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RE: Identifying Aquaculture Opportunity Areas in U.S. Waters

Don't Cage Our Oceans is a coalition of over sixty seafood businesses and organizations working to stop industrial-scale offshore finfish farming while uplifting values-based seafood systems led by local communities. [Values-based](#) and more responsible forms of aquaculture are community-driven, responsibly sited and appropriately scaled, and use more appropriate species and methods.

We respectfully submit these comments in response to NOAA's "Identifying Aquaculture Opportunity Areas in U.S. Waters." Please note that we also endorse the comments submitted by the Center for Food Safety. **We strongly oppose the creation of new Aquaculture Opportunity Areas in U.S. waters.**

There are several reasons why the most prudent option is for NOAA to take no action in designating new AOAs pursuant to Executive Order 13921. Chief among these is that NOAA lacks the legal authority to regulate aquaculture in federal waters in the first place, as it knows under the *Gulf Fishermen's Association v. NMFS* Fifth Circuit case. Even EO 13921 is on very shaky legal ground, with a significant portion of the aquaculture directive having been rescinded via court order (see *Don't Cage Our Oceans vs. U.S. Army Corps of Engineers*) and with the overall dubious nature of "legislating via executive order."

Secondly, NOAA has already documented the overwhelming public opposition to the creation of AOAs in the Gulf of Mexico (over 90% of the comments in opposition to AOAs) and Southern California (over 68% of the comments in opposition to AOAs), which should have given pause to the agency instead of incentivizing it to double down.

Finally, there are grave economic and ecological consequences in allowing offshore finfish farming in U.S. federal waters. Because operations in federal waters would be exposed to strong winds, waves, and storms, they would necessarily be constructed on industrial scales. At such scales, the amount of pollution, fecal waste, antibiotics, pesticides, and herbicides being openly discharged into surrounding waters is astounding. The threats of disease and parasite incubation and transfer to wild stocks is very troubling, as well as the ongoing occurrences of fish escapes. These facilities experience [ongoing major disasters](#) at a global level in countries that employ leading finfish farming technology.

Unfortunately, even this request for public comment asks leading questions. Never does it ask **whether** to continue this highly controversial process of designating new AOAs, but where it must move next and how it must do so. It gives the public the distinct impression that the agency has already decided it wants to be the lead agency in permitting a dangerous form of aquaculture instead of following its congressionally-mandated directive to conserve and manage our wild fish stocks for the commercial fishing industry.

Legality

NOAA's Stance: Nothing to See Here

In NOAA's prior DPEIS for the Gulf of Mexico AOAs, the agency asserted that the DPEIS "is not a regulatory or permitting action and does not propose to authorize or permit any specific aquaculture-related activities or individual aquaculture projects." While the agency was indeed not issuing permits with that specific document, it expressed hope that "...analyses, consultations and permits for future proposed aquaculture projects may tier from this DPEIS..."

Then and now, the agency is well aware of the end goal. Even then, NOAA stated: **“The intent of this DPEIS is to support long-term planning for offshore aquaculture in the Gulf.”**

Here, NOAA is seeking to expand AOAs and subsequently develop DPEISs for other regions beyond just the Gulf of Mexico and southern California. These future DPEISs would provide a foundation and play a central role in expediting any future agency regulatory action.

NOAA Has Displayed a Willful Disregard of Federal Court Orders

For many years, NOAA has asserted authority in setting up and permitting an unprecedented nationwide system of commercial offshore aquaculture facilities across all U.S. waters, even though Congress has not approved any legislation granting the agency authority to do so. In fact, the courts have affirmed the agency’s lack of authority to oversee aquaculture activities in federal waters.

In 2020, the 5th Circuit Court of Appeals case *Gulf Fishermen's Association v. National Marine Fisheries Service* held that NOAA does not have authority to permit or regulate aquaculture in the U.S. federal waters of the Gulf of Mexico, as there is no congressional authorization to do so under the Magnuson-Stevens Fishery Conservation and Management Act (MSA).¹ Until that decision, NOAA had claimed that the MSA had provided the agency authority under the contorted view that aquaculture falls under the statutory definition of “fishing” for purposes of the MSA, as fish are ultimately extracted from net pens, and that NOAA could thus create a fishery management plan (FMP) to regulate aquaculture. Both the district court and the 5th Circuit Court saw through this flawed justification, and ruled against it.

