



U.S. Army Corps of Engineers Regulation of Offshore Aquaculture

March 2015



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Acknowledgements

This publication is a project of the Environmental Law Institute (ELI). Funding was provided by the Curtis and Edith Munson Foundation and an anonymous donor. The authors of this white paper are Read Porter and Rebecca Kihslinger. ELI staff contributing to the report include Chelsea O’Sullivan, Amanda Nguyen, and Lizzie Lewis. The authors are responsible for the views and research contained in this white paper, including any errors or omissions that may appear. The information contained here was obtained through independent research and interviews conducted in 2013 and 2014. Comments and corrections are welcome and should be directed to the authors at porter@eli.org or Rebecca Kihslinger at kihslinger@eli.org.

The authors are grateful to the many individuals from government agencies, nongovernmental organizations, and industry who generously provided input into this research through interviews, written input, and reviews of drafts of this white paper.

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Citation

Environmental Law Institute, *U.S. Army Corps of Engineers Regulation of Offshore Aquaculture* (February 2015).

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Cover Image: Growing blue mussels raised at the mouth of the Piscataqua River, NH, available on the New Hampshire Sustainable Marine Fisheries blog, <http://nhsustainablefisheries.blogspot.com/2014/01/growing-blue-mussels-and-reducing.html>

INTRODUCTION

The global aquaculture industry is growing rapidly due to increasing demand for seafood to feed a growing population and limited wild fisheries resources.¹ In the United States, however, growth has not kept pace, in part because of extensive state and federal permitting systems and competition for limited space in coastal and nearshore waters. In recent years, producers have increasingly sought to locate new production facilities in federal ocean waters, which may reduce user conflicts and regulatory burdens and may be beneficial for production.²

As Congress has not established a comprehensive legislative framework for offshore aquaculture permitting or regulation, increased offshore aquaculture activity requires agencies to determine how to apply their existing legislative and regulatory frameworks. While many agencies and offices have some authority over some aspects of offshore aquaculture, three key agencies have lead permitting authority: the U.S. Army Corps of Engineers (Corps, or USACE), the National Oceanic and Atmospheric Administration (NOAA),³ and the U.S. Environmental Protection Agency (EPA).⁴ This study reviews Corps permitting as applied to offshore aquaculture to date.

The Corps has taken the lead role in permitting most offshore aquaculture facilities proposed to date—in 2014 alone, it issued permits for offshore aquaculture production facilities in federal waters off Massachusetts, California, and Hawaii. It regulates construction of offshore aquaculture facilities pursuant to section 10 of the Rivers and Harbors Act of 1899 (RHA).⁵ USACE also implements other federal regulatory programs, including section 404 of the Federal Water Pollution Control Act (better known as the Clean Water Act, or CWA) and section 103 of the Ocean Dumping Act (ODA);⁶ however, as discussed in further detail below, these authorities do not apply to the installation or operation of offshore aquaculture facilities.

1 See U.N. FOOD & AGRIC. ORG., *THE STATE OF WORLD FISHERIES AND AQUACULTURE* (2014).

2 In this study, we define “federal ocean waters” to include ocean waters beyond state boundaries—generally, waters from 3 to 200 miles from shore.

3 See EMMETT ENVIRONMENTAL LAW & POLICY CLINIC, ENVIRONMENTAL LAW INSTITUTE & THE OCEAN FOUNDATION, *OFFSHORE AQUACULTURE REGULATION UNDER THE MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT* 5 (2013) [hereinafter MSA REPORT].

4 See EMMETT ENVIRONMENTAL LAW & POLICY CLINIC, ENVIRONMENTAL LAW INSTITUTE & THE OCEAN FOUNDATION, *OFFSHORE AQUACULTURE REGULATION UNDER THE CLEAN WATER ACT* 4 (2012) [hereinafter CWA REPORT].

5 33 U.S.C. § 403.

6 The ODA is Title I of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA). Pub. L. 92-532 (Oct. 23, 1972), as amended. Title III of the MPRSA is known as the National Marine Sanctuaries Act. We refer to Titles I and III of the MPRSA as the ODA and Sanctuaries Act, respectively, to avoid confusion between the ocean dumping and national marine sanctuaries components of the MPRSA.

The RHA authorizes the Corps to consider a broad range of factors, including environmental concerns, when reviewing Department of the Army permit applications.⁷ As a result, Corps permits can incorporate a wide variety of conditions necessary to protect the public interest, provided that the conditions are directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.⁸ Impacts can be both direct and indirect of the proposed activity, but must be related to the activity proposed. While the Corps has not precisely defined the range of impacts that it will consider in this context, its statutory authority appears to allow incorporation of a broad range of conditions not linked directly to navigation concerns—such as limits on waste discharge, measures to avoid harm to marine mammals or other protected species, data generation and disclosure requirements, or other provisions to avoid and minimize other environmental impacts. These impacts are often, but not always, addressed by other agencies and programs, such as pollutant discharge permitting under section 402 of the CWA (by EPA) and fisheries permitting under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (by NOAA). While the Corps possesses independent authority to address impacts covered by these and other authorities, it can also rely on authorizations issued under these programs, where relevant.

While the Corps has broad authority under the RHA, many Corps District staff take on this responsibility with limited or no knowledge about or prior experience with offshore aquaculture or its regulation by other agencies. As a result, they may not consider the full suite of issues over which they have authority unless such issues or impacts are raised by governmental and nongovernmental stakeholders. As important aquaculture stakeholders, such as the capture fishing community, do not always closely follow or participate in Corps permitting, robust interagency consultation and state consistency review under the Coastal Zone Management Act (CZMA) are particularly important to identify and address important impacts, to incorporate broad stakeholder input during USACE permitting, and to coordinate permitting among the multiple agencies involved. These steps can substantially lengthen the permitting process, but they also substantially improve the environmental protections incorporated into permits.

This study reviews the legal and practical considerations related to Corps permitting for offshore aquaculture. After introducing the legislative and regulatory authority and practice governing USACE permitting in this sector, we provide three case studies illustrating how the permitting processes works in practice. Based on our analysis of the legal context and implementation to date, we then provide recommendations for improving the function and consistency of offshore permitting to enhance environmental protection and sustainability of the growing offshore aquaculture industry.

7 See 33 C.F.R. § 320.4; *U.S. v. Alaska*, 503 U.S. 569, 570 (1992) (upholding regulations issued pursuant to the RHA authorizing the Secretary of the Army to consider a wide range of factors beyond a project's effects on navigability).

8 33 C.F.R. § 325.4.

THE RHA APPLIES TO OFFSHORE AQUACULTURE FACILITIES THAT ARE ATTACHED TO THE SEABED

The Corps regulates placement of aquaculture facilities in federal ocean waters pursuant to section 10 of the RHA and associated regulations, as extended by the Outer Continental Shelf Lands Act (OCSLA). Section 10 provides that “it shall not be lawful to build or commence the building of any . . . structures in any . . . water of the United States, . . . except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army.”⁹ Corps regulations implementing this authority require a permit from the Corps prior to “the construction of any structure in or over any navigable water of the United States, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters.”¹⁰ This requirement extends to ocean and coastal waters within three nautical miles from shore,¹¹ and “[w]ider zones are recognized for special regulatory powers exercised over the outer continental shelf.”¹² These “special regulatory powers” derive from OCSLA, which extends the laws of the United States, specifically including the authority of the Secretary of the Army to prevent obstruction to navigation, to “installations and other devices permanently or temporarily attached to the seabed.”¹³ Under this authority, operators must obtain a section 10 permit prior to installing any offshore aquaculture infrastructure anywhere in the OCS, such as net pens and lines, provided that it is an “installation or other device” and is attached to the seabed.¹⁴

9 33 U.S.C. § 403.

10 33 C.F.R. § 320.2(b) (“The construction of any structure in or over any navigable water of the United States, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army.”).

11 *Id.* § 329.12(a) (defining the seaward extent of navigable waters as a “zone three geographic (nautical) miles seaward from the baseline (The Territorial Seas)”). USACE regulations define the Corps’ RHA jurisdiction by use of the term “navigable waters” rather than “waters of the United States” in order to avoid confusion with the Corps’ other regulatory programs, notably section 404 of the CWA. *Id.* §§ 328.1, 329.1.

12 *Id.* § 329.12(a).

13 43 U.S.C. § 1333(a)(1) (extending U.S. jurisdiction to, *inter alia*, “all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom or any such installation or other device (other than a ship or vessel) for the purpose of transporting such resources”); *id.* § 1333(e) (“The authority of the Secretary of the Army to prevent obstruction to navigation in the navigable waters of the United States is extended to the artificial islands, installations, and other devices referred to in subsection (a) of this section.”).

14 See D. Douglas Hopkins et al., *An Environmental Critique of Government Regulations and Policies for Open Ocean Aquaculture*, 2 OCEAN & COASTAL L.J. 235, 241 (1997) (noting RHA permitting practice for offshore aquaculture).

Activities on the OCS that would be regulated under the RHA in state waters but that are not “installations or other devices” or that are not “temporarily or permanently attached to the seabed” will not require a permit from the Corps. For example, unfenced scallop ranches may not require any installations, and unmoored, floating aquaculture facilities are not attached to the seabed. The Corps has not indicated that it would attempt to regulate such facilities under the RHA,¹⁵ which comports with a plain reading of OCSLA and USACE regulations.¹⁶ As a result, unmoored facilities and those that do not qualify as an “installation or other device” will not require a section 10 permit unless and until the Corps’ section 10 authority is extended to waters beyond three nautical miles by regulation or legislation.¹⁷

15 Personal Communication with USACE (Nov. 2014).

16 *Compare* 33 C.F.R. § 322.3(b) (noting that “permits are required for the construction of artificial islands, installations, and other devices on the seabed, to the seaward limit of the outer continental shelf,” but not addressing permitting requirements for other types of activities), *with id.* § 322.3(a) (requiring permits for “structures and/or work in or affecting navigable waters of the United States”—a much broader universe of covered activities).

