes of the CWA, but offshore shellfish and seaweed aquaculture operations do not.[33]

The details in the comparative analysis were derived from the permit itself, an electronic copy of which is on file with the NSGLC, and from the relevant NPDES regulations at 40 C.F.R. Parts 122-125. After the EPA issued Ocean Era's permit, a coalition of environmental organizations challenged the decision to the Environmental Appeals Board (EAB), which is the final decision maker on administrative appeals under all of the major environmental statutes administered by the EPA.[34] The EPA has not yet issued its decision as of the time of this article's publication.[35]

B. Authorization Regimes for Non-Aquaculture Activities on Federal Lands

The second category of instruments considered in this analysis are those that are used to authorize non-aquaculture commercial activities on federal lands. These provide insight into how other frameworks that must also account for the

[32] To date there are no known seaweed aquaculture operations that have been permitted in the U.S. EEZ. As a result, details about the property rights aspect of RHA permits must be gathered from one issued to a shellfish operation by default.

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

[34] *See Environmental Appeals Board*, U.S. ENVTL. PROT. AGENCY, https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf (last visited Aug. 24, 2021); Karl Schneider, *Proposed fish farm permits stall while EPA reviews environmental effects*, FORT MYERS NEWS-PRESS (Apr. 4, 2021), https://www.news-press.com/story/tech/science/environment/2021/04/03/proposed-gulf-of-mexico-fish-farm-permits-stall-after-biden-executive-order-epa-review/4827211001/.

[35] *Environmental Appeals Board, Ocean Era, Inc. docket, NPDES Appeal No. 20-09*, U.S. ENVTL. PROT. AGENCY, https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/f22b4b245fab46c6852570e6004df1bd/d3b098aca01b1cf585258614006599c8!OpenDocument [hereinafter Ocean Era Docket] (last visited Aug. 24, 2021).

unique management constraints on federal lands have approached the conveyance of property rights to authorized operators. This category includes four instruments that span two statutory frameworks. The first two instruments are federal grazing leases and federal grazing permits, which are administered by two agencies under authority conferred by the Taylor Act. The third and fourth instruments—federal offshore renewable energy leases and offshore oil and gas leases—both arise within the framework created by the Outer Continental Shelf Lands Act.

i. Taylor Act Authorizations: Grazing Leases and Grazing Permits[36]

Grazing on federal lands is managed by the Bureau of Land Management (BLM), an agency within the Department of the Interior (DOI), and the U.S. Forest Service (USFS), a division of the U.S. Department of Agriculture. USFS provides template permits and template permit applications on its website,[37] while the information about BLM's grazing leases and permits for the comparative analysis were compiled from a variety of legislative, regulatory, and other official government sources.[38]

Grazing is informative to consider in discussions surrounding offshore aquaculture because both permits and leases are used to authorize the use of federal space, and the characteristics of these instruments are very similar to each other. The key distinction between the two instruments is that leases are issued for grazing lands that are situated in such a way that justifies their exclusion from an established grazing district, typically on account of them being too geographically isolated.[39] However, the property rights conveyed by the federal grazing system have generated substantial litigation and tension with the government. While it may serve as more of a cautionary tale than a model for lawmakers to use for offshore aquaculture, grazing nevertheless offers valuable insight into the semantics of property rights.

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[36] Material in this section of the article is adapted from Klein, *supra* note 2.
[37] *See How Do I Get a Grazing Permit?*, U.S. FOREST SERV., https://www.fs.fed.us/rangeland-management/grazing/permits.shtml (last visited Aug. 24, 2021).
[38] *See*, *e.g.*, Taylor Grazing Act, 43 U.S.C. §§ 315-315r; 43 U.S.C § 1752; 43 U.S.C. § 4130.2; 43 C.F.R. §§ 4600.0-2 – 4610.5; U.S. FOREST SERV., FOREST SERVICE AND BUREAU OF LAND MANAGEMENT GRAZING ADMINISTRATION REQUIREMENTS AND PROCESSES, https://www.fs.fed.us/rangeland-management/documents/grazing/BLMGrazingAdministrationRequirementsProcesses201708.pdf (last visited Aug. 24, 2021).
[39] *See* 43 U.S.C. §§ 315, 315b, 315m.

ii. Outer Continental Shelf Lands Act — Oil & Gas and Renewable Energy[40]

The Outer Continental Shelf Lands Act (OCSLA) governs two distinct permitting processes for commercial energy production in the EEZ. The older of these two frameworks was enacted in 1953 for oil and natural gas operations, whereas the framework for renewable energy operations on the Outer Continental Shelf (OCS) developed more recently.

OCSLA provides DOI with authority over the leasing process for oil and gas and renewable energy production on the OCS. DOI has delegated this authority to one of its component agencies, the Bureau of Ocean Energy Management (BOEM), which prepares five-year programs that function as schedules of proposed leases. The comparative analysis's depiction of OCS oil and gas leases' property rights characteristics is based on lease templates that BOEM has made available on its website.[41] Likewise, the comparative analysis uses a commercial renewable energy lease template that BOEM has made available on its website.[42] While the OCSLA framework provides for two types of leases for OCS renewable energy activities, limited leases are for operations that do not produce energy for sale or distribution.[43] Thus, only commercial leases are included in the comparative analysis.

The company now known as Vineyard Wind, LLC obtained a lease for a wind farm in federal waters near Martha's Vineyard through a competitive bidding process in January 2015.[44] In May 2021, Vineyard Wind became the first

[40] Material in this section is adapted from Material in this section of the article is adapted from Klein, *supra* note 2.
[41] BUREAU OF OCEAN ENERGY MGMT., OIL AND GAS LEASE OF SUBMERGED LANDS UNDER THE OUTER CONTINENTAL SHELF ACT (2017), https://www.boem.gov/sites/default/files/about-boem/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-2005.pdf.
[42] BUREAU OF OCEAN ENERGY MGMT., COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF (2016), https://www.boem.gov/sites/default/files/about-boem/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-0008-Oct-2016.pdf.
[43] Catherine Janasie, *The Development of Wind Energy in the Mid-Atlantic Region: The Legal Process and Lessons from the Cape Wind Project*, 6:1 SEA GRANT L. & POLICY J. 116, 125 (2013); *see* 30 C.F.R. § 585.112.
[44] BUREAU OF OCEAN ENERGY MGMT., RECORD OF DECISION: VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT CONSTRUCTION AND OPERATIONS PLAN 5 (2021), https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Final-Record-of-Decision-Vineyard-Wind-1.pdf.

offshore wind farm to successfully receive final approval from BOEM.[45] BOEM's decision has been challenged in a federal district court,[46] but, should it survive the lawsuit, Vineyard Wind would become the first wind farm to operate in the U.S. EEZ.

By its terms, Vineyard Wind's lease "does not, by itself, authorize any activity within the leased area."[47] Instead, the lease grants Vineyard Wind the exclusive right to (1) submit a Site Assessment Plan (SAP) and Construction and Operations Plan (COP) to BOEM, and (2) engage in the activities identified in a BOEM-approved SAP or COP for 25 years.[48] BOEM ultimately approved Vineyard Winds to operate a 62-turbine wind farm located roughly 15 miles off the coast of Massachusetts.[49]

C. Models Proposed for Aquaculture Operations in Offshore Federal Waters

This third and final category of instruments examined in this analysis are those that have been proposed for aquaculture operations in offshore federal waters but have not yet been used to authorize an aquaculture operation in the U.S. EEZ. While various models have been proposed at the federal level over the years,[50] the analysis focuses on the two most recent examples—models that may be enacted or revived moving forward. The first of the two examples is the permit called for in the Gulf of Mexico Fishery Management Council's (GMFMC) fishery management plan for aquaculture, which was enacted but later defeated in

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[45] Press Release, U.S. Dep't of the Interior, Biden-Harris Administration Approves First Major Offshore Wind Project in U.S. Waters (May 11, 2021), https://www.doi.gov/pressreleases/biden-harris-administration-approves-first-major-offshore-wind-project-us-water.

