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Attention: Regulations and Standards Branch
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Re: Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 1010– AD30, 73 Fed. Reg. 39,376 - 39,504 (July 9, 2008), and Alternative Energy Program Rulemaking Draft Environmental Assessment

Submitted via website, email, and U.S. mail on September 8, 2008.

Dear Ms. Bornholdt and Mr. Bennett:

On behalf of Food & Water Watch (FWW), a nonprofit consumer organization that works to ensure safe food and clean water, please accept these comments on the Minerals Management Service's (MMS) proposal for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 1010– AD30,[1] and Alternative Energy Program Rulemaking Draft Environmental Assessment (EA).[2] FWW has submitted comments on the agency's Advanced Notice of Proposed Rulemaking,[3] Notice of Intent to Prepare a Programmatic Environmental Impact Statement (PEIS),[4] Draft PEIS,[5] and Notice of Preparation of an EA[6] for this rulemaking. FWW includes all of these comments as attachments and incorporates them by reference, including all supporting materials cited therein.

As detailed more fully below, FWW is very concerned about one particular alternate use of existing Outer Continental Shelf (OCS) energy facilities for which MMS says it has the authority under the Energy Policy Act of 2005 (the Act) to issue Rights of Use and Easements (RUEs): offshore aquaculture, or fish farming. Offshore aquaculture involves the raising of carnivorous finfish, such as cod, halibut, and red snapper, in often large, crowded cages where fish waste and chemicals flush straight into the open ocean.

FWW is very concerned about the effects that the establishment of large-scale commercial fish farms in federal waters will have on the environment, human health, and the economies of local fishing communities. Because MMS has no authority under the that Act to

[1] 73 Fed. Reg. 39,376-39,504 (July 9, 2008).
[2] Minerals Management Service, Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf: proposed Rules, Draft Environmental Assessment http://www.mms.gov/offshore/PDFs/DraftEA-AEAU_ProposedRule-070308.pdf.
[3] 70 Fed. Reg. 77,345-77,348 (December 30, 2005).
[4] 71 Fed. Reg. 26,559-26,560 (May 5, 2006).
[5] 72 Fed. Reg. 13,307-13,308 (March 21, 2007).
[6] 73 Fed. Reg. 10,284 (February 26, 2008).

convey property interests for offshore aquaculture unless they have been specifically authorized by Congress, and, in any event, because MMS has insufficient expertise to regulate this new industry, we urge MMS to drop its unauthorized and unwise plans to issue RUEs for offshore aquaculture. If the agency chooses to go forward, MMS should not set up a program for regulating offshore aquaculture without strong safeguards to protect the environment, public health, and local fishing communities. In addition, these comments provide MMS notice that it must draft and circulate a Supplemental EIS. A failure to do so would be in violation of the National Environmental Policy Act (NEPA).[7]

COMMENTS

I. MMS should to drop its unauthorized and unwise plans to issue Rights of Use and Easements for marine-related uses such as aquaculture.

The preamble to MMS's proposal states that the agency believes it has the authority, under Section 388 of the 2005 Energy Policy Act, to issue RUEs for all non-currently-authorized, marine-related activities in the Outer OCS, so long as those activities are to use alternative and conventional energy facilities.[8] One such marine-related activity that the proposal lists is offshore aquaculture.[9]

As FWW details in a separate letter, however, under Section 388, MMS may not grant every activity with marine-related purposes such property interests. Rather, the agency may only do so when such activities have been "authorized." The authorization must come from either a separate Act of Congress or from an administrative agency acting pursuant to separate statutory authority.

Since Congress has not specifically authorized offshore aquaculture in federal waters – having not yet considered offshore aquaculture legislation[10] – the agency certainly has no authority under the Energy Policy Act of 2005 to convey property interests to aquaculture in federal waters. This interpretation is not only supported by the statute's plain language, but its legislative history. Before the House-Senate conference committee agreed on the bill's conference report language, which was then passed by the House and Senate and signed into law, the committee specifically rejected the House version of the bill that did not include this "authorized" language, thus indicating that this language was a purposeful addition to the statute.[11]

Even if MMS does not support this particular interpretation of Section 388, MMS would still be obligated to ensure, among other things, that all RUEs it issues address safety; protect the environment; prevent waste; conserve natural resources of the OCS; protect correlative rights in the OCS; prevent the interference with other reasonable uses; consider any other use of the sea or seabed, including use for a fishery, sea lane, or navigation; provide public notice and comment on

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[7] 42 U.S.C. §§ 4331-4335 (2000).
[8] 73 Fed. Reg. at 39, 435.
[9] *Id.*
[10] *See* H.R. 2010 and S. 1609, the National Offshore Aquaculture Act of 2007, 110th Cong. at § 2 (a)(2) ("It is the policy of the United States to. . . [e]ncourage the development of environmentally responsible offshore aquaculture by *authorizing* offshore aquaculture operations . . .") (emphasis added).
[11] *Compare* H.R. 6, Energy Policy Act of 2005 (Engrossed as Agreed to or Passed by House), 109th Cong (2005) § 321 to H.R. 6, Energy Policy Act of 2005 (Engrossed Amendment as Agreed to the Senate), § 321, 109th Cong. (2005) and H.R. 6, House Report 109-190, § 388.