17 “Waters of the United States” is not defined in the RHA, so unlike in other applications of this term (notably, the CWA), there is no explicit statutory language limiting the Corps’ section 10 jurisdiction to waters within three nautical miles of shore. A complete discussion of whether and how far the Corps’ could extend its RHA jurisdiction seaward is beyond the scope of this study; however, we note that the United States currently enjoys complete sovereignty over waters out to 12 miles from shore, Proclamation No. 5928, 54 Fed. Reg. 777 (Dec. 27, 1988), and the extension of the territorial seas from 3 to 12 miles may affect the jurisdictional reach of existing legislation that lacked an explicit seaward limit. *See* Memorandum from Douglas W. Kmiec, Office of Legal Counsel, U.S. Dep’t of Justice, to Abraham D. Sofaer, Legal Adviser, U.S. Dep’t of State, Legal Issues Raised by the Proposed Presidential Proclamation to Extend the Territorial Sea 23-24 (Oct. 4, 1988) (reviewing constitutional basis for extension of territorial seas and considering impact on existing legislation). In addition to the expanded territorial seas, the United States now exercises more limited jurisdiction, but not full sovereignty, over areas out to 200 miles from shore (the contiguous zone, OCS, and exclusive economic zone). The Corps may have the authority to interpret “waters of the United States” by regulation to include some or all of these waters.

MOST OFFSHORE AQUACULTURE PROJECTS WILL REQUIRE AN INDIVIDUAL PERMIT FROM USACE

The Corps authorizes activities subject to section 10 through two forms of individualized review—individual permits and Letters of Permission (LOPs)—and through three types of general permits. Any of these authorizations could eventually be used for aquaculture permitting; however, neither LOPs nor general permits are currently applied to offshore aquaculture because these authorizations are used for activities that are expected to pose minor impacts.¹⁸ Instead, the Corps will generally require an individual section 10 permit, which is appropriate as offshore aquaculture is a novel activity with poorly characterized impacts and which in recent applications has attracted substantial public comment.

Individual permits are issued by a Corps District Engineer¹⁹ after pre-application consultation,²⁰ public notice and comment,²¹ and environmental impact assessment.²² Additional procedural steps required for compliance with other laws may also be required. The Corps bases permitting decisions on “the

18 A LOP authorizes an individual project without individual public notice or review where “in the opinion of the district engineer, the proposed work would be minor, would not have significant individual or cumulative impacts on environmental values, and should encounter no appreciable opposition.” 33 C.F.R. § 325.2(e)(1)(i). Letters of Permission are also available for permits under authorities other than section 10, including section 404 of the CWA, 33 C.F.R. § 325.2(e)(1)(ii).

19 33 C.F.R. § 325.8(b). Some applications must be referred to the Division Engineer, who will review and decide them unless further referral to the Chief of Engineers is required. *Id.* §325.8(c). Referral to the Division Engineer and/or Chief of Engineers may be required for projects in federal waters where required by written agreement between the Secretary of the Army and the head of another federal agency; where there is substantial doubt regarding applicable law or policy; when higher authority within USACE requests that the application be elevated; and when referral is required as a matter of law. *Id.* § 325.8. The District Engineer, but not the Division Engineer, is also required to refer applications when the recommended decision is contrary to the written position of the Governor of the state where the work would be performed. *Id.* § 325.8(b). This basis for referral will not apply in federal ocean waters beyond state jurisdiction.

20 Pre-consultation is a “brief but thorough” process in which the District Engineer’s staff notifies potentially regulated parties when it becomes aware of plans that may require a permit and assists potential applicants in preparing for the permit. 33 C.F.R. § 325.1(b) (providing that staff “shall be available to advise potential applicants of studies or other information foreseeable required for later federal action”). Pre-consultation is not mandatory

21 USACE must issue a public notice soliciting public comment within a reasonable time after receiving an application for a permit. The notice must include detail about the proposed activity sufficient to foster meaningful comment and state the evaluation factors for each permit decision. 33 C.F.R. § 325.3. USACE may also hold a public hearing either on its own determination or upon request during the comment period. *Id.* § 327.3(a); *id.* § 327.4. The engineer must consider all comments before deciding whether to issue the permit. *Id.* § 325.2(a)(3). The District Engineer can deny a permit without public notice if other local, state, or federal authorities have denied other required permits for the proposed activity or if the proposed activity will clearly interfere with navigation. *Id.* § 325.8(b)..

22 33 C.F.R. § 325.2(a)(4) (noting that the National Environmental Policy Act (NEPA) requires completion of an environmental assessment and/or impact statement prior to the permitting decision).

probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest.”²³ The potential impact on the public interest is assessed by balancing the “benefits which reasonably may be expected to accrue from the proposal” against the “reasonably foreseeable detriments” in a way that reflects the “national concern for both protection and utilization of important resources.”²⁴ USACE regulations contain a nonexclusive list of potentially relevant factors for consideration during public interest review²⁵ as well as general criteria that the Corps must consider when evaluating a permit application.²⁶ A factor’s relevance and the weight it is given will vary depending on the specifics of the proposed activity, the activity’s geographic placement, and what factors become the focal point of public comments.²⁷ Thus, the importance of a particular factor increases when it is connected to a potential benefit or detriment.²⁸ The courts have provided the Corps with substantial discretion in evaluating applications and deciding whether and how to issue permits.²⁹

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- 23 33 C.F.R. § 325.2(a)(4) (noting that the National Environmental Policy Act (NEPA) requires completion of an environmental assessment and/or impact statement prior to the permitting decision).
- 24 *Id.* § 320.4(a)(1); *see also* *Town of Norfolk v. U.S. Army Corps of Eng’rs*, 968 F.2d 1438, 1454 (1st Cir. 1992) (“Under the ‘public interest’ review, the Corps conducts a general balancing of a number of economic and environmental factors”); *Audubon Naturalist Soc’y of the Cent. Atl. States, Inc. v. U.S. Dep’t of Transp.*, 524 F. Supp. 2d 642, 691 (D. Md. 2007) (noting that USACE is required to “consider the [relevant] factors and make a determination based from that analysis”).
- 25 33 C.F.R. § 320.4(a)(1) (“conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people”).
- 26 *Id.* § 320.4(a)(2) (“(i) The relative extent of the public and private need for the proposed structure or work; (ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.”).
- 27 *Id.* § 320.4(a)(3) (providing that the specific weight given to each factor will be determined by its “importance and relevance” but “full consideration and appropriate weight will be given to all comments”).
- 28 *Airport Communities Coal. v. Graves*, 280 F. Supp. 2d 1207, 1222-23 (W.D. Wash. 2003) (finding that the “economics of the project were not as relevant to the Corps’ public interest analysis” because the benefits of the project included “such intangibles as air travel safety, increased traveler convenience, and reduced poor weather delays” and were not purely economic).
- 29 *Ohio Valley Env’tl. Coal. v. Aracoma Coal Co.*, 556 F.3d 177, 201 (4th Cir. 2009) (“[C]ourts must generally defer to the agency evaluation because ‘an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive.’” (quoting *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989))); *Hoosier Env’tl. Council, Inc. v. U.S. Army Corps of Eng’rs*, 105 F. Supp. 2d 953, 1003 (S.D. Ind. 2000) (stating that to overcome USACE decision, alternative or contrary evidence must be concrete, must be readily available to USACE during the decision-making process, and must show that the USACE “relied on a materially distorted picture when making its decision” (quoting *Alschuler v. Dep’t of Housing & Urban Dev.*, 686 F.2d 472, 484 (7th Cir. 1982))).

The engineer’s permit decision takes the form of a Statement of Finding or Record of Decision that includes the engineer’s public interest determination³⁰ and any special conditions required to protect the public interest.³¹ Conditions must be “directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.”³² The District Engineer may “take into account the existence of controls imposed under other federal, state, or local programs” and require compliance with those controls in lieu of imposing additional conditions in a Corps permit.³³ Thus, if the District Engineer determines that an impact (such as waste discharge) has been adequately addressed by other regulatory programs (such as a CWA discharge permit), then the section 10 permit may simply require compliance with that permit instead of creating new conditions on waste discharge.

The RHA and Corps regulations authorize the Corps to evaluate a wide range of direct and indirect impacts of the installation and operation of proposed offshore aquaculture facilities and to impose conditions to mitigate those impacts where necessary to protect the public interest.³⁴ However, while the Corps has not definitively determined what impacts of offshore aquaculture will be considered during section 10 permitting, it is likely that it will exclude certain impacts that it deems insufficiently related to the permitted construction activity.³⁵ The excluded impacts thus will likely be those arising from post-construction facility operation, such as species cultured and uses of antibiotics or chemicals during production.³⁶ Neither the RHA nor Corps regulations limits consideration of impacts or imposition of conditions to issues associated with construction, as opposed to operation, of structures—to the contrary, public interest consideration looks at both “the proposed activity and its intended use.”³⁷ As a result, the Corps will need to develop a reasoned and legally-sound basis for excluding reasonably foreseeable impacts related to operation of permitted facilities, especially where NOAA (or another agency) lacks regulatory authority that could otherwise mitigate the excluded impacts.

30 33 C.F.R. § 325.2(a)(6). The “Statement of Findings must conclusively justify a denial decision” for any reason other than obstruction of navigation or the absence of required permits. *Id.* § 325.8.

31 Special conditions must be “necessary to satisfy legal requirements or to otherwise satisfy the public interest requirement.” *Id.* § 325.4(a). The public interest requirement is an “evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest.” *Id.* § 320.4(a)(1). 33 C.F.R. § 325.2(a)(6). The “Statement of Findings must conclusively justify a denial decision” for any reason other than obstruction of navigation or the absence of required permits. *Id.* § 325.8.

32 33 C.F.R. § 325.4(a). Consequently, USACE will deny a permit if special conditions are required for the proposed activity to be in the public interest “but those conditions would not be reasonably implementable or enforceable.” *Id.* § 325.4(c).

33 *Id.* § 325.4(a)(2).

34 *See id.* § 320.4(a)(1) (requiring USACE to base its public interest analysis on “an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and *its intended use*”) (emphasis added).

35 Personal Communication with USACE (Dec. 18, 2014).

36 *Id.*

37 33 C.F.R. § 320.4(a)(1).