Across several administrations, the agency has acted as a promoter of industrial aquaculture, contrary to the will of American fishermen and coastal residents. Following the aforementioned court ruling, EO 13921 sought to grant NOAA authority where Congress had not. Yet executive orders cannot confer authority on agencies because the president’s powers are executive, not legislative, in nature.² Rather, the president's authority to act “must stem either from an act of Congress or from the Constitution itself.”³ As a result, EO 13921 cannot allow NOAA to establish a new offshore aquaculture industry in the absence of any statutory authority granted by Congress.

Notably, the other key provision that facilitated offshore aquaculture in that executive order was successfully challenged in court. In [*Don't Cage Our Oceans vs. United States Army Corps of Engineers*](#), the U.S. District Court for the Western District of Washington found that the U.S. Army Corps of Engineers (the Corps) had violated a number of environmental statutes in its effort to expedite and facilitate the issuing of Nationwide Permit 56.

¹ *Gulf Fishermen's Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F. 3d 454 (5th Cir. 2020).

² *Doe #1 v. Trump*, 957 F.3d 1050, 1062 (9th Cir. 2020) (citing *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 587 (1952) (“[T]he President's power to see that the laws are faithfully executed refutes the idea that he is to be a lawmaker.”)).

³ *Id.* at 585.

In that case, the Corps unsuccessfully alleged that its actions would have no bearing on aquaculture development. While the Corps acknowledged numerous adverse impacts of the large fish farm structures it was authorizing in the permit, it failed to actually assess them. As the court explained, the Corps lacked the "logical bridge between the multiple acknowledged adverse impacts"—including those described by the agency itself as "high risk"—and the agency's "conclusion that the impacts of NWP 56 would be no more than minimal or would be insignificant." The court concluded: "Because the Corps narrowed its [environmental assessment] to disclose but not account for many foreseeable effects of NWP 56, its findings of minimal effects and no significant impacts are insufficiently supported and explained."

Here, NOAA is seeking to determine where best to encourage industrial aquaculture (especially of the finfish variety) in federal waters off of the Pacific Islands, the entire U.S. Atlantic, and the U.S. Caribbean. However, absent any plain text in any statute whatsoever, NOAA cannot establish its authority to designate AOAs anywhere. In June 2022, the U.S. Supreme Court made plain that an agency must "point to 'clear congressional authorization' for the authority it claims."⁴ **Congress has never given NOAA the authority to regulate aquaculture in federal waters, and the courts have agreed with this interpretation.**

In 2024, in the landmark decision *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024), the U.S. Supreme Court overturned the *Chevron* doctrine, and further cemented the idea that federal agencies cannot legislate where there is ambiguity. Given that the aforementioned cases of *Gulf Fishermen's Association* and *Don't Cage Our Oceans* were litigated in a *Chevron* world, the bar is now higher yet for NOAA to convince any court that it has found ambiguity in any statute and should be granted deference when it comes to regulating aquaculture in federal waters.

Congress has repeatedly demonstrated immense skepticism of offshore finfish aquaculture, an industrial activity that is resoundingly [opposed](#) by American fishermen and coastal residents. However, even if NOAA's permitting and regulating of aquaculture were to be legal, there are a variety of other compelling reasons why this activity should not move forward.

The federal government's "water grab" and misappropriation of taxpayer dollars is overwhelmingly rejected by the public

Aquaculture Opportunity Areas are the ocean-based equivalent of a land grab; they are a "water grab" by the federal government to benefit specific corporate interests, and to the detriment of existing shoreside industries, such as fishing, tourism, and recreation. The public trust doctrine is a legal principle that U.S. waters belong to all Americans, and the government must protect and maintain these resources for the public's use. Cordoning off large portions of

⁴ *W. Virginia v. EPA*, No. 20-1530, 2022 WL 2347278, at *3 (U.S. June 30, 2022) (citing *Util. Air Regul. Grp. v. EPA*, 573 U.S. 302, 324 (2014)).

federal waters for the exclusive use of a single out-of-state or foreign company harms the public, coastal communities, and the livelihoods of residents who live and work along the water.