any proposal; oversight, inspection, research, monitoring, and enforcement.[12] This would be no small feat for the agency. A 2007 report, *Sustainable Marine Aquaculture: Fulfilling the Promise; Managing the Risks,* by the Marine Aquaculture Task Force, a panel of experts with scientific, regulatory, business, and policy-making backgrounds that was established to evaluate key issues related to regulating aquaculture operations in marine waters, states: "Little is known about the assimilative capacity of the marine environment for the wastes produced by aquaculture operations. . . . Pollution from a greatly expanded industry could have significant effects locally and regionally."[13]

Further, international experience from offshore fish farms in the Mediterranean and elsewhere should give MMS cause for concern. Water flowing out of fish farms carries excessive nutrients (e.g., phosphorus and nitrogen),[14,15] particulates, metals,[16] pesticides[17] and other chemicals that may pose serious problems to water quality and the environment.[18] For example, a salmon farm of 200,000 fish releases as much nitrogen, phosphorus, and fecal matter into the water as is present in the untreated sewage from 20,000, 25,000 and 65,000 people, respectively.[19] Such waste can contribute to eutrophication in nearby waters,[20] leading to harmful algae blooms, fish and seabed animal kills, and shellfish poisoning.[21]

It should be noted that, while Clean Water Act (CWA) discharge permits are required for some marine aquaculture facilities, in putting together its guidelines for discharge permits for aquaculture facilities, EPA did not examine the cumulative effects of wastes from new marine offshore aquaculture facilities.[22] Further, these guidelines do not require effluent monitoring. Rather, they require simply Best Management Practices, "that that will most often include measures to observe the addition of feed to the pen."[23] They are not outcome-based standards, so, as the *Sustainable Marine Aquaculture* indicates, the "nonquantitative approach allows neither

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[12] Amended Section (p) (4) of the Outer Continental Shelf Lands Act, P.L. 109-58 (August 8, 2005).
[13] Marine Aquaculture Task Force, "Sustainable Marine Aquaculture: Fulfilling the Promise; Managing the Risks." January 2007.
[14] Holmer, M. et al. "Sedimentation of organic matter from fish farms in oligotrophic Mediterranean assessed through bulk and stable isotope ($\delta^{13}C$ and $\delta^{15}N$) analyses." *Aquaculture,* 262: 268-280, 2007.
[15] Islam, Md. Shahidul. "Nitrogen and phosphorus budget in coastal and marine cage aquaculture and impacts of effluent loading on ecosystem: review and analysis towards model development." *Marine Pollution Bulletin,* 50,1: 48-61, January 2005.
[16] Choi, Monica Heekyoung and Cech, Joseph J. "Unexpectedly High Mercury Level in Pelleted Commercial Fish Feed." *Environmental Toxicology and Chemistry,* 17(10): 1979-1981, 1998.
[17] U.S. Environmental Protection Agency, "Economic and Environmental Benefits Analysis of the Final Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Industry Point Source Category," June 2004.
[18] *Id.*
[19] *See* Goldburg, R., Elliot M., and Naylor, R., "Marine Aquaculture in the United States, Environmental Impacts and Policy Options," 2001., citing Hardy, R.W., 2000b, Fish, Fish feeds, & Nutrition in the New Millennium, *Aquaculture Magazine* 26 (1): 85-89.
[20] *See* Goldburg, et al., *supra,* note 19.
[21] *See* Scottish Association for Marine Science and Napier University, "Review and Synthesis of the Environmental Impacts of Aquaculture, 2002."
[22] U.S. Environmental Protection Agency, "Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category; Notice of Data Availability," 58 Fed. Reg. 75067-105 (December 29, 2003).
[23] U.S. Environmental Protection Agency (EPA), Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category, 69 Fed. Reg. 51,891, 51,912 (August 23, 2004).

meaningful assessment nor mitigation of cumulative impacts from aquaculture operations."[24] Further, these standards do not limit the use of pesticides, drugs, or other chemicals used in aquaculture.[25]

Offshore marine aquaculture may also contribute to sediment damage due to organic matter from feed waste and excrement. The excess nutrients can accumulate in sediments below the farms, lowering oxygen levels in water and sediments, causing a reduction in the biological diversity of the seabed. Recovery can take several years.[26] A study in 2007 of sea bass and gilthead sea bream operations in the Mediterranean Sea found significant sedimentation of feces and uneaten feed underneath fish farms placed at depths of about 50 to 90 feet with swift currents.[27] The impact was not limited to the area directly under the cage, with various environmental factors affecting the radius of sedimentation. Another 2007 study of fish farms in the Mediterranean found a 50 percent greater rate of sedimentation on ocean floor up to 800 feet from the cages than in the control areas.[28]

The one published study of offshore aquaculture in the United States found that cages, even in deep open ocean waters (35 meters deep, with bottom currents estimated to be no stronger than 50 cm/s), had "grossly polluted" the sea floor and "severely depressed" marine life at some sampling sites very close to the fish cages and that, over the course of 23 months, these effects had spread to sites up to 80 meters away.[29]