[46] *See* Allco Renewable Energy Ltd. v. Haaland, Case No. 1:21-cv-11171 (D. Mass. July 18, 2021).

[47] BUREAU OF OCEAN ENERGY MGMT., COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF, LEASE NUMBER OCS-A 0500 2 (2014), https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/MA-Proposed-Commercial-Lease-OCS-A0500.pdf.

[48] *See id*. at 2, B-1.

[49] Press Release, Vineyard Wind LLC, Vineyard Wind Receives Record of Decision for First in the Nation Commercial Scale Offshore Wind Project (May 11, 2021), https://www.vineyardwind.com/press-releases/2021/5/11/vineyard-wind-receives-record-of-decision.

[50] *See*, *e.g*., National Offshore Aquaculture Act of 2007, S. 1609, 110th Cong. (2007), https://www.congress.gov/bill/110th-congress/senate-bill/1609/text; National Offshore Aquaculture Act of 2005, S. 1195, 109th Cong. (2005), https://www.congress.gov/bill/109th-congress/senate-bill/1195/text.

court. The last instrument is the permit proposed by the Advancing the Quality and Understanding of American Aquaculture Act, a bill that was introduced in both chambers of Congress in 2020 but has not yet been enacted.

i. Gulf Aquaculture FMP

In 2016, the National Marine Fisheries Service (NMFS), a branch of NOAA, finalized the Aquaculture Fishery Management Plan for the Gulf of Mexico (Gulf FMP), which was originally proposed by the GMFMC in 2009. The Gulf FMP authorized permits for up to twenty facilities to culture fish species native to the Gulf of Mexico, and approved facilities were limited to a combined total production of 64 million pounds per year.[51] Details for the comparative analysis were drawn from NOAA's final rule establishing a comprehensive regulatory and permitting regime for authorizing aquaculture operations under the FMP, which was published in the Federal Register in January 2016.[52]

Before NMFS could issue a permit under the Gulf FMP, however, the U.S. District Court for the Eastern District of Louisiana struck down the plan in 2018.[53] The Fifth Circuit Court of Appeals affirmed this decision in August 2020.[54] Although the FMP was never formally put into effect, it represents an important, recent example of an authorization approach proposed and administered by NOAA. Moreover, a NOAA-led framework may once again arise in the future. For instance, the AQUAA Act, which is discussed in more detail below, would provide NOAA with the authority to issue permits for aquaculture. Further, the Fifth Circuit's decision is not binding outside of Texas, Louisiana, and Mississippi. At present, it appears NOAA is interested in testing the waters of its authority over aquaculture in the EEZ elsewhere.[55]

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[51] Final Rule to Implement the Fishery Management Plan for Regulating Aquaculture in the Gulf of Mexico, 81 Fed. Reg. 1764 (Jan. 13, 2016) (codified at 50 C.F.R. pt. 600, 622), https://www.govinfo.gov/content/pkg/FR-2016-01-13/pdf/2016-00147.pdf.
[52] *Id.* at 1,761.
[53] Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 341 F. Supp. 3d 632 (E.D. La. 2018).
[54] Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 968 F.3d 454 (5th Cir. 2020).
[55] *See* U.S. Envtl. Prot. Agency, Environmental Impact Statements; Notice of Availability, 86 Fed. Reg. 24,616 (May 7, 2021), https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability; *Potential Aquaculture Management Program in the Pacific Islands*, *supra* note 21.

ii. Advancing the Quality and Understanding of American Aquaculture Act

The AQUAA Act is a legislative proposal to create a regulatory regime specifically for aquaculture operations in the U.S. EEZ. AQUAA was originally introduced by Senator Roger Wicker (R-MS) in 2018, and Senators Brian Schatz (D-HI) and Marco Rubio (R-FL) re-introduced a new version of the bill with Senator Wicker in 2020.[56] Minnesota Rep. Collin Peter (D-MN) also introduced sister legislation of the 2020 proposal in the House of Representatives. Only the 2020 version of the AQUAA Act is examined in the comparative analysis.

As noted above, the AQUAA Act calls for the creation of a permitting scheme to authorize aquaculture in the EEZ. But no permits have been issued under the AQUAA Act, as it has not yet been passed by Congress. Nevertheless, it is included in the comparative analysis for two reasons. First, Congress may eventually enact the AQUAA Act or an iteration thereof in the future, in which case it will be valuable for aquaculture operators and government personnel to better understand the property rights conveyed by these permits and how they compare to those conveyed by other federal frameworks. Even if the AQUAA Act is not enacted any time soon (or ever), it represents the latest serious effort at the federal level to authorize aquaculture operations in the EEZ. Thus, its inclusion in the analysis allows for insight into how the AQUAA Act's NOAA-centric permitting framework compares to the other NOAA-led models considered, which may be of interest to parties who may want to incorporate features of one or more of these models into a federal framework for offshore aquaculture in the future.

IV. DISCUSSION AND ANALYSIS

The NSGLC synthesized the aforementioned criteria and frameworks into the comparative analysis on which this article is based. This section provides a summary of the results of the comparative analysis, which is included as an appendix to this article. Review of this section, particularly alongside the table in the matrix, may allow reformers of and stakeholders in the federal authorization process for aquaculture in the EEZ to appreciate the strengths, weakenesses, and other insights that they can incorporate into their own efforts moving forward.

[56] AQUAA Act, *supra* note 17.

A. Agency

The comparative analysis with respect to lead agency is simplistic, as it only identifies which agency is in charge of issuing the instrument in question. This exercise, however, is useful as it highlights that DOI is the only agency that is legally authorized to convey leases for commercial activities in the EEZ. DOI has held a monopoly on conveying leases for stationary commercial activities in the U.S. EEZ for several decades, and the department's expertise at authorizing the use of federal lands for commercial activities is amplified by its responsibilities related to grazing leases through BLM. DOI, however, does not administer either of the two permits currently required for offshore aquaculture operations, nor would it have authority to issue any of the permits proposed by the AQUAA Act. This raises questions about the ease and speed with which the agency can reasonably be expected to develop expertise in a commercial activity that it has never been responsible for regulating nor extensively dealt with in the past.

But, as the comparative analysis illustrates, NOAA may not be a perfect agency fit for authorizing offshore aquaculture, as it currently lacks the authority to issue leases and the AQUAA Act only proposes for NOAA to issue permits. NOAA has historically been the lead agency for aquaculture issues at the federal level.[57] This, in turn, means that members of the aquaculture industry are most familiar with NOAA's policies, processes, and personnel. The offshore aquaculture authorization process may benefit from capitalizing on relationships that already exist between industry stakeholders and government personnel, particularly those at NOAA. Alternatively, the federal framework for offshore aquaculture could put the authorization of offshore aquaculture operations within the portfolio of an agency that has the authority to issue leases, such as DOI, if the property rights traditionally associated with leases become a priority for offshore aquaculture in the near future. But the benefits conferred by a lease under these circumstances may be offset by the inconvenience posed to parties interested in operating an aquaculture facility in the EEZ by requiring them to navigate new agency procedures and create relationships with agency personnel from scratch.