Offshore finfish aquaculture proponents have most recently sought renewable 10-year leases for their facilities spanning hundreds of acres, which would essentially block off a swath of public oceans for a generation. Here, NOAA is proposing to carve up and hand control of our federal ocean spaces, a public resource that should be managed for the benefit of all Americans, to private companies and corporate interests. In doing so, **NOAA is actively harming America's fishing families and the many small businesses in coastal communities.** NOAA should instead focus on supporting independent fishermen, fishermen co-ops, and small businesses that provide seafood to local and regional American markets.

Few want to see this industry get a foothold in our public waters except for the large agriculture and pharmaceutical corporations and their shareholders⁵ who see an opportunity to profit from industrially produced fish that require enormous feed and drug inputs. In the prior Administration, NOAA listening sessions for its strategic plan on aquaculture and related initiatives revealed that **people overwhelmingly oppose** the inclusion of marine finfish aquaculture as part of NOAA's vision in the first place. For example, in prior listening sessions for the Gulf of Mexico AOAs, roughly 90% of Gulf residents opposed their creation; for the southern California Bight AOAs, it was about 67%.

Commercial fishermen – already struggling due to rising costs, a lack of institutional support, and the lingering impacts of COVID on their industry – are especially threatened by the prospect of industrial finfish farming in U.S. waters. If farmed fish from facilities sited within AOAs are actually sold in the U.S., they will likely undercut wild fisheries, and **drive small fishing businesses to closure.** The impacts of global salmon farming on small-boat salmon fishermen in Alaska during the 1990s are a textbook example of this effect, which caused economic insecurity and contributed to permit loss in small fishing communities.

American commercial fishermen have repeatedly voiced their concerns over being forced to coexist with a taxpayer-subsidized marine aquaculture industry, stating that “this emerging industrial practice is incompatible with the sustainable commercial fishing practices embraced by our nation for generations and contravenes our vision for environmentally sound management of our oceans.”⁶ NOAA has failed to secure public buy-in or societal license to push forward industrial fish farms in federal waters.

That NOAA would nonetheless enthusiastically pursue the permitting of factory fish farms that are known to harm the very fisheries that the agency is tasked with conserving and managing is deeply troubling. Indeed, despite all of the data that NOAA provided in its prior DPEIS outlining the enormous contribution of the fishing and tourism industries to Gulf states' and southern

⁵ See Stronger America Through Seafood. <https://www.strongerthroughseafood.org/sats-members>

⁶ Open letter to Members of the U.S. House of Representatives and Senate, Dec. 4, 2018, re: Opposition to marine finfish aquaculture in U.S. waters, <http://foe.org/DecFishFarmingSignOnLetter/>.

California's economies (amounting in the billions of dollars), the agency simply brushes those concerns aside. Worse, it now proposes to expand this to the entire eastern seaboard, Pacific Islands, and U.S. Caribbean. Canadian and Norwegian finfish farm corporations are excited at the prospect of having an easier time securing rights to U.S. waters. American communities are not.

Creating AOAs to promote offshore finfish farming harms fishing families and fishing communities

The regions being considered by the agency for AOA expansion include areas that already have commercial fish landings amounting to billions of pounds of seafood that also bring in billions of dollars in annual revenue. In addition, the recreational fisheries and tourism industries also provide significant tax revenue for municipalities and states, as well as full-time jobs. So why would we want to threaten these valuable fishing communities with near-guaranteed fish escapes from aquaculture facilities?

Fish Escapes Have and Will Occur

The threat of fish escaping into the Gulf's waters is inevitable, because fish escapes are a regular and ongoing occurrence in the industry. After a massive 2017 fish escape of Atlantic salmon from an aquaculture facility in state waters, the state of Washington investigated the site's operator, Cooke Aquaculture, and found that the company lied about both the cause of the escape and its magnitude.⁷ The true number of fish that escaped ended up being roughly 263,000 Atlantic salmon in the Pacific Ocean, much higher than Cooke Aquaculture was willing to admit.⁸ Just last month, the state of Washington voted to keep all commercial finfish net pens out of its state waters once and for all. Unfortunately, Cooke Aquaculture continues to operate in Maine state waters, and in 2023, over 50,000 of their juvenile farmed salmon escaped in Machias Bay.⁹

Around the world, industrial finfish aquaculture has repeatedly resulted in fish escapes, which impact wild fish and other marine wildlife. For example, in January 2020, 73,600 salmon escaped from a net pen in Mowi, Scotland, marking the third major escape in the area since