In addition, ecosystems surrounding the cages may be altered due to the fish and invertebrate aggregations, disrupting the ecological equilibrium for years to come.[30] An April 19, 2006 study by Canadian researchers found that one possible ecological effect of salmon-farm pollution is increased mercury contamination in surrounding wild-caught fish populations. The researchers sampled fish caught in the traditional fishing grounds of indigenous people and found that mercury was significantly higher in wild fish caught near the salmon farms than far from them. This contamination was attributed to fish-farm waste, which may be altering the food web, forcing wild fish to eat more highly contaminated organisms. The researchers also believed that the fish farm waste might be tainted with mercury and might be altering water chemistry to make the mercury in surrounding sediments more easily absorbed by aquatic organisms.[31]

Disease from aquaculture operations can also harm local wild-fish populations. A study in the December 14, 2007 issue of the journal *Science* showed that parasitic sea lice infestations

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[24] Marine Aquaculture Task Force, *supra*, note 13, at p. 80.
[25] 69 Fed. Reg. at 51,899 ("In the final rule, EPA is also not establishing numeric limits for any drug or pesticide, but is requiring CAAP facilities to ensure proper storage of drugs, pesticides and feed to prevent spills and any resulting discharges of drugs and pesticides.")
[26] *See* Scottish Association for Marine Science and Napier University, *supra*, note 21.
[27] Holmer, M. et al., *supra*, note 14.
[28] Holmer, Marianne and Frederiksen, Morten. "Stimulation of sulfate reduction rates in Mediterranean fish farm sediments inhabited by the seagrass *Posidonia oceanica*." *Biogeochemistry*, 85: 169-184, 2007.
[29] Lee, Han W. et al., Temporal Changes in the Polychaete Infaunal Community Surrounding a Hawaiian Mariculture Operation." *Marine Ecology Progress Series*, Vol. 307, 175–185 (January 2006).
[30] Alston, D.E., Cabarcas, A., Cappella, J., Bennetti, D.D., Keene-Meltzoff, S., Bonilla, J., Cortès, R., Environmental and Social Impacts of Sustainable Offshore Cage Culture Production in Puerto Rican Waters University of Puerto Rico - University of Miami, unpublished, 2005.
[31] Dubruyn, A.M., Trudel, M. Eyding, N.A., Harding, J., McNally, H., Mountain, R., Orr, C., Urban, D., Verenitch, S., Mazumder, A., Ecosystemic Effects of Salmon Farming Increase Mercury Contamination in Wild Fish, Environ. Sci. & Technol. Published on web April 19, 2006.

caused by salmon farms in British Columbia are driving nearby populations of wild salmon toward extinction. The researchers expected a 99 percent collapse in another four years, or two salmon generations, if the infestations continue.

The escapement of salmon, halibut, and cod from ocean fish farms is another chronic problem.[32,33] Extensive research shows that the escape of farmed fish into the ecosystem can result in competition for food and space and predation on native species. These interactions can create an added stress on wild populations. For example, research shows that farmed salmon can out-compete wild salmon for food and habitat and displace wild salmon. Farmed salmon grow faster than wild salmon leading to competitive advantages over wild fish; and farmed salmon enter rivers and spawn later than wild salmon, which can result in farmed salmon digging up the eggs of wild salmon and replacing them with their own. Other research has identified the potential for escaped Atlantic salmon to establish populations on the west coast of North America and to compete for food and habitat with native salmonids.[34]

Other scientific literature indicates there are harmful effects that result from the escapement of farm-raised fish, even if they are native, if, due to inadvertent selection by the novel environment (e.g., reduced fright response, disease resistance, and altered aggressive behaviors), they are not adaptive in the wild.[35] For example, a recent 2007 Oregon State University study published in the journal *Science*, demonstrated that the reproductive success of steelhead trout could drop by close to 40 percent per captive-reared generation.[36] While it might be possible for wild populations to resist genetic infiltration by farmed fish, this potential drops as the number of wild fish becomes small, relative to the number of farm fish. Even a 10:1 adaptive advantage for wild salmon might not be sufficient to overcome a 100:1 numerical advantage for aquaculture escapees.[37]

These consequences are some of the interactions between wild Atlantic salmon and aquaculture escapees in Maine that have prompted the U.S. Fish and Wildlife Service and National Marine Fisheries Service to label all such interactions a continuing high-level threat to the conservation of the endangered salmon.[38]

While escapement is almost guaranteed, the use of energy facilities for aquaculture poses new problems. For example, allowing marine aquaculture on energy platforms could add extra

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[32] "Norwegian Aquaculture: Status Report." *Aquaculture Magazine*, 33(1): 19-21, January-February 2007.
[33] "Norwegian scientists mapping where escaped cod go." Fish Update, Nov. 23, 2005. Available at: www.fishupdate.com/news/fullstory.php/aid/3390/Norwegian_scientists_mapping_where_escaped_cod_go.html.
[34] Marine Aquaculture Task Force, *supra* note 13 (citing Gross, M.R. 1998); One species with two biologies: Atlantic salmon (Salmo salar) in the wild and in aquaculture. Canadian Journal of Fisheries and Aquatic Sciences 55(Suppl. 1):131–144).
[35] National Research Council, *Genetic Status of Atlantic Salmon in Maine: Interim Report*, 2002 at pp. 20-21.at p. 21.
[36] Oregon State University (2007, October 5). Salmon And Trout Hatcheries Cause 'Stunning' Loss Of Reproduction. Science Daily. Retrieved January 8, 2008, from http://www.sciencedaily.com/releases/2007/10/071004143128.htm,
[37] National Research Council, *supra,* note 35, at p. 21.
[38] Fay, C., M. Bartron, S. Craig, A. Hecht, J. Pruden, R. Saunders, T. Sheehan, and J. Trial. 2006. *Status Review for Anadromous Atlantic Salmon (Salmo salar) in the United States.* Report to the National Marine Fisheries Service and U.S. Fish and Wildlife Service. 294 pages. Available at: http://www.nmfs.noaa.gov/pr/species/statusreviews.htm.

stress to the platforms, creating a safety hazard. If aquaculture facilities use energy facilities for mooring, violent storms could not only upend the platforms, but also destroy the cages. Had aquaculture facilities existed on oil rigs in the Gulf of Mexico during violent storms in recent years, there could have been massive releases of captive fish, feed, and other pollutants directly into ocean waters.