The Corps is directed to make a permitting decision within 60 days after receipt of a complete application, unless procedures required by law such as certifications, consultations, or studies preclude completing a decision in this timeframe.³⁸ Most applications require additional time to allow for compliance with the National Environmental Policy Act (NEPA),³⁹ consistency review under the CZMA, issuance of another required permit or approval, such as water quality certification under section 401 of the CWA that is a prerequisite to the District Engineer's decision, or other reasons.⁴⁰ The Corps seeks to make decisions on individual permit applications within 120 days of receipt of a complete application, but, as has occurred for some offshore aquaculture permits, some applications take substantially longer due to additional required processes.⁴¹ If approved, permits for permanent structures will not expire,⁴² but the Corps can reevaluate, modify, suspend, or revoke a permit as needed to protect the public interest⁴³ based on factors such as the permittee's compliance with permit terms and conditions, significant objections previously unconsidered, and changes in statutory authority.⁴⁴

38 *Id.* § 325.2(d)(3) (listing exceptions to the 60 day requirement).

39 In most cases, USACE permits require only an Environmental Assessment (EA) rather than a full Environmental Impact Statement (EIS). *Id.* § 230.7. EAs may be prepared by the applicant, but the agency must make its own evaluation. 40 C.F.R. § 1506.5. Based on this evaluation, it will determine whether to prepare an EIS or issue a Finding of No Significant Impact (FONSI). *Id.* § 1501.4.

40 33 C.F.R. § 325.2(b) (precluding permit issuance until applicant has obtained water quality certification). USACE will not delay its decision because another agency has not yet granted authorization unless that authorization is a prerequisite to its own decision. *Id.* § 325.2(d)(4). Note that section 401 of the CWA requires that applicants requesting a permit for any activity that may result in discharge into navigable waters must provide the permitting agency with a certification from the state where the discharge originates or will originate, certifying that the discharge complies with CWA provisions in the state. 33 U.S.C. § 1341. As offshore aquaculture, by definition, occurs in areas beyond state jurisdiction, this requirement will primarily arise for offshore aquaculture in the context of state consistency review under the CZMA.

41 In fiscal year 2014, the average processing time for all individual section 10 permits issued by the Corps was 219 days. Personal Communication with USACE (Nov. 2014). *See generally* Van Abbema v. Fornell, 807 F.2d 633, 635 (7th Cir. 1986); Hoosier Envtl. Council, Inc. v. U.S. Army Corps of Eng'rs, 105 F. Supp. 2d 953, 970 (S.D. Ind. 2000).

42 33 C.F.R. § 325.6. Permits for permanent structures will usually specify time limits for completing the work, including construction of a structure or discharging dredged or fill material. Permits issued for a temporary structure or work (such as discharge of dredged or fill material) may be issued for a duration that is based on the nature and scope of the work and what is reasonable. *Id.*

43 33 C.F.R. § 325.7. USACE may reevaluate a permit in its discretion or at the request of the permittee or a third party. *Id.*

44 *Id.* USACE will attempt to determine mutually agreeable modifications through informal proceedings but can also require modifications or suspend a permit; it can revoke a permit only following suspension procedures. *Id.*

In the past several years, the Corps has received a number of applications for individual section 10 permits related to installation and operation of offshore aquaculture facilities in federal waters. Three different USACE Districts have issued permits for either shellfish or finfish aquaculture, as discussed in more detail below. Collectively, these three case studies illustrate the ways that Corps permitting processes can differ based on project siting and design, and on consultation and coordination with other agencies and the public. Recent experience shows that the section 10 permitting process for offshore aquaculture can be described as variations on a common theme. Projects have included a relatively condensed initial Corps review and public notice process resulting in little public comment. However, interagency or intergovernmental consultation and/or review has demanded more in-depth consideration and, in some cases, substantial additional public comment and stakeholder interaction. This in-depth review arises from two main sources: consultation requirements based in the essential fish habitat (EFH) provisions of the MSA,⁴⁵ section 304(d) of the National Marine Sanctuaries Act (Sanctuaries Act),⁴⁶ section 7 of the Endangered Species Act (ESA),⁴⁷ or other statutes; and state consistency review under the CZMA. This set of interagency and associated public processes, while extensive, is not exclusive—other consultations, such as with the U.S. Coast Guard (USCG) or U.S. Food and Drug Administration, may also arise during section 10 permitting, and additional permit requirements under the MSA and CWA will also affect permitting where relevant. The specific design and location of future offshore aquaculture projects could add additional considerations to this list of consultations and permitting requirements. The complexity of and value added by these interactions suggest that the Corps has correctly determined that individual permits have been more appropriate permitting tools than LOPs for this new use of offshore areas.

The specifics of siting and project design have played a large role in the process and length of the section 10 permitting process, and these factors in turn are driven by the depth and breadth of each applicant's engagement with relevant agencies and with other users of offshore areas (including fisheries, oil and gas, and shipping interests) during and before the permitting process. To date, the complexity of the permitting process appears to increase with increases in the number of affected stakeholder groups and agencies with jurisdiction—particularly where those users or regulators are not consulted before the permit application is submitted. Even where applicants have not obtained input prior to submitting an application, however, the section 10 permitting process has successfully incorporated input from relevant stakeholders and regulators, resulting in changes to project size, design, and location, as well as development of special conditions to address potential impacts.

45 16 U.S.C. § 1855(b).

46 *Id.* § 1434(d). The Sanctuaries Act is Title III of the MPRSA but is referred to separately here to distinguish it from the ODA, which is Title I of the MPRSA. *See supra* note 6.

47 16 U.S.C. § 1536.

CORPS GENERAL PERMITS CURRENTLY ARE NOT AVAILABLE FOR OFFSHORE AQUACULTURE

Projects that are subject to section 10 permitting can avoid the need for an individual permit if they are eligible for one of three types of general permits.⁴⁸ While the Corps has issued general permits for aquaculture activities, no active general permits are intended to apply to offshore aquaculture activity. In the future, however, the Corps could develop one or more general permits to cover certain offshore aquaculture activities that are subject to duplicative regulatory programs or that impose minimal impacts.

Operators who design their projects within the limits of a general permit can proceed with their activities as long as the work complies with the terms and conditions set forth in the permit. Depending on the specifics of the project, an applicant may be required to submit a pre-construction notification (PCN) to the Corps before commencing the activity, in order for the Corps to complete a case-specific review and assess whether the project may be verified under the general permit.⁴⁹ The three types of Corps general permits include:

- *Programmatic general permits* (PGPs), which are intended to avoid duplication with existing programs by giving permitting authority to states, tribes, and local governments, or other federal agencies that have regulatory programs comparable to the section 10 program;⁵⁰
- *Nationwide permits* (NWP), which authorize categories of activities that are similar in nature and have “minimal impact;”⁵¹ and

48 33 C.F.R. §325.5(c). USACE may also develop “joint procedures” with other agencies “when general permits to avoid duplication are not practical.” *Id.* § 320.4(j)(5).

49 *See id.* § 330.1(e)(1) (“In most cases, permittees may proceed with activities authorized by [general nationwide permits, or NWPs] without notifying the DE. However, the prospective permittee should carefully review the language of the NWP to ascertain whether he must notify the DE prior to commencing the authorized activity The permittee may presume that his project qualifies for the NWP unless he is otherwise notified by the DE within a 45-day period.”). The District Engineer reserves the right to “review any activity authorized by NWP to determine whether the activity complies with the NWP” *Id.* § 330.1(d).

50 *Id.* § 325.5(c)(3).

51 *Id.* § 330.1(b). “Minimal impact” is not specifically defined; instead, USACE determines whether a category of activities has minimal impacts on a case-by-case basis. *See*, *Sierra Club v. U.S. Army Corps of Engineers*, 464 F. Supp. 2d 1171, 1199-1203 (M.D. Fla. 2006), *aff’d*, 508 F.3d 1332 (11th Cir. 2007) (rejecting the proposition that “minimal” means “specific low per-project wetlands acreage limits” and holding that a 35.6% increase in development of “an otherwise ‘virtually undevelopable’ ‘. . . mosaic of uplands and wetlands’” due to a general permit authorization could not be deemed minimal) (internal citations omitted).

- *Regional general permits* (RGPs), which are issued by Division and District Engineers to authorize certain activities in a defined region and which can override NWP and can include case-by-case reporting and acknowledgment by permittees.⁵²

The Corps has issued general permits applicable to aquaculture, but these permits are all limited to shellfish (as opposed to finfish) aquaculture, and they were intended for use in state waters.⁵³ Only one existing permit—NWP 48⁵⁴—appears to be potentially applicable in federal ocean waters. However, as noted in Box 1, this permit is not intended to and does not currently apply to offshore aquaculture.

In the future, it is possible that the Corps could determine that certain categories or even all forms of offshore aquaculture are appropriate for a general permit, either because they are subject to duplicative regulatory mechanisms (and thus appropriate for a PGP) or because they are likely to impose minimal impacts on a nationwide or regional level. USACE has not suggested that it has any plans to develop a general permit applicable to offshore aquaculture, and the complex, unique, and contested permitting experience observed to date indicates that general permitting for these facilities would be premature at this time.

Ongoing development of other regulatory permitting programs, allied with the Corps' growing body of permit experience, could eventually lead USACE to determine that a PGP is appropriate for certain offshore aquaculture projects. Aquaculture facilities that are subject to a comprehensive, robust NOAA-led MSA permitting process are the most likely candidates for a PGP.⁵⁵ NOAA recently issued proposed regulations to implement the Gulf of Mexico Aquaculture Fishery Management Plan,⁵⁶ which is the first Fishery Management Plan (FMP) to systematically address offshore aquaculture and consequently the first under which NOAA could hypothetically become the sole lead agency on offshore permitting under a PGP.

52 33 C.F.R. § 325.5(c)(1).

53 USACE, *Commercial Shellfish Aquaculture Activities*, in Reissuance of Nationwide Permits, 77 Fed. Reg. 10,184 (Feb. 21, 2012) (final notice) [hereinafter *NWP 48*]. Other NWPs applicable to aquaculture include NWP 27 (*Aquatic Habitat Restoration, Establishment, and Enhancement Activities*, which may include shellfish seeding or restoration activities) and NWP 4 (*Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities*, which may include recreational shellfishing but explicitly excludes culture of motile species or the use of covered oyster trays or clam racks). Various RGPs apply specifically to shellfish aquaculture in state waters. See, e.g., BALTIMORE DIST., USACE, ACTION NO. NAB-2011-00297-B02, PUBLIC NOTICE: ISSUANCE OF THE REGIONAL GENERAL PERMIT-1 AUTHORIZING NEW COMMERCIAL, RESEARCH, AND EDUCATIONAL BIVALVE SHELLFISH AQUACULTURE ACTIVITIES FOR A FIVE YEAR PERIOD (Aug. 15, 2011) (authorizing new commercial, research, and educational bivalve shellfish aquaculture activities in tidal navigable waters in Maryland); NORFOLK DIST., USACE, PERMIT NO. 13-RP-19, REGIONAL PERMIT (Aug. 14, 2013), (authorizing, *inter alia*, aquaculture or mariculture of bivalve mollusks with a permit from state agencies in Virginia waters).