⁷ Wilson, Deborah. *Report blames negligence, not eclipse, for Washington fish farm collapse*. CBC, February 2, 2018. <https://www.cbc.ca/news/canada/british-columbia/fish-farm-collapse-cooke-aquaculture-report-washington-state-1.4516075>

⁸ Mapes, Lynda V. *Fish farm caused Atlantic salmon spill near San Juans, then tried to hide how bad it was, state says*. Seattle Times, February 2, 2018. Accessible at: <https://www.seattletimes.com/seattle-news/fish-farm-caused-atlantic-salmon-spill-state-says-then-tried-to-hide-how-bad-it-was/>

⁹ French, Edward. *Salmon escape raises concerns about seals, risk to wild fish*. The Maine Monitor, Aug. 26, 2023. <https://themaine-monitor.org/salmon-escape-raises-concerns-about-seals-risk-to-wild-fish/>

October 2019.¹⁰ In Norway, approximately 4,000,000 fish escaped in a single year.¹¹ AquaChile reported the escape of 787,929 fish in 2013 due to bad weather that damaged cages.¹² In 2018, 680,000 fish escaped from Marine Harvest Chile, 109,515 from Bakkafrøst Faroe Islands, and 120,000 from Huon Aquaculture in Tasmania.¹³ Recognizing the regularity of fish escapes from ocean-based net pens, the U.S. Council on Environmental Quality has stated that it “must be *assumed* that escapes will occur” from net pens.¹⁴

Fish escapes can disrupt the marine ecosystem and threaten wild fisheries. Farmed fish are genetically inferior fish, and when they interbreed with wild fish populations, they bring down the fitness and survivability of the wild fish. Escapes are occurring en masse, right now, and by “leaders” in this risky industry.

In 2024, [65,000 atlantic salmon smolts](#) escaped from a Mowi facility; [farmed cod](#) were found in nets around a farm which ultimately resulted in the culling of the entire net pen; [13,500 Atlantic salmon](#) escaped due to a tear at yet another Mowi facility; [14,000 atlantic salmon](#) escaped from a Lerøy facility - the largest escape in the prior two years; and between [100 and 1,000 Atlantic salmon](#) escaped from a facility, leading to interbreeding between wild and farmed salmon. Incredibly, this non-exhaustive list *only includes facilities in Norway - the world's leader in industrial aquaculture.*

Beyond just escapes, in Scotland in 2024 [liquid waste was seeping onto public beaches](#), exposing sheep, cows, and cats to disease. In British Columbia, Grieg Seafood allowed [7,000-8,000 liters of diesel fuel](#) to spill into the Esperanza inlet, polluting the water and contaminating clam beds. Sea lice, a common parasite in industrial aquaculture, was also found across [Norway](#) and [Scotland](#).

Less than a month into 2025, [15,000 farmed salmon escaped from a damaged net pen in Norway](#). The pen was operated by aquaculture giant Lerøy and the fish it contained had previously been found to have pancreatic disease as well as a bacterial pathogen called *moritella viscosa*. Both of these ailments could be passed on to wild fish surrounding the escapement. Unfortunately, an escape of this magnitude is not uncommon. As we go further into 2025, it is guaranteed that more of these disasters will arise.

¹⁰ *Escape calls high energy salmon sites into question*, The Fish Site (Jan. 20, 2020), <https://thefishsite.com/articles/mowi-reports-mass-salmon-escape-from-colonsay>.

¹¹ Nat'l Marine Fisheries Service Pac. Islands Reg'l Off., Draft Programmatic Env't Impact Statement (DPEIS) 171 (2021).

¹² Lola Novarro, *Here are the largest recorded farmed Atlantic salmon escapes in history*, IntraFish (Feb. 1, 2019), <https://www.intrafish.com/aquaculture/here-are-the-largest-recorded-farmed-atlantic-salmon-escapes-in-history/2-1-388082>.

¹³ *Id.*

¹⁴ Council for Environment Quality & Office of Science and Technology Policy, Case Study No. 1: Growth-Enhanced Salmon, at 23 (2001), <https://clintonwhitehouse5.archives.gov/media/pdf/salmon.pdf>; *CEQ and OSTP Assessment: Case Studies of Environmental Regulations for Biotechnology*, https://hygeia-analytics.com/wp-content/uploads/2016/12/RP_RegenerationsfarmedScotland'sETech_CEQ.pdf.