Moreover, contaminants found in farm-raised fish may threaten public health. For example, studies indicate that farm-raised salmon have higher levels of chemical contaminants than wild salmon, including higher levels of PCBs, a group of known carcinogens.[39] A 2005 analysis found that chemical levels in farm-raised salmon were so high that in order to lower the cancer risk to the middle of the acceptable range, people should effectively stop eating them.[40]

Further, aquaculture operations have been linked to ciguatera, a disease characterized by a variety of gastrointestinal, neurological, and cardiovascular symptoms that usually occur within two to 30 hours after consuming a toxin-containing fish. It is the most common form of toxic seafood illness in the world. Ciguatera may affect 50,000–500,000 people per year globally. In U.S. territorial waters, it results in average medical costs of $21 million per year. It is prevalent in Hawaii, Florida, Puerto Rico, Guam, the Virgin Islands, and the Pacific Island Territories. The northern Gulf of Mexico has not historically been considered a risk area for ciguatera, until recently. Recently almost 60 cases of ciguatera poisoning have been traced to fish caught in the northern Gulf of Mexico.[41] In fact, the problem has become so great that in December 2007, the U.S. Food and Drug Administration (FDA) indicated that it would issue new guidance to fish processors not to buy several species of snapper and grouper that are caught within 10 miles of the Flower Gardens. It also will tell them not to buy king mackerel, amberjack, barracuda, and several species of jack that are caught within 50 miles of the Flower Garden.[42] A 2007 study found that the algae responsible for the toxin was found in the western Gulf of Mexico on petroleum production platforms off Port Aransas, Texas, and is likely to be found on many artificial reefs and other production platforms as well. The authors stated that these results suggest that the use of these platforms as fisheries enhancement structures could have unintended consequences for human health, and that such concerns extend to aquaculture operations around oil production rigs.[43]

Moreover, a large body of scientific literature exists demonstrating that the use of a wide variety of antibiotics in aquaculture results in increased antibiotic resistance in fish, and the transfer of these resistant pathogens to the bacteria in land animals and to human pathogens. The use of large amounts of antibiotics increases the opportunities for the presence of residual antibiotics in meat and fish products, and thus possibly undermines the ability of doctors to effectively treat human infections.[44]

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[39] Hites R.A., Foran, J.A., Carpenter, D.O., Hamilton, M.C., Knuth, B.A., and Schwager, S.J., Global Assessment of Organic Contaminants in Farmed Salmon, 303 *Science* 226 (Jan. 9, 2004), available at http://www.pewtrusts.com/pdf/salmon_study.pdf.

[40] Foran, J.A., Risk-Based Consumption Advice For Farmed Atlantic and Wild Pacific Salmon Contained with Dioxins and Dioxin-like Compounds, *Envtl. Health Persp.* 552-6 (May 2005).

[41] T.A. Villareal, S. Hanson, Steve Qualia, E.L.E. Jester, H.R. Granade, R.W. Dickey, Petroleum production platforms as sites for the expansion of ciguatera in the northwestern Gulf of Mexico, Harmful Algae 6 (2007) 253–259.

[42] *The Galveston County Daily News*, December 22, 2007, Marty Schladen, Feds: New guides on Gulf fish coming 'soon,' The Galveston County Daily News, December 22, 2007.

[43] *Id.*

[44] Reviewed in Cabello, F.C., Heavy use of prophylactic antibiotics in aquaculture: a growing problem for

Furthermore, while fish farming is touted as a way of reducing the pressures on depleted fishing populations, marine aquaculture's feed requirements may actually increase these pressures due to a necessary diet of large quantities of fishmeal and fish oil.[45] Already, fish farms use a significant portion of world supply of fishmeal and fish oil from wild marine sources, such as sardines, herring, and menhaden.[46,47] Removing these fish from the ocean to feed farmed fish denies food to whales and other ocean mammals and to larger predatory fish and sea birds.

Offshore aquaculture could have negative socioeconomic effects, as well. Offshore aquaculture could harm U.S. fishing communities, which are dependent on healthy ecosystems and wild fish populations for their economic livelihood. If not sited properly, fish farms could interfere with use of traditional fishing grounds, and pose problems for navigation and safety. Aquaculture off the U.S. coast could also harm the existing U.S. fishing industry by lowering prices for wild fish caught by U.S. fishermen.[48]

Additionally, marine aquaculture allowed on OCS facilities could have negative international socioeconomic impacts. For example, the use of wild fish to produce fish feed for aquaculture could reduce the supplies of wild fish that people consume directly, especially in the Global South. For example, in Southeast Asia, small pelagic species, such as mackerel, herring, anchovy, and sardines, provide an integral protein source for people.[49]

Given the numerous environmental and socioeconomic problems with offshore aquaculture, and the large amount of resources and specific regulatory expertise that would be needed to adequately address the problems specific to aquaculture, we urge MMS to adopt a policy that would prohibit the use of OCS facilities for commercial aquaculture. MMS is simply not the correct agency to manage offshore aquaculture facilities.