As policymakers and other stakeholders consider how to reform the current regulatory framework for offshore aquaculture, they will need to

[57] For more on this topic, see Sierre Anton & Katherine Hupp, *One Step Forward, Two Steps Back: NOAA's Assertion of Jurisdiction over Aquaculture Faces Continuing Challenges* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

contemplate which federal agency they would like to make the lead for authorizing aquaculture in the EEZ. In turn, they will also need to consider what steps will be necessary for ensuring the chosen agency has the legal authority to undertake all that is asked of it.

B. Duration

With respect to duration, the results of the comparative analysis dispel the somewhat popular perception that leases generally last for a significantly longer period of time than permits. The SCREFPs issued to Kampachi Farms lasted for one to two years, and CWA Section 402 permits—such as the one issued to Ocean Era—have a longer duration: five years. But grazing permits and grazing leases both have a duration of ten years, and OCSLA leases for renewable energy production and oil and gas development have an initial duration of ten years. All of these permits and leases are subject to renewal, although the renewal of energy leases on the OCS is contingent on the lessee's satisfactory compliance with the original lease and continued production at the lease site.

Notably, none of the authorization instruments considered in the comparative analysis have a duration that would align with the multi-decade production cycles that aquaculture operators assert would be standard for the industry.[58] The permitting regime proposed by the AQUAA Act comes the closest with twenty-five year permits authorized for operations within enterprise zones. It should be noted, however, that even leases for offshore oil and gas production—an industry with lengthy production cycles that has generated billions of dollars per year for decades and been designated as vital to national security—have a lease term of only ten years, with renewal dependent upon continued production at the site. There are no legal mechanisms that prevent a federal lease, permit, or other authorization instrument from having a duration of longer than ten years without a condition of continued productivity. However, the length of the permit proposed by the AQUAA Act would be a significant deviation from the norm in this respect.

[58] *See* NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1 (explaining that, "[G]iven the innovative and capital-intensive nature of offshore aquaculture operations, it may take 10 or more years for an aquaculture operation to generate a return on investment.").

C. Property Interest Granted

The type of property interest conveyed by a governmental instrument can be broadly divided into two categories: (1) spatial—i.e., the right to occupy a particular area; and (2) operational, meaning that the instrument allows its holder to use their private property to engage in a particular activity that would otherwise be forbidden.

All of the existing mechanisms for authorizing offshore aquaculture explicitly emphasize that they do not convey any property rights or exclusive privileges. A more complicated reality, however, is revealed upon closer scrutiny of the results of the comparative analysis. A NPDES permit, for example, authorizes its holder to discharge pollutants from a point source—in the context of offshore aquaculture, a net pen or similar structure—which is plainly a form of an operational property interest. And yet, even though location is generally an important consideration with respect to the discharge of pollutants, these permits are not explicitly tethered to a particular location. This is likely a result of the fact that NPDES permits were designed for stationary sources of pollution, such as factories, so the framework presumes the permittee's location remaining fixed.

Meanwhile, the framework created by the RHA is ultimately concerned with the navigability of U.S. waters. An RHA Section 10 permit is necessarily location-specific and implicitly authorizes occupancy of a particular space, making the permit both spatial and operational in nature. And, like RHA Section 10 permits, SCREF permits incorporate a spatial interest into their operational authorization by specifying the location where the authorized activities must occur. None of the three authorization instruments or their respective frameworks, however, explicitly recognize these spatial and operational authorizations as conveying property interests.

The comparative analysis revealed that the non-aquaculture regimes examined recognize these property interests. Grazing permits and leases issued under the Taylor Act both convey the same interest: the exclusive right to graze livestock on land that is expressly identified by the terms of the instrument. On its face, this is an operational right and not an ownership interest in the grazing land. The regulatory framework, however, explicitly indicates that both grazing leases and permits can be pledged as collateral for a loan—demonstrating Congress recognizes that the rights conveyed by the instrument have economic value.

The Taylor Act's provisions regarding the ability of grazing leases *and* grazing permits to be collateralized are particularly notable because private property generally does not require a legal proclamation in order to be eligible for collateralization. There are many kinds of property that can be pledged as collateral, such as goods and intangible property—*e.g.*, a refrigerator or a licensing agreement—without a specific law to that effect. While a legal proclamation does not necessarily guarantee that investors will recognize the instrument as collateral, it may provide added comfort to those wary of accepting a new form of collateral. The enactment of a statutory or regulatory provision declaring that federal aquaculture permits or leases are eligible for collateralization will not necessarily ensure that potential lenders will accept the instrument as collateral. Conversely, it may not be necessary for Congress or a federal agency to explicitly declare that an instrument can be used as collateral, as lenders may perceive sufficient value in the instrument without such a declaration assuming that certain minimum conditions (namely, assignability or transferability) are met.[59]

Renewable energy leases granted under OCSLA also distinguish themselves in the comparative analysis on the basis of explicitly conferring exclusivity to operators once the lease has been awarded. More specifically, OCSLA renewable energy leases convey the exclusive right to submit a SAP and COP to BOEM. Once BOEM approves a lessee's SAP and COP, that lessee also has the exclusive right to conduct activities as set forth in those plans. But the lease itself also makes clear that the lessee's control over the area in question is not absolute, as the lessee may only engage in the activities described in the SAP and COP approved by BOEM. Contrary to renewable energy leases, however, oil and gas leases under OCSLA initially grant the non-exclusive right to conduct explorations and drill water wells on specified OCS lands. Then, once oil or gas has been discovered, the lessee has the exclusive right to drill for, develop, and produce oil and gas resources in the leased area.

The nature of the exclusivity conveyed by the instrument used for aquaculture in the EEZ, or when exclusivity can be realized after the instrument has been awarded, may prove significant depending on the broader federal framework. More specifically, if that framework gives aquaculture operations the right to conduct some form of exploration in the EEZ, the drafters of that framework will need to decide whether that right is exclusive or non-exclusive. In

[59] *See* Timothy J. Boyce, *Collateralizing Nonassignable Contracts, Licenses, and Permits: Half a Loaf Is Better Than No Loaf*, 52 BUS. LAW 559, 559-62 (1996).

practice, this would mean the difference between multiple operators being allowed to test gear or collect data at the same site (akin to exploration within OCSLA's oil and gas framework) or operators having the lone ability to utilize a given location in the EEZ, as per the offshore renewable energy framework. Separately, such a framework would need to account for exclusivity after the exploration stage is finished—*i.e.*, once operators have selected their respective sites of operation and begin to introduce structures, gear, and fish at those sites. The framework can confer exclusivity to operators during these stages, which would be in the vein of the leasing frameworks included in the comparative analysis, or rely on a less-secure form of *de facto* exclusivity, such as that conveyed by RHA Section 10 permits.[60]

D. Right to Exclude Others

The comparative analysis reveals that none of the instruments authorizing commercial activities on federal lands provide the instrument holder with a strong or absolute right to exclude others from the site of commercial activity. The SCREFP does not address the issue at all, presumably leaving its possessor without any legal authority to forbid or expel unwanted parties from the area of operation. The RHA Section 10 permit expressly states that a party who possesses the permit may not interfere with the U.S. public's right to freely navigate all navigable U.S. waters.

The situation with respect to OCSLA leases and Taylor Act leases and permits is more complicated. The possessors of each of these instruments are afforded considerably more legal protections for their property, but are also explicitly required to accommodate other uses of the space by the public. The possessor of a federal grazing lease or permit must not only accommodate prior uses of the federal land in question, but also provide reasonable access across the lands to the agency administering the lease or permit for the orderly management and protection of the public lands. Conversely, the Taylor Act also protects private rights by requiring the federal government to both refrain from invading the instrument holder's grazing privileges and affirmatively protect them.

OCSLA leases similarly do not grant their possessor an absolute right to exclude others from the leased area. The regulatory framework for both renewable energy and oil and gas leases allows leaseholders to prevent unauthorized intruders by creating a safety zone of up to 500 meters around a facility on the

[60] See Section IV(C) above.