54 *NWP 48*, *supra* note 53.

55 NOAA has determined that aquaculture is subject to management under the MSA. See MSA REPORT, *supra* note 3.

56 Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture, 79 Fed. Reg. 51,424, *supra* note 62.

While the Corps is working with NOAA and other agencies to develop a coordinated offshore aquaculture permit application and education process in the Gulf of Mexico and elsewhere, the Corps is not currently contemplating a PGP for finfish aquaculture in federal waters.⁵⁷ While issuance of a PGP could streamline permitting, it would have substantial limitations. The Corps would need to ensure that NOAA addresses navigation concerns and other elements of the public interest inquiry in a manner comparable to the section 10 process—a challenge for NOAA, which does not have equivalent experience in this area. In addition, FMPs vary substantially by region and species, so the Corps would need to develop separate PGPs tailored to the provisions of each applicable FMP. And any changes to the relevant parts of a FMP would require updates to the associated PGP. While interagency coordination on individual permitting is beneficial, particularly in areas such as the Gulf of Mexico with established FMPs for aquaculture, these limitations suggest that PGPs are not currently appropriate for offshore aquaculture.

Box 1. NWP 48 – A model for future offshore shellfish aquaculture general permits?

The Corps developed NWP 48 to streamline permitting of commercial shellfish aquaculture operations in accordance with its belief that there is “sufficient government oversight of [shellfish aquaculture] activities at the various levels of government.”⁵⁸ NWP 48 authorizes installation of structures and discharge of dredged and fill material necessary to seed, rear, cultivate, transplant, and harvest certain species of shellfish.⁵⁹ Qualifying operations must comply with national general conditions,⁶⁰ regional amendments or conditions,⁶¹ and any necessary activity-specific mitigation measures.⁶²

NWP 48 is available only in “authorized project areas,” which are areas where the operator is currently authorized to conduct commercial shellfish aquaculture activities pursuant to a “lease or permit issued by an appropriate state or local government agency, a treaty, or any other easement, lease, deed, or contract which establishes an enforceable property interest for the operator.”⁶³ In most cases, projects in federal ocean waters cannot meet these requirements: state and local governments cannot authorize activities in these waters; no treaties authorize aquaculture in federal offshore waters; and few federal permits applicable to aquaculture establish enforceable property interests.⁶⁴ While federal easements could be available for shellfish aquaculture in offshore areas in exceptional circumstances, such as from the Bureau of Ocean Energy Management for re-use of existing OCS facilities (e.g., oil and gas platforms),⁶⁵ these circumstances appear to be outside the Corps’ intended definition of “authorized project area,” which the preamble to the NWP limits to “subtidal and intertidal lands.”⁶⁶ As a result, NWP 48 currently does not appear to be available for offshore aquaculture production.

57 Personal Communication with USACE (Nov. 2014); see also NOAA, Aquaculture Policy & Regulation, http://www.nmfs.noaa.gov/aquaculture/policy/13_policy_and_reg_homepage.html (noting permit streamlining initiative of the Aquaculture Regulatory Task Force, under the Interagency Working Group on Aquaculture).

58 *Id.* at 10,231.

59 *Id.* at 10,280. NWP 48 does not permit the culture of finfish, nonindigenous species not previously cultivated in a water body, or aquatic nuisance species, and it does not authorize the construction of attendant features such as docks, piers, boat ramps, stockpiles, or staging areas, or the deposition of shell material as waste. *Id.*

60 *Id.* at 10,228-32, 10269-90.

61 Some Districts have revoked, suspended, or modified NWP 48 or issued additional regional general permits for shellfish culture. For example, applicants seeking authorization for shellfish aquaculture in Alaska are encouraged to apply for Regional General Permit POA-2006-1035 (*Aquatic Farm Structures within the State of Alaska*). ALASKA DIST., USACE, ALASKA DISTRICT REGIONAL CONDITIONS FOR 2012 NATIONWIDE PERMITS (Mar. 19, 2012) (stating that NWP 48 is revoked in Alaska). The New England District has suspended all NWPs and replaced them with state-specific RGPs. New England Dist., USACE, *State General Permits*, <http://www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits.aspx> (last visited Jan. 30, 2015). The Charleston District has altered the information that must be submitted to the District Engineer for NWP 48 compliance. CHARLESTON DIST., USACE, 2012 APPROVED NATIONWIDE PERMIT REGIONAL CONDITIONS FOR SOUTH CAROLINA, REVISED (2014).

62 NWP 48 requires a PCN for certain operations that increase potential adverse effects on navigation or the aquatic environment, including: operations in new project areas; activities involving dredge harvesting, tilling, or harrowing in areas inhabited by submerged aquatic vegetation; culture of species not previously cultivated in the water body; and change from bottom culture to floating or suspended culture. *NWP 48*, *supra* note 53, at 10,230. Based on the PCN, the District Engineer seeks comments from other state and federal agencies on mitigation measures to avoid adverse impacts (including NOAA for Essential Fish Habitat consultation). *Id.* at 10,287 (engineer will seek comments on “why the agency believes the adverse effects of the project will be more than minimal”); *see also* MSA REPORT, *supra* note 3 (reviewing consultation requirements for Essential Fish Habitat). The engineer may then impose “activity-specific conditions” on operators “to ensure that the authorized activity results in minimal adverse effects on the aquatic environment, individually and cumulatively.” *NWP 48*, *supra* note 53, at 10,231.

63 *NWP 48*, *supra* note 53, at 10,280.

64 *See* Mark Fina & Tyson Kade, *Legal and Policy Implications of the Perception of Property Rights in Catch Shares*, 2 WASH. J. ENVTL. L. & POL’Y 283, 308-312 (2012) (reviewing findings that fisheries permits issued under the MSA are not property subject to takings).

65 Section 388 of the Energy Policy Act of 2005 authorizes the Secretary of the Interior to “grant a lease, easement, or right-of-way” for the re-use of existing OCS facilities for energy- or marine-related activities that are not “otherwise authorized” by OCSLA or other applicable law. 43 U.S.C. § 1337(p)(1)(d). The Bureau of Ocean Energy Management (BOEM) may be authorized by this section to issue Alternate Use Rights of Use and Easement (Alternate Use RUEs) for aquaculture projects that re-use existing OCS facilities. 30 C.F.R. § 585.1000; *see also* MINTERALS MGMT SERV., U.S. DEP’T OF THE INTERIOR, MMS 2007-056, PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR ALTERNATIVE ENERGY DEVELOPMENT AND PRODUCTION AND ALTERNATE USE OF FACILITIES ON THE OUTER CONTINENTAL SHELF, at 6-1 (Oct. 2007) (indicating that aquaculture qualifies for this program but not discussing whether availability of permits for aquaculture activities under the MSA or other laws constitutes “other authorization”). Availability of BOEM easements for shellfish aquaculture may be further limited because most existing OCS facilities are located in the Gulf of Mexico, where NOAA’s proposed regulations to implement the fishery management plan for aquaculture would prohibit culture of any species other than managed species. As shellfish are not managed species, culture of these species would be barred. *See* MSA REPORT, *supra* note 3, at 27; Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture, 79 Fed. Reg. 51,424, 51,428 (proposed Aug. 28, 2014) (to be codified at 50 C.F.R. pts. 600, 622) (indicating species allowed for aquaculture in Gulf of Mexico limited to native species managed under a Gulf of Mexico Fishery Management Plan).

66 *NWP 48*, *supra* note 53, at 10,230 (“Project area may also be identified through an easement, lease, deed, or contract which establishes an enforceable property interest to conduct aquaculture activities on subtidal or intertidal lands.”). While “subtidal” is not defined and the limitation on types of lands is not included in the text of NWP 48, the Corps would likely oppose any attempt to use NWP 48 in offshore areas. In addition, even if an offshore project qualified for NWP 48, submission of a PCN to the Corps would be required, triggering inter-agency consultation and the potential for activity-specific conditions.

CORPS AUTHORITIES OTHER THAN THE RHA ARE NOT APPLICABLE IN FEDERAL WATERS

The Corps is responsible for implementation of several statutes in addition to the RHA, including section 404 of the CWA and the ODA. While these statutes may apply to aquaculture in waters subject to state jurisdiction, they do not apply in federal ocean waters.

The CWA prohibits “the discharge of any pollutant by any person” except in compliance with the CWA.⁶⁷ Under section 404 of the CWA, the Corps can authorize the discharge of one type of pollutant—“dredge and fill material”—into “navigable waters.”⁶⁸ Aquaculture facilities in coastal waters often must obtain a section 404 permit from the Corps, because they result in discharge of dredge and fill material.⁶⁹ While projects and facilities in offshore areas may engage in activities resulting in discharge of dredge and fill material, offshore facilities are not subject to section 404. Section 404 applies in “navigable waters,” which the CWA defines as those waters that are three nautical miles or less from shore.⁷⁰ As a result, section 404 does not apply to offshore aquaculture facilities located in federal ocean waters.⁷¹

67 33 U.S.C. § 1311(a) (prohibiting discharges unless in compliance with specific, enumerated sections of the CWA, including section 404, but not the RHA or ODA). As “discharge of a pollutant” is defined to include discharges from point sources into ocean waters beyond the territorial seas, *id.* § 1362(12)(B), this prohibition applies in all waters under U.S. jurisdiction (i.e., out to the edge of the exclusive economic zone, 200 miles from shore).

68 *Id.* § 1344. USACE regulations define the Corps’ CWA jurisdiction by use of the term “waters of the United States” rather than “navigable waters” in order to avoid confusion with the Corps’ other regulatory programs. 33 C.F.R. § 328.1.