The fact that MMS promises to consult with other agencies, such as the National Oceanographic and Atmospheric (NOAA), is not sufficient. There are currently two bills pending in Congress that would set up a permitting regime for offshore aquaculture.[50] Congress has thus far rejected these federal bills, in part because they did not have strong environmental and socioeconomic standards to guide the NOAA's decision-making. Without a bill with strong environmental and socioeconomic protections, there should be no offshore aquaculture facilities in U.S. federal waters.

II. MMS should not regulate offshore aquaculture without strong safeguards to protect the marine environment and local fishing communities.

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human and animal health and for the environment, Environmental Microbiology (2006) 8 (7), 1137–1144.

[45] Naylor, R.L., Goldburg, R.J., Primavera, J.H., Kautsky, N., Beveridge, M.C.M., Clay, J., Folke, C., Lubchenco, J, Mooney, H. and Troell, M., Effect of aquaculture on world fish supplies, *Nature* 405, 1017–1024 (2000).

[46] Tacon, Albert et al. "Use of Fishery Resources as Feed Inputs to Aquaculture Development: Trends and Policy Implications." FAO Fisheries Circular No. 1018, Food and Agriculture Organization of the United Nations, Rome, 2006.

[47] Ryan, John C. "The wonders of aqua-Alchemy." WorldWatch, September/October 2003.

[48] *See, e.g.*, Marshall, D., "Fishy Business," 2003, citing Asche, F. Bjørndal, T., and Young, J.A., 2001, Market Interactions for Aquaculture Products. *Aquaculture Economics and Management*, Vol. 5: p. 303-318.

[49] Naylor, et al., *supra*, note 45.

[50] H.R. 2010 and S. 1609, the National Offshore Aquaculture Act of 2007, 110th Cong.

Even if MMS were not to adopt a policy prohibiting the use of OCS facilities for commercial aquaculture, the way the agency is currently proposing to regulate the aquaculture projects is very problematic.

FWW is very concerned that, under MMS's proposal, the agency would issue RUEs for offshore aquaculture on energy facilities on a case-by-case basis, for as long a period as MMS determines. The agency does not say it will condition its granting of RUEs on any specific environmental and socioeconomic protections, and does not commit to EISs for the RUEs for aquaculture. MMS does not commit to taking any rental payments for aquaculture activities. The only financial assurances required are those needed to cover decommissioning.

This case-by-case approach presents the strong likelihood that inconsistent or inadequate mitigation measures will be taken, leading to adverse environmental impacts, a risk that – as discussed below – the agency's own EIS recognized was possible without uniformity in regulation across all projects. It would also be inconsistent with the Pew Oceans Commission recommendation, the State of Alaska's official position, and S. 533 (introduced by Senator Lisa Murkowski) that there should be a moratorium on offshore fish farming until environmental and socioeconomic concerns are addressed.

In addition, the proposal provides far too limited opportunity for notice and public comment. Section 388 requires "public notice and comment on any proposal submitted for a lease, easement, or right of way . . .." MMS's proposed rule flaunts this requirement for alternate uses. Apart from those proposals that MMS determines need an EIS, MMS's proposal only indicates that it will provide notice in the Federal Register so that members of the public can comment on whether "there is a competitive interest in using the proposed facility for alternate use activities."[51] But Section 388 requires notice and an opportunity to comment on "any" proposal; and, therefore, the opportunity to comment should be provided regardless of commenters' potential competitive interests. Adhering to the terms of the statute would enable those members of the public who are adversely affected by the proposal – not just those have the capital to fund a competing alternate use – to comment on MMS's proposed issuance of an RUE.

MMS should drop this case-by-case approach that offers little opportunity for public comment. MMS should not set up a program for regulating offshore aquaculture without strong safeguards – established through rulemaking both under its own authority and working with other agencies – to protect consumers, the environment, and local fishing communities.

MMS should also make all proposed issuances of alternate use RUEs the subject of notice and comment rulemaking. Further, EISs should be required for all large-scale commercial aquaculture operations and must consider at a minimum: local species and habitat; potential risks to sensitive habitats and fish and wildlife; impacts of potential wastes, chemicals, and biological pollutants on local fish and wildlife populations; impacts on marine ecosystems, including from the use of fishmeal, soy, or other foodstuffs; design and placement of aquaculture facilities; and impacts on the human environment, including impacts on small business and coastal communities anticipated from establishment of aquaculture in the region.

Examples of some additional necessary protections for offshore aquaculture facilities include the following:

[51] 73 Fed. Reg. at 39,502.

- Mandatory monitoring of the affects of aquaculture facilities on marine environment;
- Mandatory reporting of, and product testing for, chemicals used in operations;
- The prohibition of non-indigenous, genetically modified, and non-local fish populations;
- The prohibition of the farming of species that are subject to federal or state Individual Fishing Quota (IFQ) management plans, except where deemed appropriate by the regional Fishery Management Council;
- The requirement that facilities get NPDES permits based on Clean Water Act guidelines developed specifically for offshore aquaculture facilities;
- The prohibition of the use of feed that includes any species considered at risk, depleted, threatened, or endangered, or overfished;
- Rigorous performance standards to prevent escapes;
- Mandatory reporting of all escapes; and
- Mandatory tagging to identify the origin of escaped fish.