OCS. Such zones, however, cannot impede the use of sea lanes for navigation. The regulatory framework further recognizes that the waters above the OCS are high seas, where international law recognizes a right to fishing and navigation, and affirms that OCSLA leases may not interfere with this right.

E. Transferability

The comparative analysis yields significant insight with respect to transferability, as all of the authorization instruments examined are generally transferable with minimal government oversight as long as the transferee satisfies the corresponding statutory or regulatory requirements for eligibility. This underscores the notion that an instrument holder is ultimately entitled to engage in only those activities accounted for by that instrument's terms, rather than the property rights traditionally associated with that kind of instrument. Importantly, in past federal court decisions that found fishing permits were not a property interest for takings purposes, the permits in question were not transferable.[61] However, all of the permits examined in the comparative analysis can be transferred, assigned, or sold per their terms, thereby protecting—and, depending on the market that has developed for the instrument, potentially increasing—the value of that instrument to its holder.

F. Enforcement

With respect to enforcement, while all the instruments examined could be revoked or suspended by the government, significant procedural safeguards are in place that protect the interest of the holder. All of the authorization instruments considered in this analysis have terms or a governing framework that provide the government with limited discretion in modifying, suspending, or terminating the instrument. Across the board, these measures are generally justified only by the instrument holder's failure to comply with the terms of the instrument or its governing legal framework.

The SCREF permits awarded to Kampachi Farms in 2013 and 2016 could be suspended, modified, or revoked only for failure to comply with the permit's terms and conditions, including reporting requirements. The NPDES permit issued to Ocean Era can also be modified, revoked and reissued, or terminated only for cause. Federal grazing permits and leases can similarly be modified,

[61] *See* Am. Pelagic Fishing Co., L.P. v. United States, 379 F.3d 1363 (Fed. Cir. 2004); Conti v. United States, 291 F.3d 1334 (Fed. Cir. 2002).

suspended, or canceled only if the permittee or lessee violates a grazing regulation or term or condition of the instrument in question. Additionally, permittees and lessees are entitled to an administrative hearing before their grazing rights are reduced, suspended, or canceled.

The Corps has broader authority to modify, suspend, or revoke an RHA Section 10 permit. Action may be taken if the permittee fails to comply with the permit or provides false information in their permit application, but also if significant new information surfaces which the Corps had not considered in reaching its original public interest decision to issue the permit. And the landscape with respect to OCSLA leases is even more convoluted. Under OCSLA and its promulgating regulations, leases can be suspended for a variety of reasons. However, a lease can only be terminated once a suspension has lasted for five years or longer and the Secretary of the Interior determines that: (1) continued activity pursuant to a lease would "probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment"; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.[62]

Policymakers and other stakeholders involved in developing a federal framework for offshore aquaculture must consider how much discretion the government should have to enforce the terms of the authorizing instrument. Central to this discretion are the conditions enumerated in the instrument's terms or governing regulations that warrant a modification, suspension, or termination of that instrument. As a baseline, in almost all of the permits considered in the comparative analysis, the government can take enforcement action only in the event of the permittee's failure to comply with the permit's terms, conditions, and governing regulations. But, as is the case with RHA Section 10 permits and OCSLA leases, reformers of the federal aquaculture framework may find value in affording the authorized agency flexibility to intervene in operations when warranted by newfound information or other factors, such as evolving environmental conditions at an operation site.

[62] 43 U.S.C. §§ 1334(a)(2)(A)(i)-(iii); *see* 30 C.F.R. §§ 550.180- 550.185.

G. Rent & Financial Security

The comparative analysis reveals a complicated landscape with respect to rent and financial security. Permit holders generally do not need to furnish bonds or guarantees, nor do any of the permit-oriented frameworks provide for a system of royalty payments or revenue recovery. However, permittees or permit applicants may still be required to pay for surveys, studies, or other assessments in order to successfully obtain or retain the permit in question.[63] Moreover, while less common, a permittee may be required to pay for the decommissioning or remediation of their operation if necessary.[64]

OCSLA leases, on the other hand, require the lessee to incur a variety of financial commitments. In addition to royalty payments that function as rent, lessees are also required to furnish a variety of bonds and guarantees. Additionally, OCSLA lessees are responsible for the cost of exploration at their respective lease sites once leases have been awarded.[65]

The Taylor Act, meanwhile, is a model that bucks both trends. For starters, grazing lessees and permittees are not required to provide a bond or guarantee. With respect to rent, however, both lessees *and* permittees must pay the government a monthly fee in exchange for the continued right to graze on federal lands. The fee structure for lessees under the Taylor Act, though complicated, is set by law and offers operators some stability. But the federal grazing framework may also prove to be a cautionary tale for authorizing aquaculture in the EEZ. On one hand, some have criticized federal grazing fees for being too low as compared to their equivalent on private land.[66] Others, however, argue that the government should not be charging royalties for commercial activities that sufficiently benefit the public, such as renewable energy.[67]

With an eye towards reforming the current federal aquaculture framework or creating an aquaculture-specific authorization instrument in the future, the

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[63] *See* NAT'L MARINE FISHERIES SERV., EXEMPTED FISHING PERMIT APPLICATION FOR THE VELELLA EPSILON PROJECT–PIONEERING OFFSHORE AQUACULTURE IN THE SOUTHEASTERN GULF OF MEXICO (2018), https://gulfcouncil.org/wp-content/uploads/S-2-Aquaculture-EFP.pdf.
[64] *See* U.S. ARMY CORPS OF ENG'RS, *supra* note 26.
[65] *See* ADAM VANN, CONG. RSCH. SERV., OFFSHORE OIL AND GAS DEVELOPMENT: LEGAL FRAMEWORK 13 (2018), https://fas.org/sgp/crs/misc/RL33404.pdf.
[66] Bruce R. Huber, *The Fair Market Value of Public Resources*, 103 CALIF. L. REV. 1515, 1539, 1541-42 (2015).
[67] *Id*. at 1520-21 n.20.

comparative analysis underscores the need for clarity with respect to whether operators must furnish any bonds or guarantees. Further, the framework must also provide clarity with respect to whether operators must pay rent or royalties and, if so, how the rent or royalties are calculated.

H. Public Engagement

Public engagement is already substantial under the current framework: public notice is required with both RHA Section 10 and CWA NPDES permits, and the public may submit comments on NPDES permits in the Federal Register as well. The Gulf FMP and AQUAA Act likewise call for each offshore aquaculture permit application to be submitted for public comment. However, this requirement is absent from the federal grazing models. With respect to OCSLA oil and gas leases, public notice and comment requirements are fulfilled through public hearings that are held when lease blocks come up for auction, not when a specific lease is issued. For renewable energy leases, hearings and comments are solicited only during the identification of Wind Energy Areas, rather than on specific leases.

With oil and gas and renewable energy leases under OCSLA, public comment is solicited relatively early in the process for general areas as opposed to on individual leases. Including the public participation piece of the authorization process during the planning or initial steps of the process may be able to ease the burden that public engagement poses for operators while enhancing the social license for their activities. Under permitting frameworks that allow for public comment on individual instruments, such as the NPDES permits, aquaculture operators have experienced considerable delays defending the issuance of individual permits within the agency's administrative process and in court.[68] A centralized public comment process that takes place earlier in the authorization process could reduce the extensive delays that operators incur with individual projects. Additionally, public engagement early in the federal authorization process for aquaculture projects may improve these projects' prospects for achieving social license by enhancing the project's perceived credibility and trust among the public.[69] But this approach is not without its shortcomings, as it also

[68] *See* KAHEA v. Nat'l Marine Fisheries Serv., No. CIV. 11-00474 SOM, 2012 WL 1537442, at *1 (D. Haw. Apr. 27, 2012), aff'd in part, rev'd in part and remanded sub nom. Kahea, Food & Water Watch, Inc. v. Nat'l Marine Fisheries Serv., 544 F. App'x 675 (9th Cir. 2013); Ocean Era Docket, *supra* note 35.
[69] *See* Stoellinger et al., *supra* note 15, at 226.

compromises the public's ability to voice concerns over individual lease sites, operators, and protected species.