69 33 U.S.C. § 1371(b) (“discharges of pollutants into the navigable waters subject to the [RHA] . . . shall be regulated pursuant to this chapter, and not subject to [the RHA] . . . except as to effect on navigation and anchorage”). Many coastal aquaculture projects will require both a RHA permit and a section 404 permit. However, because RHA and CWA jurisdiction differ, one or the other may not be required in specific cases (e.g., floating rafts in coastal waters that do not involve dredge or fill may not require a section 404 permit but may require a RHA permit). USACE has established a joint permitting process for RHA and section 404 permits. State permits may also be required, and may be issued through a joint federal-state process. *See* STATE OF CONN., APPLICATION FOR JOINT PROGRAMMATIC PERMIT FOR AQUACULTURE, DEPARTMENT OF THE ARMY GENERAL PERMIT (n.d.), available at <http://seagrant.uconn.edu/whatwedo/aquaculture/pdf/pgp.pdf>.

70 “Navigable waters” are “the waters of the United States, including the territorial seas.” 33 U.S.C. § 1362(7). The “territorial seas,” in turn, are defined as waters out to three nautical miles from shore. *Id.* § 1362(8). Note that the Corps’ regulations, in an effort to avoid confusion, use “waters of the United States” for CWA purposes and “navigable waters” for the RHA. 33 C.F.R. § 328.1. *See supra* note 11. Following the statute, these regulations explicitly adopt a three-mile limit to Corps jurisdiction. 33 C.F.R. § 328.3(a) (defining “waters of the United States” to include the territorial seas); *id.* § 328.4 (defining the territorial seas to extend out to three nautical miles).

71 The CWA prohibits unpermitted discharges of “dredge and fill” material in all ocean waters, 33 U.S.C. § 1311(a), but section 404 permits are available only inside of three nautical miles from shore. In combination, these provisions could bar such discharges beyond three nautical miles. However, the CWA savings clause provides that the CWA “shall not be construed as . . . affecting or impairing the authority of [USACE] . . . under the [RHA].”

The ODA⁷² governs disposal of materials in U.S. waters and authorizes the Corps to regulate ocean dumping through a permit program in which the Corps makes permit decisions following review and recommendations by EPA.⁷³ Under the ODA, a permit is required, inter alia, for any person to transport any material for the purpose of dumping in U.S. ocean waters.⁷⁴ However, no ODA permit will be required for either the placement or operation of offshore aquaculture facilities in federal ocean waters because the statutory definition of “dumping” excludes:

the construction of any fixed structure...[or] the intentional placement of any device in ocean waters or on or in the submerged land beneath such waters, for a purpose other than disposal, when such construction or such placement is otherwise regulated by Federal or State law or occurs pursuant to an authorized Federal or State program.⁷⁵

Placement of aquaculture facilities in federal ocean waters falls within this exclusion because these facilities are intentionally placed in ocean waters and/or on submerged lands for purposes other than disposal, and because they are “otherwise regulated” by the RHA, CWA,⁷⁶ and MSA,⁷⁷ among other federal laws and programs. The exception may be unmoored facilities on the OCS, which are not subject to section 10 and which may not require permits under the MSA or CWA. Outside of this case, placement of aquaculture facilities is not considered dumping and does not trigger permitting requirements under the ODA.

Discharges during offshore aquaculture operations are similarly excluded from the ODA. “Dumping” also does not include “deposit of oyster shells, or other materials when such deposit is made for the purpose of developing, maintaining, or harvesting fisheries resources and is otherwise regulated by Federal or State law or occurs pursuant to a Federal or State program.”⁷⁸ As noted previously, offshore aquaculture facilities may be regulated by a variety of federal laws, including (for most finfish aquaculture facilities) section 402 of the CWA (pollutant discharge permits), the MSA, and/or section 10, and their purpose

33 U.S.C. § 1371(a)(2). This clause appears to overcome the prohibition on discharges of dredge and fill material beyond three nautical miles to the extent that the prohibition would impair the Corps’ authority to permit such discharges under the RHA.

72 *Id.* §§ 1401-1445 (Title I of the MPRSA).

73 The Corps has authority to issue permits for dredged material subject to EPA’s criteria and concurrence. *Id.* § 1413. EPA is the permitting agency for all other materials. *Id.* § 1412.

74 *Id.* § 1411.

75 *Id.* § 1402(f); *see also* 40 C.F.R. § 220.1(c)(3)(ii).

76 *See* CWA REPORT, *supra* note 4.

77 *See* MSA REPORT, *supra* note 3.

78 33 U.S.C. § 1402(f).

is likely to be construed as developing and harvesting of fisheries resources. As a result, discharges of fish wastes, excess feed, or other materials from duly permitted offshore aquaculture facilities do not appear to constitute dumping⁷⁹ and therefore are unlikely to require an ODA permit, and only those few facilities that are not “otherwise regulated” by any of these regulatory programs may be subject to the ODA.



Image Source: Mussels growing under the pier at the University of New Hampshire Judd Gregg Marine Research Complex, <http://nhsustainablefisheries.blogspot.com/2013/05/whats-growing-at-unh-pier-spring-2013.html>

79 See *id.* § 1412(d) (no permit required for fish waste discharges except in enclosed harbors or where the EPA Administrator finds that deposits could endanger health, the environment, or the ecological system). However, EPA may require prior review of proposed dumping of fish wastes to ensure that they qualify as such under the statute and to determine the potential impacts. See Region 2, U.S. EPA, *Disposal of Fish Waste*, <http://www.epa.gov/region2/water/oceans/fwaste.htm> (“It is the policy of Region 2 to review proposed discharges of fish wastes into ocean waters to ensure that the action is protective of human health and the environment.”).

CASE STUDIES

Overall, experience to date suggests that the section 10 permitting process adapts flexibly to different scenarios, in part due to effective interagency and intergovernmental consultation processes. The permitting process has enabled agencies and operators alike to develop a more sophisticated understanding of conflicting stakeholder needs and potential environmental impacts, and it has resulted in productive changes to avoid and mitigate impacts—and in some cases to enable development of data (e.g., regarding marine mammal interaction with offshore lines) that agencies will be able to use in the future to improve their review of and design effective permit conditions for similar projects. This section presents three case studies of recent section 10 individual permitting processes.

Northeastern Massachusetts Aquaculture Center

In 2012, the Northeastern Massachusetts Aquaculture Center (NEMAC) at Salem State University, with support from the NOAA's Office of Aquaculture, applied to the Corps' New England District for a permit for a 33-acre submerged blue mussel (*Mytilus edulis*) demonstration farm to be located in federal waters 8.5 miles off Cape Ann, Massachusetts.⁸⁰ NEMAC proposed a location one half mile outside of Stellwagen Bank National Marine Sanctuary (Stellwagen NMS) after consultation with relevant agencies, including NOAA, USACE, EPA, and the Massachusetts Office of Coastal Zone

Management (MA CZM),⁸¹ and with a retired commercial fisherman to avoid conflicts with fishing areas.⁸²

Preliminary review by the Corps indicated a need for interagency consultation under several federal statutes, as well as an environmental assessment pursuant to NEPA.⁸³ USACE initiated consultation with the National Marine Fisheries Service (NMFS) under the MSA due to potential impact on EFH

80 NEW ENGLAND DIST., USACE, NAE-2012-01598, PUBLIC NOTICE: NORTHEASTERN MASSACHUSETTS AQUACULTURE CENTER (2013), available at <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/publicnotices/NAE-2012-01598.pdf>.

81 Personal Communication with Ted Maney & Mark Fregeau, Salem State Univ. (Oct. 18, 2013). NEMAC initially considered a site in Stellwagen NMS, which is closed to fishing and in which mariculture and artificial reefs are also forbidden due to habitat modification and destruction. *Id.*

82 Vessel trip reports indicated substantially less than one percent of catch landed within two nautical miles of the preferred site. Ted Maney et al., Establishing an Offshore Mussel Farm in Federal Waters in the Gulf of Maine, Presentation to Northeast Fisheries Management Council (June 2013).

83 NEW ENGLAND DIST., *supra* note 81. NEMAC completed and submitted an environmental assessment. Personal Communication with Maney & Fregeau, *supra* note 82. In most cases, permits will only require an environmental assessment rather than a full environmental impact statement. 33 C.F.R. § 230.7.

and under the ESA due to potential impacts on endangered Atlantic sturgeon, leatherback sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle, humpback whale, North Atlantic right whale, and fin whale.⁸⁴ MA CZM also applied to NOAA's Office of Coastal Resource Management (OCRM) for approval to review the project for consistency with state law as authorized by the CZMA; however, OCRM denied the application in March 2013.⁸⁵ The Corps subsequently issued a public notice for the proposed permit in April, 2013.⁸⁶

The Corps received independent comments from numerous agencies as a result of interagency consultation.⁸⁷ Different parts of NOAA submitted comments with different conclusions. Stellwagen NMS submitted comments expressing concerns about the proximity of the farm site to the Sanctuary and about the increased risk of entanglement of endangered whales in an area already replete with vertical lines from lobster traps and gillnets. Separately, NMFS protected species staff initially indicated that the proposed farm was "not likely to affect" protected species provided that it adhered to conditions applied to other shellfish farms in the region, but subsequently reversed this determination because the proposed site is located in a possible whale migration route, and the farm could result in possible whale entanglement. The comments suggested that reduction in the project from a commercial scale farm to small scale test farm (two to three lines) could be required to address these concerns.⁸⁸ The Corps also consulted with USCG, which must conduct a Navigation Safety Risk Assessment for all projects in the open ocean.⁸⁹ The USCG review found that deep draft vessels occasionally transit the proposed site, and the farm as designed could cause a safety hazard, causing NEMAC to modify its plans to hold its lines deeper than initially proposed.⁹⁰ The EPA also reviewed the project for CWA concerns and cleared the farm to move forward.⁹¹

84 NEW ENGLAND DIST., *supra* note 81.

85 Decision Letter from OCRM to MA CZM (Mar. 19, 2013). OCRM denied the request because none of the five impacts cited by Massachusetts would create reasonably foreseeable effects on coastal uses or resources. The cited impacts were: (i) effects on benthic infauna, sediment transport, and sediment scouring; (ii) fisheries, marine mammal and sea turtle interactions; (iii) invasive organism colonization; (iv) commercial and recreational fishing; and (v) increased vessel traffic. *Id.*

86 NEW ENGLAND DIST., *supra* note 81.

87 Personal Communication with Maney & Fregeau, *supra* note 82.

88 Personal communication with Maney & Fregeau, *supra* note 82.

89 Before establishing a structure (including an aquaculture facility) in the ocean, the owner or operator must apply for authorization to mark the structure as a private aid to navigation (PATON). 33 C.F.R. § 64.21; *see also id.* § 64.06 (defining structure to include any fixed or floating obstruction). The USCG District Commander will determine the appropriate markings for the structure based on factors listed in the regulations. *Id.* §§ 64.21, 64.31.