In addition, aquaculture RUEs should be no more than 5 years long, as has been proposed in the agency's EA, but not adopted in its proposal. Before renewal, the RUE should be reviewed to ensure that the aquaculture facility is reducing water pollution discharges, escapes, and the use of wild fish as feed to the maximum extent feasible, given advancements in technologies.

Further, while under Section 388 RUEs cannot be issued within the boundaries of certain protected areas, MMS should extend this protection so that commercial aquaculture facilities are not permitted if they *harm* marine sanctuaries, parks, or other fragile or protected areas, regardless of where they are located. Both of these protections should be extended to Essential Fish Habitat, as well.

Finally, MMS should clarify that farm owners are be liable for damages and any costs associated with escaped animals. The agency should collect financial assurances to cover any cost of damage during their tenure and rehabilitation at the end of the lease period. It is not enough that the agency simply require assurances for decommissioning activities.

All of these issues should be addressed by the agency before it issues any RUEs for aquaculture facilities in order for the agency to comply with its mandate under the 2005 Energy Policy Act to address safety; protect the environment; prevent waste; conserve natural resources of the OCS; protect correlative rights in the OCS; prevent the interference with other reasonable uses; consider any other use of the sea or seabed, including use for a fishery, sealane, or navigation; provide for public notice and comment on any proposal; oversight, inspection, research, monitoring, and enforcement.[52]

[52] Amended Section (p) (4) of the Outer Continental Shelf Lands Act, P.L. 109-58 (August 8, 2005).

III. MMS should issue a Supplemental EIS and a failure to do so would violate the National Environmental Policy Act.

As highlighted in the comments that FWW submitted on MMS's Notice of Preparation of an Environmental Assessment for the Alternative Energy and Alternate Use Proposed Rule, 73 Fed. Reg. 10,284 (February 26, 2008), MMS's draft and final PEIS in 2007 did not adequately describe the proposed program. MMS has now circulated an EA, but it fails to correct the shortcomings of the previous PEIS, and fails to address a number of the changes in the program that will have a significant impact on the environment. These failures render MMS out of compliance with NEPA.

MMS's Draft PEIS, issued on March 16, 2007 assessed the generic impacts from alternative energy activities and alternate uses of platforms for certain OCS areas. The Draft only generally and vaguely described what its proposed program would look like. In its introduction, the PEIS stated that its proposed alternative included the "development of a program and issuance of regulations governing activities related to granting of a lease, easement, or right-of-way for the production of alternative energy on the OCS; and issuance of regulations for alternate use of existing oil and gas facilities on the OCS."[53] Certain other components of the program became apparent elsewhere. For example, the Draft PEIS discussed the particular types of alternate uses and alternative energy projects that the agency expected would apply for leases, easements, or right-of-ways under the program. Further, it indicated that the agency's rules would establish some uniformity across all projects, so as to prevent "possible inconsistent or inadequate mitigation stipulations for some projects, leading to adverse environmental impacts."[54] Little other detail was provided about MMS's program. FWW understood that the Draft PEIS was supposed to be issued in conjunction with proposed rules, but that the rules were delayed.

FWW submitted comments focused on MMS's apparent plans to permit and regulate aquaculture in federal waters. FWW commented that the PEIS was insufficient because it gave a rather cursory consideration, and outright failed to discuss, some of the impacts from aquaculture, including cumulative effects. The PEIS also failed to include a reasonable discussion of mitigation measures for offshore aquaculture. In addition, FWW's comments joined many others in informing the agency that without proposed rules the PEIS was so vague as to preclude meaningful analysis. We urged the agency to re-circulate its Draft PEIS or put forward a Supplemental PEIS when its proposed rules were issued.

MMS issued its Final EIS in November 2007.[55] Very few remedial changes were made to the statement, especially in its evaluation of mitigation and alternatives measures concerning the regulation of offshore aquaculture. In fact, the "Mitigation Measures" sections in both documents are nearly identical. The agency indicated that it would address these concerns in a supplemental analysis. The Final PEIS stated: ". . . the purpose of this EIS is not to provide the

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[53] Minerals Management Service (MMS), Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, Draft Environmental Impact Statement, March 2007 at p. 1-9.
[54] *Id.* at Chapters 5 and 6.
[55] Minerals Management Service (MMS), Notice of Availability for the Alternative Energy and Alternate Use Final Programmatic Environmental Impact Statement, 72 Fed. Reg. 62,672, November 6, 2007.

required NEPA analysis for rulemaking. The MMS will later conduct the required NEPA analysis for rulemaking, which may tier off of this current EIS."[56]

Now that the agency has proposed rules, it has circulated a draft EA. But this EA not only fails to correct the shortcomings of the previous PEIS, it fails to address a number of the changes in the program that were not previously covered by the original EIS and that will have a significant impact on the environment.

