BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
	)	NPDES Appeal No.
	)	
Permit applicant: Ocean Era, Inc.	)	
	)	
Permitted facility: Velella Epsilon	)	
	)	
NPDES Permit No. FL0A00001	)	
	)	
	)	

PETITION FOR REVIEW BY

FRIENDS OF ANIMALS

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INTRODUCTION

Friends of Animals submits this petition for review of the National Pollution Discharge Elimination System (NPDES) Permit No. FL0A00001, issued to Ocean Era, Inc. by the Regional Administrator, U.S. Environmental Protection Agency Region V (EPA) on May 15, 2025. Attachment 1 (hereinafter, "Permit" or "2025 Permit"). The Permit would authorize the first ever open ocean aquaculture facility in U.S. federal waters, the Velella Epsilon Project ("VE Project").

EPA originally issued a permit to Ocean Era in 2020 and subsequently issued a modified permit in 2022 following remand from the Environmental Appeals Board (EAB). Following a challenge to the 2022 permit, which is currently being held in abeyance in the D.C. Circuit Court of Appeals, EPA issued the modified 2025 Permit.

As discussed in more detail below, EPA committed several factual and legal errors in issuing the 2025 Permit, including violations of at least three federal statutes: the Clean Water Act (CWA, 33 U.S.C. § 1251 et seq.), the Endangered Species Act (ESA, 16 U.S.C. § 1531 et seq.), and the National Environmental Policy Act (NEPA, 42 U.S.C. § 4321 et seq.). In addition, EPA continues to rely on analysis from the 2020 and 2022 permits. As Friends of Animals explained in its previous EAB Appeal, issuance of previous versions of the Permit also violated the CWA, ESA, and NEPA. Thus, to the extent that the 2025 Permit continues to rely on previous analysis or findings, it remains unlawful.

Critically, EPA failed to adequately determine if the Permit would result in undue degradation of the marine environment, failed to fully consider the impact on threatened and endangered species, and failed to take a hard look at the environmental impacts of the VE Project. Due to the clearly erroneous actions by EPA in issuing this Permit, Friends of

Animals requests that the EAB grant this petition for review. In doing so, the EAB should vacate the Permit in its entirety and remand it back to EPA.

PROCEDURAL REQUIREMENTS

Petitioner Friends of Animals satisfies the threshold requirements for filing a petition for review under 40 C.F.R. part 124. In particular:

1. Friends of Animals is entitled to a petition for review of the Permit decision because it filed timely public comments with the Region. *See* 40 C.F.R. § 124.19(a)(2). Friends of Animals submitted comments on November 25, 2024. Attachment 2 ("FoA Comment").[1] Friends of Animals also submitted comments on a previous version of the permit on February 4, 2020. Attachment 6 ("FoA 2020 Comment").
2. Each issue being raised was raised during the public comment period to the extent required by 40 C.F.R. § 124.13. Citations to the relevant comments are included below.

PETITIONER FRIENDS OF ANIMALS

Friends of Animals is a non-profit international advocacy organization incorporated in the state of New York since 1957. Friends of Animals has thousands of members worldwide. Friends of Animals and its members seek to free animals from cruelty and exploitation around the world and to promote a respectful view of non-human animals, free-living and domestic. Friends of Animals has members that live on and visit the west coast of Florida and recreate in and around areas that would be impacted by the VE Project.

[1] Any reference to Friends of Animals' comment letter also incorporates all citations and sources referenced in the comment letter.

STATUTORY AND REGULATORY FRAMEWORK

A. The Clean Water Act

Congress enacted the Clean Water Act (CWA) to "restore and maintain the chemical, physical and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To do that, the CWA prohibits the "discharge of any pollutant by any person," absent a permit authorizing such discharge. Id. §§ 1311(a), 1342(a)(1).

EPA cannot issue a permit for the discharge of pollutants into the ocean unless it first determines that such discharge "will not cause unreasonable degradation of the marine environment." 40 C.F.R. § 125.123; *see also* 33 U.S.C. § 1343(a) (requiring compliance with guidelines for determining degradation of waters). The regulations define unreasonable degradation of the marine environment as "(1) Significant adverse changes in ecosystem diversity, productivity and stability of the biological community within the area of discharge and surrounding biological communities, (2) Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms, or (3) Loss of esthetic, recreational, scientific or economic values which is unreasonable in relation to the benefit derived from the discharge." 40 C.F.R. § 125.121(e).