90 Personal Communication with Maney & Fregeau, *supra* note 82. USACE will generally incorporate USCG requirements (e.g., structure marking) as conditions to permits. Kristen M. Fletcher, *Law & Offshore Aquaculture: A True Hurdle or a Speed Bump?*, in EFFORTS TO DEVELOP A RESPONSIBLE OFFSHORE AQUACULTURE INDUSTRY IN THE GULF OF MEXICO: A COMPENDIUM OF OFFSHORE AQUACULTURE CONSORTIUM RESEARCH 23, 26 (Christopher J. Bridger ed., 2004).

91 Personal Communication with Maney & Fregeau, *supra* note 82.

NEMAC also faced a unique hurdle in the form of area closures prohibiting shellfish harvest in the proposed site due to historic paralytic shellfish poisoning (PSP) outbreaks. Harvest of bivalves in the closed area is allowed only with and following the terms and conditions of a Letter of Authorization (LOA) from NOAA's Regional Administrator,⁹² which would allow harvest only for scientific purposes.⁹³ NEMAC planned to proceed with a LOA upon issuance of a RHA permit, as the research scope to be authorized by the LOA is consistent with the reduced project size related to whale entanglement concerns.⁹⁴ However, the PSP closure was lifted on October 1, 2014, and therefore a LOA is no longer needed.⁹⁵ Following this action, in January, 2015, the Corps issued NEMAC a section 10 permit with conditions.⁹⁶

More recently, a private applicant, in collaboration with researchers at Woods Hole Marine Biological Laboratory, also sought a section 10 permit for blue mussel aquaculture to be conducted at a site located in federal waters on Horseshoe Shoals near the Cape Wind offshore wind development project site.⁹⁷ A similar public notice and consultation process produced substantially less complexity, as it was not located near Stellwagen NMS, was not located near a whale migration area, and was not in a PSP closed area. After the comment period ended, the Corps issued a permit with conditions to install the aquaculture facility at this site.⁹⁸ The permit will allow three lines on almost 30 acres, to be expanded up to a maximum of 25 lines if the initial test phase is successful.⁹⁹

92 50 C.F.R. § 648.14(a)(10) ("It is unlawful for any person to . . . [f]ish for, harvest, catch, possess or attempt to fish for, harvest, catch, or possess any bivalve shellfish . . . unless issued and possessing on board a Letter of Authorization (LOA) from the Regional Administrator authorizing the collection of shellfish for biological sampling and operating under the terms and conditions of said LOA, in [the defined closed areas]."); *see also* Magnuson-Stevens Fishery Conservation and Management Act Provisions; Fisheries of the Northeastern United States; Extension of Emergency Fishery Closure Due to the Presence of the Toxin That Causes Paralytic Shellfish Poisoning, 78 Fed. Reg. 78,783 (Dec. 27, 2013) (extending emergency PSP closures).

93 Personal Communication with David Alves (Jan. 23, 2014). The LOA required for NEMAC would be different than the LOA for harvest of surf clams and ocean quahogs from the Georges Bank Closed Area, which requires a federal fishing permit and adherence to a PSP testing protocol developed with FDA through years of research harvest and testing. *See* NOAA, LETTER OF AUTHORIZATION (LOA) REQUEST FORM 8-9 (2013) (citing U.S. FOOD & DRUG ADMIN., EXAMPLE OF PROTOCOL FOR ONBOARD SCREENING AND DOCKSIDE TESTING FOR PSP IN CLOSED FEDEARL WATERS (n.d.)).

94 Personal Communication with Maney & Fregeau, *supra* note 82.

95 Atlantic Surfclam and Ocean Quahog Fishery, 79 Fed. Reg. 59,150 (Oct. 1, 2014) (final rule lifting Northern Temporary Paralytic Shellfish Poisoning Closed Area for the harvest of bivalve molluscan shellfish).

96 *See* USACE, *Final Individual Permits* (2015), <http://geo.usace.army.mil/egis/f?p=340:2:0::NO:RP> (filed under New England District, noting issuance of permit with special conditions on January 7, 2015).

97 NEW ENGLAND DIST., USACE, FILE NO. NAE-2013-1584, PUBLIC NOTICE: DOMENIC SANTORO (Sept. 13, 2013).

98 USACE, *August Monthly Permitting Decisions* 4 (2014), available at <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/PermitsIssued/Aug2014.pdf> (noting issuance of permit with special conditions on August 21, 2014).

99 *See* Lonnie Shekhtman, *US waters create potential for shellfish farming*, BOSTON GLOBE (Nov. 23, 2014), available

Catalina Sea Ranch

In 2012, KZO SeaFarms (now Catalina Sea Ranch) submitted a permit application to USACE's Los Angeles District for a commercial-scale shellfish facility located on the San Pedro shelf offshore from Huntington Beach, California.¹⁰⁰ KZO originally proposed to occupy 1,076 acres approximately five miles from the coast, but the project was subsequently modified to cover 100 acres approximately 8.5 miles offshore, where the operator will culture approximately 25,000 pounds of Mediterranean mussels (*Mytilus galloprovincialis*) and Pacific oysters (*Crassostrea gigas*) each year on submerged longlines.¹⁰¹ KZO selected the proposed location and depth of lines in consultation with USCG in order to avoid conflicts with shipping and nearby oil platforms and pipelines. It also attempted to anticipate and address concerns raised during consultation and enable a more efficient permitting process by developing and submitting substantial scientific information and letters in support of its application.¹⁰²

The Corps' preliminary review indicated that an EIS was not required, that the project would not affect coastal resources or require state water quality certification, and that it would not affect cultural resources or threatened or endangered species. However, the preliminary review did identify potential adverse impacts on EFH, triggering consultation requirements with NOAA pursuant to the MSA.¹⁰³ Following pre-consultation and preliminary analysis, the Corps issued the public notice of permit application, which also served as the basis for interagency consultation.¹⁰⁴

The Corps received a number of public comments in response to the public notice, including 10 letters from the public and agency comments from EPA, USCG, and NOAA.¹⁰⁵ NOAA submitted a single set of comments (combining input from multiple NOAA offices) on the proposed project. It commented that the project, in general, is consistent with the national shellfish initiative and NOAA's goal of increasing domestic aquaculture production. However, NOAA recommended some project modifications to

at <https://www.bostonglobe.com/business/2014/11/23/musseling/85M5oCVF8XorWFuAFVVo8M/story.html> (describing proposed farm site and production plan).

100 LOS ANGELES DIST., USACE, PUB. NOTICE NO. SPL-2012-00042-DPS, APPLICATION FOR PERMIT: KZO MARICULTURE PROJECT (2012) [hereinafter CATALINA APPLICATION]. The initial application sought a larger project but reduced the area to 100 acres after initial consultation with NOAA. The proposed species are not regulated by the Pacific Fishery Management Council pursuant to the MSA; as a result, no separate NOAA permit or notice was required that would suggest NOAA should lead the permitting process.

101 Memorandum from Cassidy Teufel to California Coastal Commissioners and Interested Parties 1, 7-8 (Jan. 7, 2014) [hereinafter CCC Staff Report].

102 CATALINA APPLICATION, *supra* note 101.

103 *Id.* at 2-3; see also MSA REPORT, *supra* note 3.

104 CATALINA APPLICATION, *supra* note 101, at 2-3.

105 Personal Communication with USACE (Nov. 2014).

address adverse impacts on EFH and raised concerns about marine mammal and endangered species entanglement. Based on project modification, USACE reissued a revised public notice and again received comment letters, including from the Bureau of Safety and Environmental Enforcement within the Department of Interior, USCG, and oil and gas platform operators.¹⁰⁶ Following consultation and public comment on the revised notice, the Corps issued a provisional permit pending the completion of review of the permit for consistency with state law.

Table 1. Conditions for Concurrence with Catalina Sea Ranch Permit

1. Offshore Mariculture Monitoring Program
2. Marine Wildlife Entanglement
3. Lighting and Operations at Night
4. Construction Monitor
5. Notice to Mariners
6. Spill Prevention and Control Plan
7. Lost/Damaged Fishing Gear Compensation Program
8. Update NOAA Charts
9. Letter of Credit
10. Facility Removal
11. Discharge of Biological Materials
12. Marine Debris
13. Invasive Species

The California Coastal Commission (CCC) requested and received authorization from OCRM to conduct a consistency review of the KZO SeaFarms project pursuant to the CZMA, resulting in both independent review and a second, state-led public comment period.¹⁰⁷ Unlike the Corps process, the CCC received a variety of public comments from fishing interests, environmental organizations, and the Pacific Fisheries Management Council.¹⁰⁸ Following public comment and after completing its own review, the CCC concurred with the permit pending compliance with 13 special conditions (Table 1),

¹⁰⁶ *Id.*

¹⁰⁷ Approval was required because the project was outside of the geographical boundaries where consistency review is required by default. *CCC Staff Report, supra* note 102, at 12-13.