As the agency is surely aware, NEPA requires the agency to issue "*a detailed statement* . . . on the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, [and] alternatives to the proposed action . . .[,]" among other disclosures.[57] "Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies . . . shall be made available . . . to the public . . .."[58] The Council on Environmental Quality's (CEQ) regulations, which implement NEPA, require that a draft environmental impact statement be prepared and circulated prior to the final environmental impact statement.[59] The draft "must fulfill and satisfy to the fullest extent possible the requirements established for final statements."[60] "If a draft statement is so inadequate as to preclude meaningful analysis, the agency *shall* prepare and circulate a revised draft of the appropriate portion."[61]

With the present rulemaking, despite the numerous public comments that without proposed program rules the agency's Draft PEIS was so inadequate to preclude meaningful analysis, the agency did not re-circulate a draft with its proposed rules. Instead, the agency finalized its PEIS for a program that it had yet to unveil. It thus violated the long-standing precedent that an EIS must adequately describe the project.[62] Because the agency finalized the EIS, it is now ripe for review by a court of law in its present woefully inadequate form.[63]

This action does not terminate the agency's obligations under NEPA, however. If a "major Federal action" has yet to occur,[64] under CEQ regulations[65] MMS is required to "prepare supplements to . . [the] final environmental impact statement[] if: (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii)

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[56] Minerals Management Service (MMS), Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, Final Environmental Impact Statement, March 2007 at p. 1-2.
[57] 43 U.S.C. § 4332 (2)(C) (2000) (emphasis added).
[58] *Id.*
[59] 40 C.F.R. § 1502.9(a) (2006).
[60] *Id.*
[61] *Id.* (emphasis added).
[62] *See e.g., Montgomery v. Ellis*, 364 F. Supp. 517 (S. D. Ala. 1973).
[63] 40 C.F.R. § 1500.3. *See also Sierra Club v. Slater*, 120 F.3d 623, 631 (6th Cir. 1997) (". . . it appears well-established that a final EIS or the ROD issued thereon constitute the 'final agency action' for purposes of the APA.") (citing *Oregon Natural Resources Council v. Harrell*, 52 F.3d 1499, 1504 (9th Cir. 1995); *Steubing v. Brinegar*, 511 F.2d 489, 495 (2d Cir. 1975); *Limerick Ecology Action, Inc. v. U.S. Nuclear Regulatory Commn*, 869 F.2d 719 (3d Cir. 1989)).
[64] *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55 (2004).
[65] The Supreme Court deferred to the regulations as the appropriate test in *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374, 385 (1989).

There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."[66]

Clearly, MMS's action finalizing its proposed rules for its Alternative Energy and Alternate Use program is a major federal action that has yet to occur. Further, as discussed below, both the "substantial changes" and the "new circumstances and information" conditions are met with this rulemaking. Therefore, NEPA requires MMS to issue a Supplemental PEIS. Under the terms of the statute, another EA is not enough.

The agency's proposed rules amount to a substantial change to the proposed project described in the Final PEIS. Both the Draft and Final PEIS indicated that the agency would not determine the safeguards needed for different alternate use projects in the OCS on a case-by-case basis. In the Draft PEIS, the agency states that the agency's rules would establish some uniformity across all projects, so as to prevent "possible inconsistent or inadequate mitigation stipulations for some projects, leading to adverse environmental impacts."[67] The Final EIS rejected a case-by-case approach:

> The Leases, RUEs, and ROWs issued under the preferred alternative prior to the completion of rulemaking would be subject to project-specific NEPA analyses and would include terms, conditions, and stipulations to ensure safe and environmentally responsible operations on the OCS in a manner consistent with the provisions of the final implementing regulations. The MMS would rely on the BMPs and other policies and practices discussed in this EIS to develop necessary mitigation measures for specific projects and to inform the approval process of individual leases and grants issued on a case-by-case basis.
>
> Following an interim period where leases, RUEs, and ROWs would be issued on a case-by-case basis, the preferred alternative would ultimately establish a nationwide, comprehensive AEAU program with the benefit of regulations. Upon promulgation of the final rule, all leases, RUEs, and ROWs for alternative energy and alternate use activities would be issued subject to its comprehensive provisions.[68]

The agency's Record of Decision adopted this preferred alternative, and put forward a series of Best Management Practices (BMPs) and policies that would be adopted by the agency until it proposed and finalized its regulations. During this interim period of time, MMS would consider one or more of the BMPs as binding stipulations in any lease, easement, or right of way it issued. One such BMP was environmental monitoring and adaptive management. [69]

Now, the agency has reversed course 180 degrees, and this will have significant environmental effects. Without explanation, the agency has seemingly decided it will not issue comprehensive regulations for alternate uses, but is instead going to consider alternate use proposals on a case-by-case basis. This is exactly the alternative the agency rejected with it Record of Decision. Further it appears as if the agency has completely disavowed its BMPs such

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[66] 40 C.F.R. § 1502.9(a).

[67] *Id.* at Chapters 5 and 6.

[68] Minerals Management Service (MMS), Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, Final Environmental Impact Statement, March 2007 at p. 2-6.

[69] Minerals Management Service, Record of Decision, Establishment of an OCS Alternate Energy and Alternate Use Program (December 2007).

as monitoring and adaptive management. For example, with aquaculture, the Draft and Final PEIS in 2007 stated that an effective mitigation measure for minimizing the effects of water pollution is by monitoring feed, animal waste, antibiotics, and chemicals used for operations. The currently proposed program does not indicate that the agency will require any such monitoring. As another example, the Final PEIS states that siting should "consider Essential Fish Habitat and traditional fishing grounds." Again, there is no such requirement with the proposed rule, meaning that MMS could permit aquaculture facilities in and around such areas.