A [2026 study](#) by the Scottish Environmental Protection Agency and Crown Estate Scotland, found genetic introgression from escaped farmed salmon, across 20% of Scotland's river network. Nearly 75% of rivers along Scotland's west coast, where marine aquaculture is concentrated, showed evidence of farm salmon DNA in wild populations. By contrast, rivers in Eastern Scotland, far from commercial aquaculture farms, showed almost no evidence of interbreeding. Unlike other environmental impacts, genetic introgression cannot be undone and can persist across generations once farmed genes become established within a wild population.¹⁵

Fish Farms in the Gulf will Incubate and Spread Diseases to Wild Stocks

Floating factory-style fish farms incubate and proliferate parasites and diseases (e.g., sea lice) that then spread to the wild fish populations. **This is harmful to both the marine ecosystem and wild fisheries, and runs contrary to the Administration's plan to *Make America Healthy Again*.** There is more evidence that pathogens from farmed salmon spread to wild salmon: piscine orthoreovirus (PRV) is widespread in farmed salmon and is associated with heart and skeletal muscle inflammation.¹⁶ *Tenacibaculum maritimum* is known to cause disease and mortality.¹⁷ The toxic chemicals that offshore fish farm operators use to treat these diseases are widely known to harm other marine life and commercially-sought species as well, as discussed further below.

There are documented studies of large populations of sea lice having left their origin sites of fish farms into the broader ocean environment, both in the Atlantic and Pacific oceans. In March 2022, a study from *Scientific Reports* notes: "Our results suggest that salmon lice in the Pacific Ocean have recently evolved substantial resistance to the antibiotic EMB ["SLICE"], and that salmon-lice outbreaks on Pacific farms will therefore be more difficult to control in the coming years."¹⁸ A May 2021 study from *Royal Society* shows how the industry is losing the "arms race" in the North Atlantic Ocean because multiresistant salmon lice are dispersed throughout.¹⁹

An October 2024 study from *Science Advances* showed that three pathogens are prevalent in farmed Atlantic salmon in British Columbia, spill over to wild Pacific salmon, and are linked to

¹⁵ The Times, "Farmed Salmon Breed with Wild Fish to Spark Survival Fears,"

<https://www.thetimes.com/uk/scotland/article/wild-salmon-fish-farms-dna-scotland-s9jbxsfw>

¹⁶ Palacios G, Lovoll M, Tengs T, Hornig M, Hutchison S, et al. (2010) Heart and Skeletal Muscle Inflammation of Farmed Salmon Is Associated with Infection with a Novel Reovirus. PLOS ONE 5(7): e11487.

<https://doi.org/10.1371/journal.pone.0011487>

¹⁷ Avendaño-Herrera R, Toranzo AE, Magariños B. Tenacibaculosis infection in marine fish caused by *Tenacibaculum maritimum*: a review. Dis Aquat Organ. 2006 Aug 30;71(3):255-66. doi: 10.3354/dao071255. PMID: 17058606.

¹⁸ Godwin, S.C., Bateman, A.W., Kuparinen, A. et al. Salmon lice in the Pacific Ocean show evidence of evolved resistance to parasiticide treatment. *Sci Rep* 12, 4775 (2022). <https://doi.org/10.1038/s41598-022-07464-1>.

¹⁹ Fjørtoft Helene Børretzen, Nilsen Frank, Besnier Francois, Stene Anne, Tveten Ann-Kristin, Bjørn Pål Arne, Aspehaug Vidar Teis and Glover Kevin Alan. 2021. Losing the 'arms race': multiresistant salmon lice are dispersed throughout the North Atlantic Ocean *R. Soc. open sci.* 8: 210265. <https://doi.org/10.1098/rsos.210265>.

negative impacts on wild salmon; they include Piscine orthoreovirus, *Tenacibaculum* spp., and sea lice (*Lepeophtheirus salmonis*).²⁰

As parasites develop resistance to these chemicals, there is a growing trend to increase the level of toxicity of the chemicals used in response; this of course further increases the load of toxic chemicals in the marine environment. NOAA must assess these potential discharges since these pathogens, parasites, and the chemicals used to treat them can easily spread to wild fish, including wild populations that are listed as endangered or threatened under the Endangered Species Act.