Moreover, EPA must consider the following ten factors in determining whether a discharge will cause unreasonable degradation of the marine environment:

> (1) The quantities, composition and potential for bioaccumulation or persistence of the pollutants to be discharged;
>
> (2) The potential transport of such pollutants by biological, physical or chemical processes;
>
> (3) The composition and vulnerability of the biological communities which may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of species identified as endangered or threatened pursuant to the Endangered Species Act, or the presence of those species critical to the structure or function of the ecosystem, such as those important for the food chain;

(4) The importance of the receiving water area to the surrounding biological community, including the presence of spawning sites, nursery/forage areas, migratory pathways, or areas necessary for other functions or critical stages in the life cycle of an organism;

(5) The existence of special aquatic sites including, but not limited to marine sanctuaries and refuges, parks, national and historic monuments, national seashores, wilderness areas and coral reefs;

(6) The potential impacts on human health through direct and indirect pathways;

(7) Existing or potential recreational and commercial fishing, including finfishing and shellfishing;

(8) Any applicable requirements of an approved Coastal Zone Management plan;

(9) Such other factors relating to the effects of the discharge as may be appropriate;

(10) Marine water quality criteria developed pursuant to section 304(a)(1).

40 C.F.R. § 125.122(a).

Critically, if there is insufficient information to determine whether there will be no unreasonable degradation of the marine environment, then EPA cannot authorize any discharge of pollutants, without imposing additional conditions. 40 C.F.R. § 125.123(c). If there is insufficient information, EPA must make the following determinations before issuing a permit: "(1) Such discharge will not cause irreparable harm to the marine environment during the period in which monitoring is undertaken, and (2) There are no reasonable alternatives to the on-site disposal of these materials, and (3) The discharge will be in compliance with all permit conditions established pursuant to [40 C.F.R. §125.123(d)]." 40 C.F.R. § 125.123(c). Such permit conditions include a clause that the "permit shall be modified or revoked at any time, if on the basis of new data, the director determines that continued discharges may cause unreasonable degradation of the marine environment." 40 C.F.R. § 125.123(d)(4).

In addition, the CWA prohibits permit issuance "where insufficient information exists on any proposed discharge to make a reasonable judgment on any of the guidelines . . . under section 402 of this Act." 33 U.S.C. § 1343(c)(2).

B. The Endangered Species Act

The Endangered Species Act (ESA) was passed in 1973 to prevent species extinction and to protect the ecosystems which sustain them. 16 U.S.C. § 1531. The plain intent of Congress was "to halt and reverse the trend towards species extinction, whatever the cost." *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 184 (1978). All agencies "shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered species and threatened species." 16 U.S.C. § 1536(a)(1).

Section 7(a)(2) of the ESA requires federal agencies, in consultation with the Fish & Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS or NOAA Fisheries), to ensure that "any action authorized, funded, or carried out" by the agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of any critical habitat. 16 U.S.C. § 1536(a)(2). According to current regulations, to "jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. In fulfilling the requirements of Section 7 of the ESA, agencies must "use the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2).

A federal agency proposing an action (the "action agency") must first determine whether the action "may affect" a listed species or critical habitat. 50 C.F.R. § 402.14(a). If the action agency determines that its proposed action "may affect" a listed species or critical habitat, it must then consult with the consulting agency, FWS or NMFS. Generally, formal consultation is required if an action may affect a listed species. *Id.* However, an

exception exists where the action agency properly determines, with the written concurrence of the consulting agency, that a proposed action is "not likely to adversely affect" a listed species or critical habitat. 50 C.F.R. § 402.14(b)(1). The action agency can reach its no adverse effects determination through preparation of a biological assessment or informal consultation. *Id*. Informal consultation "includes all discussions, correspondence, etc., between the Service and the [action] agency. . . " 50 C.F.R. § 402.02. If the action agency determines that a proposed action is "likely to adversely affect" a listed species, then formal consultation must occur. *See* 50 C.F.R. § 402.14(a).

C. The National Environmental Policy Act

Congress passed NEPA to protect and promote environmental quality. *See* 42 U.S.C. §§ 4321, 4331(a). The fundamental objectives of NEPA are public empowerment and democratic decision-making. NEPA mandates that agencies "consider every significant aspect of the environmental impact of a proposed action." *Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). "Informed public participation in reviewing environmental impacts is essential to the proper functioning of NEPA." *350 Mont. v. Haaland*, 50 F.4th 1254, 1270 (9th Cir. 2022) (quotation omitted).

NEPA requires federal agencies to take a "hard look" at the environmental consequences of actions before acting. *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 374 (1989). As the Supreme Court recently made clear, "the environmental *effects* of the project at issue may fall within NEPA even if those *effects* might extend outside the geographical territory of the project or might materialize later in time." *Seven Cnty. Infrastructure Coal. v. Eagle Cnty.*, 221 L. Ed. 2d 820, 839 (2025). To achieve the goals outlined in NEPA, a government agency must prepare a detailed environmental impact statement (EIS) before the agency can undertake a major federal action that significantly affects the quality of the

human environment. 42 U.S.C. § 4332(C). If an agency is uncertain whether a full EIS is necessary, it must prepare an environmental assessment (EA) with sufficient evidence and analysis to determine whether the proposed action's effects are significant enough to trigger an EIS or whether the effects are insignificant, triggering a finding of no significant impact (FONSI). 40 C.F.R. § 6.205.