I. Legal Classification

A court's conclusion that a lease is a "contract" has legal significance that can change the outcomes of claims for compensation. However, court precedent reveals that a court's classification of an instrument is not based on what the instrument is called, but rather what property rights and interests are granted through the instrument. Calling an instrument a lease does not make it an enforceable contract, nor does it guarantee that a court will afford that instrument the full range of legal protections traditionally associated with a lease between private parties, especially when the lessor is the federal government.[70]

The information captured by comparative analysis reveals that courts frequently classify instruments according to how the instruments are nominally referred (i.e., "permit" or "lease"), but not always. For example, federal courts have consistently treated permits conferred under the MSA, such as SCREFPs, as revocable licenses.[71] On the other end of the spectrum, courts recognize that OCSLA leases are contracts that convey a property interest to the lessee.[72] However, the situation is trickier with respect to the legal classification of federal grazing instruments. While a federal court has confirmed that grazing permits are revocable licenses,[73] the U.S. Circuit Court of Appeals for the Federal Circuit has since held that grazing *leases* are also freely revocable, do not confer any rights to the lessee, and are not eligible for a regulatory takings claim under the Fifth Amendment.[74] Thus, even though the court never referred to the lease in question as a permit, the court arrived at an interpretation of grazing leases that recognizes they are functionally much closer to a permit or license.

The unifying theme of these cases is that the courts analyzed the instrument before them according to its terms, rather than its title. To this end,

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[70] For more on this topic in the context of aquaculture, see Elissa Torres' *A Comparative Analysis of Maryland's Public Participation Framework in Commercial Shellfish Aquaculture Leasing: Standing to Present Protests* in this edition of the SEA GRANT LAW AND POLICY JOURNAL.
[71] *See* Am. Pelagic Fishing Co., L.P. v. United States, 379 F.3d 1363, 1374, 1382-83 (Fed. Cir. 2004); Conti v. United States, 291 F.3d 1334, 1341-45 (Fed. Cir. 2002).
[72] *See* Mobil Oil Exploration & Producing Southeast, Inc. v. U.S., 530 U.S. 604 (2000).
[73] *See* United States v. Fuller, 409 U.S. 488 (1973).
[74] *See* Colvin Cattle Co. v. United States, 67 Fed. Cl. 568 (2005), *aff'd*, 468 F.3d 803, 806-808 (Fed. Cir. 2006).

there are two relevant strains of case law that determine whether an instrument is merely a revocable license or something more. The first type of cases concern whether an instrument is a revocable license or a property interest that can be the basis of a Fifth Amendment takings claim. This test requires courts to consider: first, whether the instrument can be transferred, sold, or assigned; second, whether the instrument confers an exclusive privilege to engage in the activity in question; and third, the government's discretion to suspend, revoke, or modify the instrument.[75]

Separately, courts may need to analyze whether an instrument is a revocable license as opposed to a binding contract. While no court has articulated a test in this regard, in *Mobil Oil Exploration & Producing Southeast, Inc. v. U.S*, the U.S. Supreme Court awarded damages to two oil and gas companies for breach of contract.[76] In that instance, the government promised in a lease that it would follow OCSLA's provisions, but then refused to consider the companies' Exploration Plans within thirty days of submission to DOI, which is required by the statute.

The application of these inquiries to the instruments that are currently used to authorize aquaculture operations in the EEZ—namely, an RHA Section 10 permit and a CWA NPDES permit—suggests that both are revocable licenses, although the analysis is not clear-cut. First, neither instrument is likely to be considered a contract because, contrary to the OCSLA leases at issue in *Mobil Oil Exploration & Producing Southeast, Inc. v. U.S*, RHA Section 10 permits and CWA NPDES permits do not include any terms whereby the government promises to do anything. In fact, neither permit includes language as seemingly simple as the government promising to abide by the governing regulatory scheme while it administers the permit. But, pivoting toward the regulatory takings test, the analysis becomes more complicated. Both instruments can be transferred or assigned to another party with relative ease, and both can be modified, suspended, or terminated only if the permittee breaches a set of conditions that are enumerated in each respective permit. Finally, with respect to exclusivity, both documents expressly disclaim conveying any exclusive rights or privileges to the permittee.

[75] *See Am. Pelagic Fishing Co*., 379 F.3d at 1374.
[76] *See Mobil Oil Exploration & Producing Southeast, Inc*., 530 U.S. at 611-13, 624.

J. Compensation

The comparative analysis broadly confirms that leases confer a more compensable property interest than permits, but a deeper look reveals a more complicated picture regarding why and how this is the case. All of the leases considered in the analysis include terms that explicitly provide for the payment of compensation to the leaseholder in the event of cancellation. While most of the permits do not, the lack of terms that entitle the permittee to compensation in the event of cancellation is not due to these instruments being permits. After all, grazing permits entitle the leaseholder to compensation that is calculated according to the same formula used for grazing leases. This example underscores that the interests and rights to which an instrument holder is entitled flow directly from the terms of the instrument in question, as opposed to the interests and rights traditionally associated with the type of authorization instrument being used (i.e., lease or permit). Likewise, OCSLA leaseholders are eligible for compensation in the event of a breach of the lease by the government not because the instrument is a lease, but because the federal government specifically promises to abide by the appurtenant statutory and regulatory framework in the terms of OCSLA leases.

And then there is the matter of compensability for purposes for the Fifth Amendment. As noted above, courts deploy a three-prong test to determine whether an instrument is a cognizable property interest or "merely" a revocable license.[77] The first prong—transferability—is satisfied by all of the instruments included in the comparative analysis, including all of the permits. Likewise, the federal government is generally able to modify, suspend, or terminate all of the instruments considered by the comparative only for cause (i.e., only if the operator violates the terms of the instrument or its governing regulations). However, the Corps is free to modify, suspend, or terminate a RHA Section 10 permit due to information that emerges after the permit has been issued.

[77] The three prongs of this test are: first, whether the instrument can be transferred, sold, or assigned; second, whether the instrument confers an exclusive privilege to engage in the activity in question; and third, the government's discretion to suspend, revoke, or modify the instrument. *See Am. Pelagic Fishing Co*., 379 F.3d at 1374; Conti v. United States, 291 F.3d 1334, 1341-42 (Fed. Cir. 2002).

Further, OCSLA leases also buck this trend, as BOEM may terminate a lease if it determines that:

> (1) continued activity at the site will probably cause serious harm or damage to life, property, any mineral, national security, or the environment;
> (2) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and
> (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.[78]

Therefore, the argument could be made that the government has more discretion in terminating OCSLA leases than it has for most of the permits that can be modified, suspended, or revoked only for cause, even though OCSLA leases are clearly cognizable property interests for purposes of the Fifth Amendment. As a result, a federal framework specific to offshore aquaculture may be able to satisfy the first and third prongs of the regulatory takings test—transferability and limited government discretion to modify—with relative ease, as both of these conditions appear to be met by almost all of the instruments considered in the comparative analysis, leases and permits alike.