The chemicals used as anti-foulants, antibiotics, and pesticides are often **carcinogenic and toxic to marine life**; these chemicals (e.g., organophosphates, cypermethrin) are openly discharged into the marine environment. In fact, up to 75% of antibiotics used by the industrial aquaculture industry directly absorb into the surrounding environment.²¹ In Nova Scotia, the use of the antibiotic EMB resulted in “widespread damage to wildlife,” including “substantial, wide-scale reductions” in crabs, lobsters and other crustaceans close to marine finfish facilities.²²

There is even evidence of diseases in industrial aquaculture jumping from farmed species to humans, in the form of a novel eye disease.²³ None of this squares with either of the Administration's goals to Make America Healthy Again or to ease the disproportionate burdens placed upon the backs of American fishing families.

Creating AOAs would harm marine life and degrade water quality

As referenced earlier, the AOAs have generated minimal interest from companies looking to engage in shellfish or seaweed farming. NOAA is fully aware that the farming of high-trophic level finfish — that is, carnivorous or omnivorous fish that require high animal protein inputs — is the ultimate endgame for these public-turned-private spaces.

Industrial offshore finfish aquaculture leads to overfishing of forage fish. Most farmed marine fish require large amounts of fish in their feed – much of this comes from wild forage fish, including anchovies, menhaden, sardines and other small fish that are critically important to the diet of marine wildlife, including birds, dolphins, sharks, and other fish. Removing massive

²⁰ Martin Krkosek *et al.*, Pathogens from salmon aquaculture in relation to conservation of wild Pacific salmon in Canada. *Sci. Adv.* **10**, eadn7118 (2024). DOI:[10.1126/sciadv.adn7118](https://doi.org/10.1126/sciadv.adn7118)

²¹ United Nations, *Frontiers 2017: Emerging Issues of Environmental Concern*, at 15 (2017), <https://www.unenvironment.org/resources/frontiers>.

²² Rob Edwards, The Sunday Herald, *Scottish government accused of colluding with drug giant over pesticides scandal* (June 2, 2017), http://www.heraldscotland.com/news/15326945.Scottish_government_accused_of_colluding_with_drug_giant_over_pesticides_scandal/.

²³ John Drake, Forbes, *A Virus From Farmed Seafood is Causing a New Eye Disease in People* (April 22, 2026), <https://www.forbes.com/sites/johndrake/2026/04/22/a-virus-from-farmed-seafood-is-causing-a-new-eye-disease-in-people/>

amounts of forage fish from our oceans reduces prey availability for other marine species and can change relationships in our ecosystem with potential widespread consequences.

NOAA must assess impacts of these industrial facilities on all species, especially those listed under the Endangered Species Act. Coastal areas are home to a wide variety of waterfowl, estuarine shellfish, marine mammals, sea turtles, and fish species. Here is a brief summary from NOAA itself of some of the most immediately obvious threats for the proposed regions:

New England and the Mid-Atlantic

Endangered species with critical habitat in New England and the Mid-Atlantic include Atlantic salmon, Atlantic sturgeon, North Atlantic right whales, and loggerhead sea turtles.²⁴

South Atlantic

Endangered species with critical habitat in the South Atlantic include green sea turtles, leatherback sea turtles, loggerhead sea turtles, hawksbill sea turtles, smalltooth sawfish, Atlantic sturgeon, Gulf sturgeon, Nassau grouper, North Atlantic right whales, and Rice's whales.²⁵

US Caribbean (Puerto Rico, USVI)

Endangered species with critical habitat in the US Caribbean include green sea turtles, leatherback sea turtles, loggerhead sea turtles, hawksbill sea turtles, and Nassau grouper.²⁶

Pacific Islands (Hawaii, Guam, American Samoa, CNMI)

Endangered Species with critical habitat in the Pacific Islands include blue whales, false killer whales, fin whales, North Pacific right whales, sei whales, sperm whales, Hawaiian monk seals, spinner dolphins, boring giant clams, fluted giant clams, leatherback sea turtles, and North Pacific loggerhead sea turtles.²⁷

Because the proposed facilities in these regions may be located in, or near, species' migration routes or in their habitat, it is very likely that aquaculture activities would impact these species or their habitat. NOAA must therefore analyze the AOA designations' cumulative effects of this project and other proposed projects for the full term of any proposed permit on species.²⁸

²⁴ NOAA Fisheries. Threatened and Endangered Species List New England and Mid-Atlantic.
<https://www.fisheries.noaa.gov/new-england-mid-atlantic/endangered-species-conservation/endangered-and-threatened-species-new>