¹⁰⁸ See *CCC Staff Report, supra* note 102 (compiling comments); PAC. FISHERY MGMT. COUNCIL, DECISION SUMMARY DOCUMENT NOVEMBER 1-6 2013, at 1 (2013); PAC. FISHERY MGMT. COUNCIL, AGENDA ITEM D.1.B, SUPPLEMENTAL HABITAT COMMITTEE REPORT 2 (Nov. 2013) (directing habitat committee to express concerns to the CCC “regarding EFH and the necessity of habitat monitoring that can inform decisions on the KZO project, both for the current process and potential future expansion”).

several of which require KZO to develop plans and obtain approval from the CCC prior to construction and to monitor the site for environmental impacts during and after construction.¹⁰⁹ As KZO accepted all the CCC special conditions, the Corps has finalized and issued the permit, and the modified project is expected to go forward once KZO has obtained approval for its plans.¹¹⁰

Kampachi Farms

Kampachi Farms has for several years operated offshore aquaculture projects culturing marine finfish in waters off Hawaii.¹¹¹ After a “beta trial” phase, which tested a floating cage tethered to a vessel (and therefore did not require a section 10 permit), Kampachi Farms applied to the Corps’ Honolulu District for a section 10 permit to operate an anchored feed barge and cage facility to raise almaco jack (*Seriola rivoliana*) between six and seven miles off the Kona Coast of Hawaii.¹¹² The facility design consists of a feed barge permanently moored in approximately 1000 fathoms of water, attached to a “CuPod” in which the hatchery-sourced fish would be grown to market size; the barge and CuPod would swing freely about the mooring.¹¹³

The Corps issued the required public notice of the application in March, 2013, indicating proposed BMPs to minimize impacts to waters, noting that water quality and CZMA consistency certifications were required,¹¹⁴ and stating that consultation with NOAA regarding potential impacts on EFH and

109 CCC Staff Report, *supra* note 102. Initial review recommended conditional concurrence based on 12 conditions. CCC staff subsequently issued an addendum recommending adding condition 13 and modifying condition 2; the addendum also indicates that KZO accepted all the conditions, resulting in a modified recommendation that the Commission concur. *Id.* at 1. The CCC adopted its staff recommendation in January 2014. See CCC, JANUARY 2014 AGENDA (Jan. 7, 2014), available at <http://www.coastal.ca.gov/meetings/mtg-mm14-1.html> (last visited Feb. 2, 2015) (noting that Agenda Item No. W16a, “Consistency Certification by KZO SeaFarms,” was approved).

110 Chris Richard, *California Aquaculture Companies Explore Sustainable Fish Farming*, KQED SCIENCE (Sept. 8, 2014), <http://blogs.kqed.org/science/2014/09/08/aquaculture-companies-explore-sustainable-fish-farming/>.

111 Kampachi Farms is building off prior efforts carried out by Kona Blue Water Farms, an independent entity that has now ceased operations.

112 HONOLULU DIST., USACE, PERMIT FILE NO. POH-2012-00016, PUBLIC NOTICE OF APPLICATION FOR PERMIT (2013) [hereinafter KAMPACHI FARMS PUBLIC NOTICE]. The Honolulu District has also reviewed a 2010 application by Ahi Aquaculture for a five-year permit to carry out a pilot project to test materials, design, and operation of equipment for tuna cultivation in state waters, 2.6 nautical miles from Hawaii. HONOLULU DIST., USACE, PERMIT FILE NO. POH-2009-0263, PUBLIC NOTICE OF APPLICATION FOR PERMIT (2010). As this application pertains to state waters, it is not considered in detail here.

113 KAMPACHI FARMS PUBLIC NOTICE, *supra* note 113, at 5-6.

114 Hawaii considered conducting a consistency review of the project but did not do so due to the limited size of the project, while recognizing that larger scale facilities would likely trigger full consistency review. Personal Communication with Neil Sims (Dec. 2013).

endangered species would be conducted concurrently with issuance of the public comment.¹¹⁵

NOAA initially took on lead agency permitting and responsibility for NEPA compliance related to the project because Kampachi Farms needed to obtain a Special Coral Reef Ecosystem Fishing Permit (SCREFP) from NOAA in addition to a section 10 permit from USACE.¹¹⁶ NOAA therefore developed an environmental assessment that resulted in a finding of no significant impact, published in October, 2013.¹¹⁷ The Corps issued Kampachi Farms a section 10 permit during the NOAA process and before NOAA made a final SCREFP determination, thereby allowing Kampachi Farms to install the facility but not stock it with fish. NOAA issued the SCREFP in November, 2013, allowing the project to go forward.¹¹⁸

115 KAMPACHI FARMS PUBLIC NOTICE, *supra* note 113, at 1-2.

116 The SCREFP was required because Western Pacific Fishery Management Council manages *S. rivirolana* as a reef fish pursuant to the MSA. The company had previously obtained a separate SCREFP for the *Veella* beta trial. See MSA REPORT, *supra* note 3 (discussing prior project and surrounding litigation).

117 Fisheries in the Western Pacific; Special Coral Reef Ecosystem Fishing Permit, 78 Fed. Reg. 66,683 (Nov. 6, 2013) (citing PAC. ISLANDS REG'L OFFICE, NOAA, DOC. NO. RIN 0648-XC791, ENVIRONMENTAL ASSESSMENT FOR THE ISSUEANCE OF A SPECIAL FISHING PERMIT TO AUTHORIZE THE USE OF AN ANCHORED POD TO CULTURE AND HARVEST A CORAL REEF ECOSYSTEM MANAGEMENT UNIT SPECIES, *SERIOLA RIVOLIANA*, IN FEDERAL WATERS WEST OF HAWAII ISLAND (Oct. 25, 2013)).

118 Fisheries in the Western Pacific; Special Coral Reef Ecosystem Fishing Permit, 78 Fed. Reg. 66,683 (Nov. 6, 2013).

CONCLUSIONS

The RHA is one of the primary mechanisms for regulating aquaculture in federal ocean waters, along with the MSA and section 402 of the CWA. The Corps' implementation of the RHA could be improved in several critical respects to ensure that offshore aquaculture permitting considers the full suite of impacts that are within its statutory authority and results in decisions that avoid and mitigate harm to the environment and conflicts with other stakeholders. section 10 permitting will be most effective in protecting the public interest when all offshore aquaculture facilities are reviewed at the same level as those in state waters through a coordinated and effective interagency and federal-state consultation process; when the resulting projects and facilities select sites that minimize impacts on and conflicts with stakeholders; and when permitting data is readily accessible by the public.

The Corps can best protect the public interest by ensuring that offshore aquaculture activities are regulated in a manner consistent with nearshore aquaculture facilities.

Offshore facilities enjoy a reduced regulatory burden in comparison to facilities in state waters. While facilities in federal waters may be subject to regulatory obligations under the MSA, CWA, and other laws, they generally are not subject to the suite of substantial and well-developed regulatory and permitting programs that apply in state, but not federal, waters, including section 404 of the CWA and state government leasing, licensing, and permitting programs.¹¹⁹ These programs impose important conditions to avoid and mitigate environmental impacts associated with facility siting, design, and operation that are not otherwise comprehensively addressed, but are nonetheless important, in offshore areas.¹²⁰ Producers may enjoy a significant incentive to operate in federal ocean waters in the absence of comparable protections. The Corps can best protect the public interest using its broad section 10 authority to incorporate permit conditions in offshore aquaculture permits that are equivalent to those applicable in nearby state waters.

119 For some discussion on state regulation of aquaculture, see PEW MARINE AQUACULTURE TASK FORCE, SUSTAINABLE MARINE AQUACULTURE: FULFILLING THE PROMISE; MANAGING THE RISKS 29 – 33 (Jan. 2007), available at <http://www.pewtrusts.org/~media/legacy/uploadedfiles/peg/publications/report/Sustainable20Marine20Aquaculturepdf.pdf> and PAUL ZAJICEK, DIV. OF AQUACULTURE, FLA. DEP'T OF AGRIC. & CONSUMER SERVS., ATLANTIC COASTAL STATE SHELLFISH FARMING LEASE OR PERMIT REGULATIONS (2014), available at <http://www.ecsga.org/Pages/Regulations/StateRegulations2014.pdf>.

120 Some argue that offshore aquaculture produces lower or no environmental impacts (e.g., due to dilution), so there is no need to apply the laws applicable in state waters. However, little data is available to determine impacts, and cumulative impacts will be an increasing problem if offshore production is to expand to the commercial scale. A precautionary approach would assume that section 404 and state laws are effective for reducing impacts, and would apply them until they are shown to be unnecessary. This is particularly the case where, as discussed further in this section, no alternative regulatory options may exist.

The Corps is the primary or sole permitting agency for many offshore aquaculture projects, and as such bears responsibility for ensuring that the federal government does not allow facilities to avoid important environmental protections by locating in federal ocean waters. In some cases, other regulatory programs, notably the MSA and section 402 of the CWA, require permits that address an array of impacts associated with offshore aquaculture facility operation, and District Engineers may reasonably rely on these permits when processing section 10 permits for offshore aquaculture. However, MSA regulation of offshore aquaculture is inconsistent from region to region and often does not apply to proposed facilities, and CWA permits are limited in scope and do not apply to shellfish. State consistency review under the CZMA may also fill some gaps between permitting in state and offshore waters; in the one case where consistency review was required, the process resulted in a permit with substantially more conditions, covering impacts and requiring robust monitoring requirements that were not included in the Corps' provisional section 10 permit. States do not always request or receive approval for consistency review, however, such as where OCRM denied Massachusetts's request for review of the NEMAC permit. As a result, some impacts may not be considered or addressed by any agency unless included in a section 10 permit.

The Corps has the legal authority to address the full suite of impacts of offshore aquaculture. The broad language and historical interpretation of the RHA provide the Corps with a strong platform to require consistent environmental protections in state and federal ocean waters.¹²¹ Section 10 provides authority to consider direct, indirect, and cumulative impacts of offshore aquaculture facility construction and operation and to impose conditions to avoid and mitigate those impacts. When evaluating a permit application, the Corps must consider regulatory factors and criteria related to “the needs and welfare of the people,” including safety, navigation, and environmental concerns,¹²² and it has expansive authority to impose any permit conditions necessary to protect the public interest. Under this authority, the Corps may impose conditions consistent with those imposed in state waters pursuant to state law, section 404, and other applicable laws and programs, thus avoiding inconsistency in permits from state to state depending on whether a state seeks or receives approval for formal consistency review under the CZMA.

The Corps has indicated that it may decline to address certain reasonably foreseeable impacts arising from facility operation, as opposed to construction.¹²³ This determination may create a regulatory loophole in cases where no MSA permit is required and/or state consistency review does not occur. As such, exclusion of certain categories of impacts is problematic and should not occur absent a clear,

121 See 33 C.F.R. § 320.4.

122 *Id.* § 320.4(a)(1).

123 Personal Communication with USACE (Nov. 2014).

convincing rationale —particularly where other permits are not required and these parameters (e.g., species selection, broodstock usage, chemical applications, and others) would otherwise go unaddressed. The Corps can provide substantially stronger public interest protection by using its broad discretion to consider and develop conditions to address the full range of impacts associated with aquaculture development.

The Corps can improve offshore aquaculture permitting by issuing guidance for Districts on offshore permit considerations and consultation.