The second prong of the test, exclusivity, proves to be the most complicated to apply to the federal authorization of aquaculture in the EEZ. As the comparative analysis indicates, conferral of an exclusive privilege or interest is a consistent point of distinction between the permitting and leasing frameworks considered. Both OCSLA leases grant exclusivity to operators during development and production at the lease site, and leases for renewable energy confer exclusivity during exploration at the site as well. Grazing leases and permits, meanwhile, apparently confer the same exclusivity (or, rather, a lack thereof) to their respective holder, which may explain the lack of clarity surrounding grazing leases' legal classification and cognizable property interest. But, contrary to grazing, the argument could be made that RHA Section 10 permits used to authorize aquaculture in the EEZ create a *de facto* exclusive privilege to engage in aquaculture activities at a permitted site because the fish used in aquaculture are the property of the party that owns the operation and RHA Section 10 permits are necessarily location-based.[79] However, in light of the

[78] *See* 43 U.S.C. §§ 1334(a)(2)(A)(i)-(iii); *see* 30 C.F.R. §§ 550.180- 550.185.
[79] To clarify, whereas it is feasible for multiple parties to be issued permits to graze their livestock in the same grazing districts, it is not feasible in practice for the Corps to issue two RHA § 10

amplified discretion that the Corps has in modifying or revoking RHA Section 10 permits, this argument alone is insufficient for these permits to fully satisfy the federal courts' test for regulatory takings.

In light of these observations, attempts to reform the current federal framework for aquaculture in the EEZ or create a new aquaculture-specific instrument must pay particularly careful attention to the matter of exclusivity conveyed by the terms of the authorizing instrument. The instrument's characteristics in this regard could result in a Fifth Amendment taking, depending on the framework's approach to transferability and enforcement. Moreover, the comparative analysis suggests that providing for a lease in this framework will not guarantee that the lease confers exclusivity at every stage of development and operations at an aquaculture facility in the EEZ. In the same vein, a lease is not necessary to confer exclusivity either. In the spirit of the theme that has come to predominate this analysis, the exclusivity conveyed by the instrument—be it a lease or a permit—will ultimately depend on the language used in the instrument or its governing regulations.

V. CONCLUSION: THE BUNDLE OF STICKS- MORE LIKE A SPECTRUM?

Aquaculture is expected to be an increasingly important industry in the coming decades as the U.S. and the global community pursue improved food security, especially as land-based options are stretched thinner. Despite the ample size and opportunity of the U.S. EEZ, there are no commercial aquaculture operations in offshore federal waters at present. As policymakers and other stakeholders consider whether and how to encourage the growth of aquaculture operations in federal waters, they may want to revisit the property rights conferred by the authorization instruments used under the current governing framework—or, rather, the lack thereof. As a result, property rights may feature prominently in efforts to reform the current authorization scheme or create a new aquaculture-specific instrument for operations in the EEZ.

There is value in learning about how other federal resource management frameworks, including those proposed but not currently in use for aquaculture, approach the question of property rights conveyed by the authorization

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permits to different aquaculture operations at the same site in the EEZ. While two independent aquaculture operations might be located near each other, they cannot physically occupy the same space at the same time.

instrument. The comparative analysis illustrates that permits and leases exist along a spectrum, with some instruments nominally referred to as permits having characteristics traditionally associated with leases and vice versa. As a result, specific examples generally include some characteristics that are not traditionally associated with the term applied to the instrument (e.g., permits being transferable) based on the unique needs of each respective resource management regime. While a revocable permit may not convey as wide a range of protected property interests to its holder as a lease might, it does convey some rights.[80]

Regardless of the instrument that is ultimately settled upon for aquaculture in the EEZ and the property rights conferred thereby, it will inevitably beg the question: is it enough? In other words, will an overhaul of the property rights conveyed by the framework for aquaculture in federal waters actually encourage the proliferation of operations in the EEZ? Will the property rights conferred by such an instrument ease offshore aquaculture operations' struggle with obtaining financing as compared to the current framework?

Only time will tell. But, in the meantime, the comparative analysis may offer lessons or inspiration to interested parties, as well as insight into what an instrument authorizing offshore aquaculture might look like. Policymakers and stakeholders can use the comparative analysis to understand the diverse array of approaches available to the federal government to convey property rights and interests to facilitate commercial activities on federal lands. Furthermore, the comparative analysis is a useful tool for assessing how well those approaches meet the needs of the federal government and the aquaculture industry with respect to offshore operations.

[80] While permits are generally not considered property, Individual Transferable Quotas (ITQs)—which are a type of permit used by NOAA for some fisheries under its jurisdiction—are considered property by the Internal Revenue Service and can have significant economic value. *See* BUCK, *supra* note 13, at fn.12.

Comparative Analysis — Existing Models

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	Government	***Industry***	***Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)***	***RHA § 10 (Catalina Sea Ranch - 2014)***	***CWA § 402 NPDES (Ocean Era - 2020)***
Agency	-	-	NOAA Fisheries (Commerce)	U.S. Army Corps of Engineers (Defense)	U.S. Environmental Protection Agency
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	Varies. Permit issued to Kampachi Farms in 2013 had a 1-year term. Permit issued in 2016 had a 2-year term. Permit contained no language regarding renewal.	Usually 5 years, but can be issued with longer terms. Renewable for another 5-year term upon request. Per CSR's permit, "[I]f you need more time to complete the authorized activity, submit your request for a time extension" at least one month before the permit expires.	5 years. Permit indicates that permittee must apply for new permit at least 180 days before expiration of current permit if they wish to continue operations.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users. Instrument should limit constitutional takings liability.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Authorizes holder to culture and harvest specific number of fish in a specific location using specific equipment (i.e., an aquaculture net pen). Expressly states that "[n]othing in the permit shall be construed to convey any property rights in either real or personal property, or any exclusive privileges […]."	Grants holder the right to undertake activities as set forth in the permit, i.e. build structure in navigable US waters. Because these permits authorize activities that can interfere with navigation, they are necessarily place-based and authorize occupancy of a particular space. Permit expressly states that it "does not grant property rights or other exclusive privileges."	Authorizes holder to discharge pollutants from a point source, here an aquaculture net pen, into waters of the US. Permit expressly states that it "does not convey any property rights of any sort, or any exclusive privilege."
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should provide for safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Permit and applicable regulations do not contain any provisions concerning permittee's ability to exclude unauthorized vessels or persons from permitted site.	Permit does not grant any right of exclude others from permitted ocean space. Permitted activity may not interfere with the right of the public to free navigation on all navigable US waters. Per CSR's permit, Corps allowed to inspect authorized activity "at any time deemed necessary."	Permit does not convey any right to exclude others from area where permitted activity is authorized. Per permit terms, EPA may, upon presentation of credentials "and other documents as may be required by law," (1) enter permittee's facility or place where records are kept; (2) access, and at reasonable times copy, records required by permit; (3) at reasonable times, inspect any facilities, operations, equipment or practices regulated or required by permit; and (4) at reasonable times, sample and monitor substances and parameters at any location for purposes of assuring statutory and permit compliance.

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	Government	***Industry***	***Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)***	***RHA § 10 (Catalina Sea Ranch - 2014)***	***CWA § 402 NPDES (Ocean Era - 2020)***
Transferability	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Non-transferable without specific authorization from NOAA.	Allowed with minimal agency oversight. Per CSR's permit, "If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to [the Corps] to validate the transfer of this authorization."	Allowed with agency oversight. May be transferred after notice to Director of regional EPA Water Division office, who may require modification or revocation and reissuance. Automatic transfer with written agreement between existing and new permittees, 30-day notice to Director, and no Director objection.
Enforcement	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	Permit may be suspended, modified, or revoked for failure to comply with permit's terms and conditions, including reporting requirements.	Permit may be suspended, modified, or revoked if (1) permittee fails to comply with terms and conditions of permit, (2) information that permittee provided for application is proven to be false/incomplete/ inaccurate, or (3) significant new information surfaces which the Corps had not considered in reaching its original public interest decision to issue the permit.	Permit may be modified, revoked and reissued, or terminated for cause.
Financial	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	Does not provide for revenue recovery from permitted activities. No bond or guarantee requirements identified in permit or governing regulations.	Does not provide for fees or revenue recovery from permitted activities. No bond or guarantee required. Per CSR's permit, permittee shoulders financial burden for removal, relocation, and/or alteration of structures if required by future U.S. operations. State of California imposed condition requiring bond for removal of gear, pursuant to authority under the CZMA.	Does not provide for revenue recovery from permitted activities. Does not require a bond or guarantee.