²⁵ NOAA Fisheries. Threatened and Endangered Species List South Atlantic.
<https://www.fisheries.noaa.gov/southeast/consultations/threatened-and-endangered-species-lists-southeast-region>

²⁶ NOAA Fisheries. Threatened and Endangered Species List US Virgin Islands,
<https://www.fisheries.noaa.gov/southeast/consultations/threatened-and-endangered-species-list-us-virgin-islands>

²⁷ NOAA Fisheries. Threatened and Endangered Species List Pacific Islands,
https://www.fisheries.noaa.gov/species-directory?oq=&field_species_categories_vocab=All&field_region_vocab=1000001116

²⁸ See 33 U.S.C. § 1371(c)(1).

Entanglement from ropes, lines, and net pens may harm endangered species and other wildlife in the proposed areas, especially as the facilities' propensity to act as fish aggregating devices further exacerbates risks of entanglements and vessel strikes as species are drawn to the facilities. Recently, NOAA has admitted that industrial aquaculture may attract predators as a result of fish escapes, food drifting outside the pens, and other animals aggregating around the pens.²⁹ The FAD effect may result in more frequent encounters with protected species, increasing the likelihood of injury from structures or equipment associated with the facility.³⁰

Waste from intensive finfish farming (excess feed, fish poop, and any chemicals used on the fish or pens) readily flows from the net pens into surrounding waters. In many cases, the nitrogen outputs associated with the concentrated rearing of hundreds of thousands of fish in a limited area is equivalent to the sewage output of major U.S. cities; worse, in this case, it is *untreated*. A 2026 study found that Norwegian fish farms are [polluting the fjords with waste likened to the raw sewage of millions of people](#) - in other words, **equivalent to the annual untreated effluent of the entire human population of Australia**.

Nutrient pollution decreases oxygen levels in our waters, killing off aquatic life and creating low-oxygen "dead zones" and harmful algal blooms.³¹ Harmful algal blooms produce toxic chemicals that can kill fish and other vertebrates by affecting their central nervous systems, and can cause serious illness in humans with severe or chronic respiratory conditions.³²

CAFO-style fish farming does not feed Americans or help alleviate hunger

In raising marine carnivorous finfish, it takes more fish to feed the farmed fish than for people to simply eat the lower-trophic level fish in the first place.³³ This is an **inherently unsustainable and energy-intensive model** that leads to a **net loss in fish and animal protein**, mocking the purported "feed the world" claims of NOAA and industry alike.

Opening up American waters to foreign investors and large corporations does not guarantee that the farmed fish would be sold domestically, beyond limited distribution to a handful of high-end restaurants and boutique grocery retailers, nor that it will be affordable to most consumers: instead, production will follow the highest profit margins, and leave us with little else than a mess. In short, **this approach would not contribute to food security**.

Scientifically unsound in conception and siting

²⁹ Luke T. Barrett, et al., *Impacts of marine and freshwater aquaculture on wildlife: a global meta-analysis*, Reviews in Aquaculture (2018).

³⁰ *Id.*

³¹ Donald Boesch *et al.*, Pew Oceans Comm'n, *Marine Pollution in the United States* 20-22 (2001).

³² NOAA, Harmful Algal Blooms, <https://oceanservice.noaa.gov/hazards/hab/>.

³³ Patricia Majluf *et al.*, A review of the global use of fishmeal and fish oil and the Fish In: Fish Out metric. *Sci. Adv.* **10**, eadn5650(2024). DOI:[10.1126/sciadv.adn5650](https://doi.org/10.1126/sciadv.adn5650).

Hurricanes regularly cause widespread devastation along the U.S. East Coast and U.S. Caribbean, and are becoming more intense and frequent.³⁴ For the last several years, we are now consistently experiencing “above-average hurricane activity,” Hurricane season is half of the year, from June 1 to November 30, and this new normal of more frequent and devastating hurricanes makes the idea of siting any offshore fish farms in federal waters pure folly.

It is astonishing that NOAA — an agency with so many experienced scientists and fishery regulators on staff — is pushing forward in creating AOAs for offshore finfish farming. This siloed approach to management demonstrates a fundamental lack of understanding of fisheries on the part of the agency’s proponents, and a grave miscalculation of the critical roles of science and public input on the fisheries regulatory process.