The Corps is often the central permitting authority for offshore aquaculture projects, and its Districts have necessarily taken a lead role in permitting. However, offshore aquaculture is a new activity, and District Engineers therefore have limited or no prior experience with project permitting and cannot rely on past examples of similar applications. While some staff may have reviewed applications for aquaculture projects in state waters, even this experience may be rare, especially in Districts with one or more extant PGPs devolving responsibility for aquaculture permitting in state waters to the responsible state agency. The novelty of offshore aquaculture permitting requirements may lead to inconsistent and incomplete consideration of potential environmental, economic, and social impacts during the Corps' public interest review, especially where public notices do not reach affected stakeholder groups and consultation with other agencies is limited. Indeed, the Corps' public notice in California yielded many fewer comments than the CCC received as part of consistency review.

The Corps could facilitate consistent, effective, and efficient permitting by developing national guidance to assist its Districts in effectively carrying out their statutory duty to protect the public interest when faced with a section 10 permit application for an offshore aquaculture facility. This guidance would provide a foundation to improve all aspects of decision-making, including inter-agency coordination. The guidance would include information on relevant factors and impacts in making public interest determinations in this context (e.g. fisheries (recreational and commercial), navigation, protected species, entanglement, shipping, oil/gas infrastructure, etc.), examples of regionally appropriate permit conditions, and examples of existing projects and challenges faced. The guidance would also include information to help facilitate consultation and coordination among the agencies starting at the pre-consultation phase (i.e., before there is an active permit application) and to help the Corps communicate more clearly with applicants throughout the permitting process. Ultimately, such guidance would help to ensure that the permitting process is smooth, that the agencies involved effectively communicate, and that the eventual permits contain conditions that effectively address environmental impacts associated with offshore aquaculture.

Internal agency guidance can give Corps staff the tools to anticipate consultation and meet their section 10 responsibilities. In addition, interagency guidance can streamline permitting across multiple agencies and statutes. USACE staff must actively consult with and incorporate feedback and conditions identified by multiple outside federal and state agencies and offices, each with a unique mandate and needs. For example, NEMAC's permit has required the Corps or applicant to consult or coordinate with:

- NMFS Office of Sustainable Fisheries;
- NMFS Office of Protected Resources;
- NOAA OCRM;
- Stellwagen NMS;
- U.S. Food and Drug Administration;
- USCG;
- EPA; and
- Massachusetts Office of Coastal Zone Management.

Recent experience shows that federal and state consultation and review can substantially broaden the environmental protections incorporated into RHA permits for offshore aquaculture. However, consultation can be complex and time-intensive, particularly where applicants have not engaged with all relevant agencies and stakeholders in advance of the permit application. It may also be challenging for USACE staff to identify what consultations may be required or valuable, as they may not regularly interface with some laws and offices, such as National Marine Sanctuaries. As a result, relevant agencies may not be aware of outstanding public notices until late in the public comment process, if at all, resulting in overlapping and potentially contradictory input even from within a single agency.

Steps towards developing interagency guidance are underway. The Regulatory Working Group of the Interagency Task force on Aquaculture is working to develop coordinated procedures for permitting under section 10, the MSA, and section 402 of the CWA. The Corps is to be commended for participating in this interagency effort, which may substantially improve the permitting experience for both agencies and applicants. This framework is just a first step, however, and could be extended to support guidance for each agency's staff to assist them in meeting their internal statutory obligations while being cognizant of other agency processes. We encourage the Corps to support such an extension in partnership with its sister agencies.

Legislative or regulatory action is required to ensure that floating, unmoored aquaculture facilities on the Outer Continental Shelf do not become a hazard to navigation.

The RHA and OCSLA authorize the Corps to regulate offshore aquaculture facilities on the OCS, but this authority currently extends only to facilities that are “permanently or temporarily attached to the seabed.”¹²⁴ As a result, unmoored facilities beyond state jurisdiction do not require section 10 permits, even though such facilities have the potential to affect navigation. The “beta” floating facilities used by Kampachi Farms appear to be the only facilities to date that have used an unmoored model. While Kampachi Farms has not continued to expand on this model, it is possible that in years to come, technological or other improvements may result in an expansion of unmoored facilities. If facilities that are not “attached to the seabed” become more common, legislative action will be needed to ensure that these facilities are appropriately regulated to ensure that they do not pose a hazard to navigation.

The regulatory gap pertaining to floating, unmoored facilities is unlikely to be adequately filled by other permitting regimes. Most floating, unmoored aquaculture facilities will be subject to some legal oversight, which may include permitting under the MSA and marking as private aids to navigation pursuant to USCG regulations.¹²⁵ However, these programs complement, rather than replace, the Corps’ role as central regulator for navigational safety for non-vessel structures in marine waters, and as noted, alternate permit regimes may not apply in all cases. The Corps may have the ability to fill this gap by amending its regulatory definitions to provide that section 10 applies throughout the current U.S. territorial seas (out to 12 nautical miles from shore) or to the entirety of the OCS or exclusive economic zone; however, in the absence of such a rulemaking, legislative action would be required to enable the Corps to permit these facilities.

While producers should be encouraged to develop emerging technologies and methods for offshore production, it is important that new methods not impose unwanted externalities. Congress can best ensure that floating, unmoored facilities are subject to oversight by authorizing the Corps to regulate them under section 10 and OCSLA. With such statutory authority, the Corps could ensure that these novel facilities are not a hazard to navigation and are otherwise adequately permitted.

124 43 U.S.C. § 1333(a)(1); *see supra* notes 13-14 and accompanying text.

125 Floating, unmoored facilities would not be “vessels” under USCG regulation because they generally would not be capable of being used as a means of transportation. 1 U.S.C. § 3 (defining vessel as “every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water”). However, USCG marking requirements will apply to floating facilities. 33 C.F.R. § 64.21, *citing id.* § 66.01-5 (requiring owner or operator of any structure to apply for authorization to mark the structure in accordance with the PATON requirements); *see also id.* § 64.06 (defining “structures” to include “any fixed or floating obstruction, intentionally placed in the water, which may interfere with or restrict marine navigation”).

support and planning tool could improve offshore aquaculture facility permitting under section 10 and other laws by empowering applicants to anticipate and avoid conflicts before the permitting system is underway.

The Corps can protect the public interest by ensuring that all permits and associated data are made publicly available in a database.

The offshore aquaculture industry is new and its impacts are poorly understood. While we generally understand what types of environmental impacts to consider during permitting, industry, stakeholders, and agency staff may all struggle to identify models and data that they can use to evaluate and meaningfully address those impacts.

Agencies, including the Corps, can provide a strong foundation for offshore aquaculture permitting by providing for generation and disclosure of key information, including permits, environmental assessment documents, and monitoring data collected under permits. However, the Corps does not currently maintain an accessible or searchable database of section 10 permits that contains key permit documentation. While the Corps maintains a permit database, the public interface is not searchable and contains only information on permit decisions and location rather than links to the underlying public notice, permit, administrative record or other documentation. As a result, freedom of information requests are required to obtain information on permits, significantly increasing the difficulty of assessing whether permits consistently require key conditions, such as generation and disclosure of monitoring or other data. By conditioning permits on public access to data and developing a public, searchable database, the Corps could enable producers to build upon past experience in project siting and design, assist public stakeholders in understanding and reviewing the impacts associated with this new industrial sector, and help District staff develop more effective permits on shorter time frames by enabling them to quickly identify conditions used in similar projects in the past and to assess the effectiveness of those permit conditions.

The Corps can support effective permitting by supporting and participating in multi-stakeholder development of a tool for offshore aquaculture site selection and facility design.

Prudent site selection is critical to avoid and minimize the potential environmental impacts and user conflicts associated with offshore aquaculture. Despite substantial effort by applicants to work proactively with other user groups to select acceptable sites, however, siting has consistently proven to be a major sticking point in recent permitting processes, and it promises to become more so as commercial-scale development leads to increased competition for suitable locations. A decision support and planning tool could improve offshore aquaculture facility permitting under section 10 and other laws by empowering applicants to anticipate and avoid conflicts before the permitting system is underway.

It can be difficult to predict the conflicts that will arise in the context of a particular offshore aquaculture proposal. For example, more than 20 gear types regularly use different areas off New England, and applicants may not consider all of them even if they do consult with fishing interests. In many cases, siting recommendations also may be contradictory, such as where a location does not conflict with fishing interests but does interfere with oil and gas platform servicing. As a result of the complexity of site selection, several recent projects have been relocated and their design substantially altered to address user and environmental conflicts—despite efforts to identify and avoid conflicts in advance. While conflicts have been identified and addressed during the permitting process, a tool that empowers aquaculture proponents to identify and characterize potential issues at a site-specific level during the project planning stage would enable a better and more efficient approach for the Corps and applicants alike. With such information, applicants can select locations with lesser conflicts and proactively address and minimize conflicts that appear unavoidable.

The Corps can support effective and efficient offshore aquaculture permitting by working collaboratively with other agencies and stakeholders to develop a site selection and facility design tool. Such a tool would ideally provide information on the oceanographic conditions, uses, potential impacts, and regulatory conditions in particular areas—thus assisting in identifying good locations for aquaculture production as well as the specific challenges associated with each location. This information would help applicants select sites that are economically sustainable, avoid and minimize impacts on other users and on the environment, and predict what consultations and permits are needed. By identifying applicable site selection and project design criteria and highlighting coordination needs at the beginning of a project, such a tool could reduce conflicts and result in better, faster permitting processes.

Tool development will necessarily be the work of many organizations, and the Corps should support and work with interagency efforts to develop such a tool in close coordination with other regulatory and planning bodies and initiatives, including NOAA offices, state coastal zone agencies, Regional Planning Bodies created under the national Ocean Policy,¹²⁶ and nongovernmental stakeholders.

In addition, the tool must leverage and build upon past and ongoing efforts, such as the Northeast Ocean Data Portal¹²⁷ and Marine Cadastre.¹²⁸ When complete, such a tool would provide an important resource for both agencies and industry throughout the siting and permitting process.

126 Exec. Order No. 13547, 75 Fed. Reg. 43023 (July 19, 2010)

127 The Northeast Ocean Data Portal is available at <http://www.northeastoceandata.org/>.

128 BOEM & NOAA, *An Ocean of Data*, <http://www.marinecadastre.gov/> (last visited Feb. 2, 2015).



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