Another example of how MMS's proposal amounts to change from the Final PEIS's description of the project is related to the type of property interest that the agency is planning to grant. In its Final PEIS, the agency only hinted that it was planning to propose granting RUEs for alternate uses.

> The EPAct requires the MMS to competitively award leases, ROW grants, and right-of-use and easement (RUE) grants, unless the MMS determines that there is no competitive interest. The MMS is considering issuing: 1) leases for exploration or development related to any type of alternative energy resource on the OCS; 2) ROW and RUE grants for alternative energy activities not associated with an MMS-issued alternative energy lease; and 3) RUE grants for alternate use of existing OCS structures. For example, a ROW grant could be issued for the purpose of authorizing construction and use of a cable or pipeline for the purpose of gathering, transmitting, distributing, or otherwise transporting alternative energy not produced on an OCS lease. A RUE grant could be issued for the use of an OCS site or subsurface area that is not part of an OCS lease that the grantee owns or operates for a particular purpose in support of non-OCS alternative energy activity.[70]

The EIS presented no discussion the environmental repercussions from choosing RUEs over leases for such alternate uses.

In the recently issued draft EA, MMS confirms that it will issue RUEs for alternate uses of energy platforms and leases for alternate energy facilities. MMS again does not consider the indirect environmental impacts that will result from issuing RUEs, instead of leases for alternate uses, even though the agency proposes to treat RUEs far differently than the leases it issues for alternative energy, in terms of both public participation and environmental review.

These are but a few of the many examples of how the agency's failure to issue proposed rules or adequately describe its Alternative Energy and Use program in its PEIS, also means that the agency's proposed rules amount to a substantial change in its proposed program that will have a significant impact on the environment.

Because MMS has not circulated an adequate EIS and made it available for public comment, a failure to issue a Supplemental PEIS would violate NEPA.[71]

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[70] MMS, *supra*, n. 56, at p. 2-3 (emphasis added).

[71] *Cf. Commonwealth v. Watt*, 716 F.2d 946, 951 (1st Cir. 1983) (finding an MMS environmental impact statement inadequate and the agency's decision not to issue a supplemental EIS improper, when the agency radically revised its estimates of oil likely to be found on tracts it intended to lease); *Natural Resources Defense Council v. Hughes*, 437 F. Supp. 981 (D.D.C. 1977) (finding a Department of Interior final programmatic environmental impact statement for a coal leasing program insufficient and ordering the agency to issue a supplemental analysis because the described program changed from one that emphasized

Regardless, the agency should be aware that there is significant new environmental information about aquaculture that has been discovered since the agency finalized its EIS. This new information also requires the agency to issue a Supplemental EIS.

The Final PEIS mentions disease, but it does not mention the problem of parasites with aquaculture. FWW raised this issue in its comments on the agency's Notice of Preparation of an Environmental Assessment for the Alternative Energy and Alternate Use Proposed Rule. FWW cited a study of lice in a December 14, 2007 issue of the journal *Science*. In its recently issued draft EA, MMS says that this is not an issue, because "salmon farming, at this time, is not expected on the OCS."[72] But the agency conveniently ignores the conclusion of authors of the study: " . . . there is a major risk associated with waiting for large data sets to accumulate before implementing conservation policy. Industrial aquaculture is rapidly expanding to new species, regions, and habitats, which can create parasite outbreaks that contribute to the decline of ocean fisheries and ecosystems."[73] The agency needs to issue a Supplemental EIS so that it can evaluate what mitigation measures are needed to prevent this sort of impact on fish farms that MMS would allow under its proposed rules.

Further, neither the Final PEIS, nor the draft EA examines the problems of ciguatera, and its relationship to aquaculture, as described above. The threat of increased ciguatera poisoning needs to be evaluated with MMS's entire Alternate Energy and Alternate Use program, which could increase the length of time that energy platforms will remain in the ocean. This may increase the toxic algae, to which wild fish populations (and eventually people consuming those fish) are exposed. An increased potential for ciguatera poisoning not only threatens public health, but also could adversely impact fishing communities. These potential impacts and any potential mitigation measures and alternatives need to be evaluated with a Supplemental EIS.

CONCLUSION

For these reasons, we urge MMS to formally adopt a policy prohibiting the use of OCS facilities for commercial offshore aquaculture. If it chooses to go forward, it should abandon its case-by-case approach. MMS should not set up a program for regulating offshore aquaculture without strong safeguards to protect the environment and local fishing communities. In any event, MMS must issue a supplemental Environmental Impact Statement and a failure to do so would be in violation of the National Environmental Policy Act.

Sincerely,

Wenonah Hauter
Executive Director
Food and Water Watch

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interdepartmental federal identification of coal reserves in the proposed statement to one that relied almost entirely upon industry and public nominations in the final statement).

[72] Minerals Management Service, *supra* note 2 at p. 34.

[73] Krkosek, M, Ford, J.S., Myers, R,A., Lewis, M.A. Parasites from Farm Salmon Declining Wild Salmon Populations in Relation to Parasites from Farm Salmon, 318,1772 (2007).