The agency’s assessment does not reflect the findings of the [October 2024 Science Advances issue on aquaculture](#), where peer-reviewed North American scientists detailed the many shortcomings of ocean-based finfish farms. Our coalition members encourage agency staff to talk with fellow staff from various line offices, and to also engage with scientists and colleagues *outside* of the finfish aquaculture industry.

Answering NOAA’s Specific Questions Regarding *Input Requested To Inform the Identification of Future AOAs, Nationally*

Question 1: What regions of the country should next be considered for future AOAs?

For the many reasons outlined above, NOAA should refrain from identifying any future AOAs.

Question 2: Are there specific locations within those regions identified in response to Question 1 that should be considered for future AOAs? Please be as specific as possible and include latitude and longitude or defining landmarks.

No, there are no specific locations as there shouldn’t be any new AOA regions in the first place.

Question 3: NOAA is soliciting information on technical siting requirements for aquaculture operations to inform spatial analysis for future AOAs.

Maximum and minimum depth required are not applicable, as NOAA should not be facilitating the permitting process for aquaculture in U.S. federal waters. It is the duty of states to regulate aquaculture in state waters. If NOAA does choose to pursue AOAs, close proximity to the shoreline and coastal communities would inevitably exacerbate the already underlying tension and resistance to federal government overreach in these communities.

Question 4: Are there specific locations within U.S. waters in your region that should be considered for AOAs? Are there specific locations that should be avoided?

³⁴ Center for Climate and Energy Solutions. Hurricanes and Climate Change. Available at: <https://www.c2es.org/content/hurricanes-and-climate-change/>

All U.S. federal waters should be considered off limits to industrial finfish aquaculture, and therefore there should not be AOAs in any of these areas.

Question 5: Within those regions identified in response to Question 1, what resource use conflicts should be considered as NOAA identifies future AOAs? Please describe specific considerations that might make an area unfavorable, including ongoing or planned activities or ocean uses.

Ecological harm, economic harm and resource use conflicts abound everywhere. No areas are favorable to AOAs.

Question 6: Are there size limitations NOAA should consider for AOAs (e.g., maximum or minimum size)? How many farms should fit within an AOA? Should the size of AOAs be aligned with regional or state/jurisdictional economic development goals for aquaculture?

This is a fascinating question, as the agency has for years sought to expand industrial-scale finfish aquaculture, to the detriment of our coastal economies and marine environment. This has included routing taxpayer dollars to prop up and aid in the scaling up of pilot-scale facilities. The size of the AOAs is an irrelevant question when there shouldn't be any AOAs to begin with; it gives the public the impression that the whole point of this push by the agency is to aid corporations in privatizing vast portions of our publicly-held oceans.

Question 7: Are there aquaculture species or gear considerations that may result in optimized growth? This might include (but is not limited to): species or aquaculture gear depth thresholds, water current thresholds, temperature thresholds, salinity thresholds, etc. Are there any species or gear not currently being used that you would like to see considered in the future? Please be as specific as possible.

This is also a fascinating question, as the science is very clear that certain types of aquaculture, such as responsibly sited and scaled bivalve and seaweed farming in state waters, is the right direction to go in terms of community development and safeguarding the marine environment. However, these AOAs are designed to facilitate the most harmful form of aquaculture, open-discharge carnivorous finfish farming, in Federal waters. So the agency should know the answer to this question already if it turns to science.

Question 8: Is there ongoing environmental, economic, or social science research that would assist in the identification and implementation of future AOAs? If so, please describe in as much detail as is available.

There is [a plethora of scientific research](#) pointing towards [the right direction](#) to go when it comes to looking at how aquaculture can be a part of our seafood system. Yet the agency disregards it by presupposing that we need more AOAs for carnivorous finfish aquaculture in the ocean.

Question 9: Is there information that may not be readily available or accessible online that would be useful for AOA planning processes in your region?

Again, no AOAs should be planned to begin with, so resources that would facilitate the nitty gritty on where exactly to promote this harmful method of finfish aquaculture would be counter to protecting our marine environment and coastal communities.

Question 10: Is there any additional information NOAA should consider?

Yes, first and foremost the peer-reviewed science advises against the pursuit of carnivorous finfish farming in our oceans, which is the goal of these AOAs.

For the many reasons above, our members strongly urge NOAA to refrain from identifying any federal waters offshore for Aquaculture Opportunity Areas.

Sincerely,

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