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	Government	***Industry***	***Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)***	***RHA § 10 (Catalina Sea Ranch - 2014)***	***CWA § 402 NPDES (Ocean Era - 2020)***
Public Engagement	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/ operators. Authorization process needs to be predictable, efficient, and occur within a reasonable timeframe. Process should be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	Within 30 days of receipt, copies of SCREP application are forwarded to certain federal and state agencies, and other interested parties who have identified themselves to the Council. No requirement for public notice and comment.	Within 15 day of receipt of a complete application for an individual permit, the USACE district office will issue a public notice of the submitted application. USACE may hold a public hearing if the agency deems it necessary for making a decision. Any person may request that a public hearing be held on a permit application to consider the material matters at issue.	EPA must provide opportunity for a public hearing before issuing permit. Requirement fulfilled in practice by public notice and comment in the Federal Register.
Legal classification of instrument by court	-	Industry expresses a strong preference for the instrument to be classified a lease/contract for purposes of judicial interpretation.	Revocable license. See Conti v. U.S., 291 F.3d 1334 (Fed. Cir. 2002).	Revocable license. See United States v. 5.96 Acres of Land, 593 F.2d 884 (9th Cir. 1979).	Revocable license. No case directly on point, but would likely receive similar treatment as permit at issue in Mingo Logan Coal Company Inc. v. Environmental Protection Agency, 70 F.Supp.3d 151 (D.D.C. 2014).
Compensation	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches the terms of the instrument. Should provide for compensation for damage to structures, gear, or stock due to government action.	None. No case directly on point, but would likely receive same treatment as MSA permit that court determined to be ineligible for compensation in Am. Pelagic Fishing Co. v. U.S., 379 F.3d 1363 (Fed. Cir. 2004).	None for cancellation or revocation of permit. Courts have upheld clause in permit disclaiming government liability for damages to structures. See Columbia Gulf Transmission Co. v. U.S., 966 F.Supp. 1453, 1459-61 (S.D. Miss. 1997).	Permittee may be eligible for government compensation under certain circumstances, but not for denial or revocation of permit. See, United Affiliates Corporation v. US, 143 Fed. Cl. 257 (2019); Hearts Bluff Game Ranch, Inc. v. US, 669 F.3d 1326 (Fed. Cir. 2012).

Comparative Analysis — Federal Models

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	***Industry***	***Grazing Permit***	***Grazing Lease***	***OCSLA Lease (Oil & Gas)***	***OCSLA Lease (Renewable Energy)***
Agency	-	-	BLM (Interior) / USFS (Agriculture)	BLM (Interior)	BOEM (Interior)	BOEM (Interior)
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	Up to 10 years. Assuming permittee's continued compliance and eligibility, BLM permit may be renewed but agency can change permit's terms and conditions before reissuing. If BLM permit expires without renewal, permittee receives preference for receiving new permit when old one expires. USFS grazing permittees who comply with permit's terms are prioritized for renewal upon permit's expiration.	Up to 10 years. Assuming permittee's continued compliance and eligibility, BLM grazing lease may be renewed but agency can change lease's terms and conditions before reissuing. If BLM grazing lease expires without renewal, permittee receives preference for receiving new lease when old one expires.	Initial period of 5-10 years, then term continues as long as there is production in paying quantities. Lease cannot be renewed per se, but lessee may maintain lease beyond the primary term as long as leased site is still producing oil or gas in paying quantities, conducting operations to establish production in paying quantities, or meets other pre-identified criteria.	Site Assessment Term of 5 years; Operations Term of 25+ years. Terms may be extended in compliance with applicable regulations.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Grants exclusive right to graze livestock on identified land. Expressly conveys no right, title, or interest held by the United States in any lands or resources. Can be pledged as security for loan.	Grants exclusive right to graze livestock on identified land. Expressly conveys no right, title, or interest held by the United States in any lands or resources. Can be pledged as security for loan.	Grants non-exclusive rights to conduct explorations and drill water wells on identified OCS land, as well as the exclusive right and privilege to drill for, develop, and produce oil and gas resources, except helium gas, in leased area. Also grants right to construct and maintain structures within the leased area. May sublease operating rights.	Grants the exclusive right and privilege to submit to BOEM for approval a Site Assessment Plan and Construction and Operations Plan, and if approved, conduct activities as set forth in those plans. Rights limited to activities described in plans approved by BOEM.
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should authorize imposition of safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Does not grant right to exclude others from permitted area. Must accommodate prior uses of the federal land and provide reasonable administrative access across private leased lands to BLM/USFS for the orderly management and protection of the public lands. However, Taylor Act requires that federal agency not only refrain from the invasion of plaintiffs' grazing privileges, but has an affirmative obligation to adequately safeguard them.	Does not grant right to exclude others from permitted area. Must accommodate prior uses of the federal land and provide reasonable administrative access across private leased lands to BLM for the orderly management and protection of the public lands. However, Taylor Act requires that federal agency not only refrain from the invasion of plaintiffs' grazing privileges, but has an affirmative obligation to adequately safeguard them.	Does not grant right to exclude others from leased area. "The waters above the [OCS] [are] high seas and the right to navigation and fishing therein shall not be affected." Safety zones extend up to 500 meters around OCS facilities to prevent unauthorized intruders, but they cannot impede the use of sea lanes for navigation.	Does not grant right to exclude others from leased area. "The waters above the [OCS] [are] high seas and the right to navigation and fishing therein shall not be affected." Safety zones extend up to 500 meters around OCS facilities to prevent unauthorized intruders, but they cannot impede the use of sea lanes for navigation.

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	***Industry***	***Grazing Permit***	***Grazing Lease***	***OCSLA Lease (Oil & Gas)***	***OCSLA Lease (Renewable Energy)***
Transferability	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Allowed with agency notification and oversight. May be assigned or transferred with the written consent of the contracting parties. Commissioner technically issues new permit to transferee provided they meet the regulatory qualifications.	Allowed with agency notification and oversight.	Allowed subject to transferee's compliance with lease/regulations and prior approval from BOEM.	Allowed subject to transferee's compliance with lease/regulations and prior approval from BOEM.
Enforcement	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	May be canceled, suspended, or modified for any violation of a grazing regulation or of any term or condition of grazing permit. Permittee is entitled to due process through an administrative hearing before preference or permit is reduced, suspended, or canceled.	May be canceled, suspended, or modified for any violation of a grazing regulation or of any term or condition of grazing lease. Lessee is entitled to due process through an administrative hearing before preference or lease is reduced, suspended, or canceled.	Can be suspended for up to 5 years under a variety of circumstances. Can be cancelled if suspension reaches 5 years and Secretary holds hearing and determines that: (1) continued activity pursuant to lease would "probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment"; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.	Can be suspended for up to 5 years under a variety of circumstances. Can be cancelled if suspension reaches 5 years and Secretary holds hearing and determines that: (1) continued activity pursuant to lease would "probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment"; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.
Financial	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	Instrument holder pays fees to the U.S. federal government pursuant to a complicated fee structure. No bond or guarantee required.	Instrument holder pays fees to the U.S. federal government pursuant to a complicated feed structure. No bond or guarantee required.	Competitive bidding process for leases, which generates revenue for the government. Must pay royalties. Variety of performance/compliance bonds required upfront after winning lease.	Competitive bidding process for leases, which generates revenue for government. Lessee must must post variety of bonds, and also pay rent and operating fee.

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	***Industry***	***Grazing Permit***	***Grazing Lease***	***OCSLA Lease (Oil & Gas)***	***OCSLA Lease (Renewable Energy)***
Public Engagement	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/ operators. Process needs to ensure that public engagement is predictable, efficient, and occurs within a reasonable timeframe. Process should also be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	Agency consults and coordinates with affected permittees and the state having lands or responsibility for managing resources within the area, but process generally does not automatically provide for input from general public on specific permits. No public notice requirement for individual permits. Interested parties may submit request to BLM to be involved in decision-making process for specific allotment.	Agency consults and coordinates with affected lessees and the state having lands or responsibility for managing resources within the area, but process generally does not automatically provide for input from general public on specific leases. No public notice requirement for individual leases. Interested parties may submit request to BLM to be involved in decision-making process for specific allotment.	Public hearings when lease blocks come up for sale.	Hearings and comments solicited in the identification of Wind Energy Areas.
Legal classification of instrument by court	-	Industry expresses a strong preference for the instrument to be classified a contract for purposes of judicial interpretation.	Revocable license. United States v. Fuller, 409 U.S. 488 (1973).	Unclear. Courts have split. See United States v. Certain Parcels of Land in San Bernardino Cty., 296 F. Supp. 774 (C.D. Cal. 1969) (finding grazing lease is a compensable property right); but see Colvin Cattle Co. v. United States, 67 Fed. Cl. 568 (2005), aff'd, 468 F.3d 803 (Fed. Cir. 2006) (grazing lease is not a binding contract).	Contract. See Mobil Oil Exploration & Producing Southeast, Inc. v. U.S., 530 U.S. 604 (2000).	Contract. No case directly on point, but would likely receive same classification as OCSLA oil and gas lease. (See Mobil Oil Exploration & Producing Southeast, Inc. v. U.S., 530 U.S. 604 (2000).
Compensation	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches instrument's terms. Should provide for compensation for damage to structures, gear, or stock due to government action.	Cancellation in whole or part entitles permittee to compensation (adjusted value of interest in authorized permanent improvements placed or constructed by the permittee on lands covered by permit, but cannot exceed the FMV of the terminated portion of the permittee's interest therein).	Cancellation in whole or part entitles leaseholder to compensation (adjusted value of interest in authorized permanent improvements placed or constructed by the lessee on lands covered by lease, but cannot exceed the FMV of the terminated portion of the lessee's interest therein).	Cancellation entitles leaseholder to lesser of: (1) FMV of canceled rights on date of cancellation or (2) the excess of the consideration paid for the lease, plus all of the lessee's exploration- or development-related expenditures, plus interest, over the lessee's revenues from the lease.	Cancellation entitles leaseholder to lesser of: (1) FMV of canceled rights on date of cancellation or (2) the excess of the consideration paid for the lease, plus all of the lessee's exploration- or development-related expenditures, plus interest, over the lessee's revenues from the lease.

Comparative Analysis — Proposed Aquaculture Models

	Needs		Authorization Mechanisms Proposed for Offshore Aquaculture	
	Government	***Industry***	***Gulf Aquaculture Permit***	***AQUAA Act***
Agency	-	-	NOAA (Commerce)	NOAA (Commerce)
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	10 years. Renewable for 5-year terms, as long as permittee submits renewal application at least 120 days prior to desired effective date and pays fee. NOAA may consider non-compliance with initial permit requirements in decision to renew.	25 years inside of Aquaculture Opportunity Areas (AOAs); 15 years outside of AOAs. Either can be renewed for additional 15-year period subject to permittee's compliance with permit being renewed.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Grants the permittee the right to use a particular site for aquaculture activities for the duration of the permit.	Grants right to conduct offshore aquaculture consistent with the AQUAA Act and implementing regulations, other provisions of law, and any terms and conditions imposed by NOAA. Permit explicitly deemed a marine use right for purposes of obtaining investment.
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should authorize imposition of safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Each offshore aquaculture facility is required to be surrounded by a restricted access zone, where no recreational or commercial fishing vessels are allowed.	Calls for Coast Guard to create regulations for navigational safety zones around offshore aquaculture facilities, but does not provide any requirements for or details about these zones. Must allow authorized officer access to facility for inspections, including annual inspection for which prior notice will be provided to operator.
Transferability	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Allows permit to be transferred as long as geographic location of aquaculture facility site remains unchanged and all applicable permit requirements are completed and updated at time of transfer.	Allows permits to be transferred as long as transferee is informed about any permit sanctions in effect at time of transfer. Requires Secretary of Commerce to promulgate rules regulating transfers, but does not provide any other requirements or details.

	Needs		Authorization Mechanisms Proposed for Offshore Aquaculture	
	Government	*Industry*	*Gulf Aquaculture Permit*	*AQUAA Act*
Enforcement	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	Permit may be suspended, modified, revoked or denied if permittee does not comply with NOAA-administered statutes and regulations or fails to a pay civil penalty or criminal fine related to permit.	Permit may be modified, suspended, or revoked if permittee commits specific prohibited act (violation of Act or regulation, refusing to allow authorized officer to access facility/vessel for search/inspection, etc.), fails to begin offshore operations within 2 years of receiving permit, or there is an interruption of offshore operations lasting at least 2 years which is not related to BMPs. Provides for civil and criminal liability for permit violations.
Financial	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	$10,000 fee for initial permit application with $1,000 annual fee; $5,000 for renewal application fee. Permittee required to put up assurance bond sufficient to cover the costs associated with removing all components of the aquaculture facility, including cultured animals, if permittees fail to do so when ordered by NOAA Fisheries.	Permittee required to pay application and annual permit fees. Secretary of Commerce would be authorized to require bonds or guarantees to cover unpaid fees, facility removal, site remediation, or other financial risks identified by the Secretary.
Public Engagement	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/operators. Authorization process needs to ensure that public engagement public engagement is predictable, efficient, and occurs within a reasonable timeframe Process should also be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	NOAA Fisheries must announce receipt of application in Federal Register with a brief description of the proposal and agency's intent to issue a Gulf Aquaculture Permit. Interested persons given a 15- to 45-day opportunity to comment. Application must also be considered at Fisheries Management Council meeting, providing further opportunity for public input and an opportunity for applicant to appear in support of the application.	Requires Secretary of Commerce to hold public meetings, share information, and solicit public feedback for offshore sites being considered. Must also consult with all states, federally recognized Tribes, and territories within 100 miles of sites under consideration. Must meet with aquaculture stakeholders and solicit public comments prior to adoption of all aquaculture management plans. Required to provide public notice and comment for each offshore aquaculture permit application.
Legal classification of instrument by court	-	Industry expresses a strong preference for the instrument to be classified a contract for purposes of judicial interpretation.	Invalid. Permit scheme was struck down by Fifth Circuit Court of Appeals. See Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 968 F.3d 454 (5th Cir. 2020).	Unknown. Bill not yet enacted, so courts have not yet had opportunity to consider legal classification of authorization instrument.
Compensation	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches the terms of the instrument. Should provide for compensation for damage to structures, gear, or stock due to government action.	No provisions concerning compensation for breach of terms or constitutional takings could be identified.	No provisions concerning compensation for breach of terms or constitutional takings could be identified.