After an agency issues a decision, the agency has a continuing duty to gather and evaluate new information that may alter the results of its original environmental analysis and continue to take a hard look at the environmental effects of its future planned actions. *See Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 374 (1989). Thus, if an existing NEPA analysis is outdated and does not account for changed circumstances, then it is "stale" and cannot be relied on without supplementation. *See, e.g.*, *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1086 (9th Cir. 2011).

D. Standard of Review.

Here, the EAB's standard of review is as follows: whether the decision was based on "(A) A finding of fact or conclusion of law that is clearly erroneous; or (B) An exercise of discretion or an important policy consideration that the Environmental Appeals Board should, in its discretion, review. " 40 C.F.R. § 124.19(a)(4)(i). When evaluating a permit decision for clear error, the EAB examines the administrative record to determine whether the permit issuer exercised "considered judgment." *In re Palmdale Energy, LLC*, 17 E.A.D. 620, 622 (EAB 2018). The permit issuer must articulate with reasonable clarity the reasons supporting its conclusions and the significance of the crucial facts it relied on. *In re Shell Offshore, Inc.*, 13 E.A.D. 357, 386 (EAB 2007). As a whole, the record must demonstrate that the permit issuer "duly considered the issues raised in the comments" and followed an approach that "is rational in light of all information in the record." *In re City of Taunton*

Dep't of Pub. Works, 17 E.A.D. 105, 112 (EAB 2016). In reviewing the agency's exercise of discretion, the Board applies an abuse of discretion standard. *In re Guam Waterworks Auth.*, 15 E.A.D. 437, 443 at n.7 (EAB 2011). "[A]cts of discretion must be adequately explained and justified" in the record. *See In re Ash Grove*, 7 E.A.D. at 397; *see also Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 48 (1983) ("[A]n agency must cogently explain why it has exercised its discretion in a given manner."). "The Board has, in the past, remanded permits because they have not provided such an adequate rationale." *In re D.C. Water and Sewer Auth.*, 13 E.A.D. 714, 764 n.79 (EAB 2008) (citations omitted). "[W]hen there are conflicting or differing explanations for a permit issuer's actions, the Board frequently concludes that the [permit issuer's] rationale is unclear and remands for further clarity." *In re Shell Gulf of Mex.*, 15 E.A.D. 103, 143 (EAB 2010) (internal quotations omitted). Moreover, where a permit "does not meet minimum regulatory requirements," remand of the relevant portions of the permit "is necessary." *In re Gov't of the Dist. of Columbia Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 346 (EAB 2002).

FACTUAL AND PROCEDURAL BACKGROUND

Aquaculture located in federal waters in the Gulf of Mexico[2] is entirely new. In fact, the VE Project would be the first of its kind in any federal waters of the contiguous United States. EPA issued a NPDES permit to Ocean Era for the VE Project in 2020 (the "2020 permit"). Friends of Animals and other petitioners sought review of the 2020 permit before the EAB. On May 6, 2022, the EAB issued a decision that remanded the 2020 permit in part and denied review in part. *In re: Ocean Era, Inc.*, NPDES Appeal Nos. 20-08 & 20-09, 18 E.A.D. 678 (EAB 2022). The EAB remanded the permit decision to the EPA "to clearly state

[2] This Petition uses "Gulf of Mexico" or "Gulf" for the recently renamed Gulf of America.

whether the Region determined that the permitted discharge will not cause unreasonable degradation of the marine environment." *Id.* at 719. In response to the EAB decision, the EPA did not update its analysis or findings. Instead, EPA merely tweaked its phrasing and reissued the permit on June 9, 2022 (the "2022 permit").

Friends of Animals filed a petition for direct review in the Federal Circuit Court of Appeals challenging the 2022 permit for violations of the CWA, ESA, and NEPA.

On July 5, 2023, before the case had proceeded to the merits, Ocean Era submitted a request for permit modification because there was "no almaco broodstock available, a poor history of fingerling production, and no manufacturer who is willing and able to design, engineer, and construct a single-use, demonstration scale SPM net pen system." EPA, Final Modification Determination Memorandum ("Memo"), Appendix B at 2. Ocean Era explained that "the VE Project's hatchery partner (Mote Aquaculture Park) suffered a power failure during one of the recent hurricanes causing the total loss of the conditioned almaco jack." *Id*. For the first time, it also disclosed that there were health challenges with almaco jack. *Id.* at 1.

Thus, it requested significant modifications to the permit including different pollutants, namely new fish and new fish feed. Instead of almaco jack, Ocean Era sought to culture red drum (*Sciaenops ocellatus)*. *Id*. It also requested a new net pen design. *Id.*

Under the modified net pen design, there will be at least 4,750 more feet of mooring lines. Memo at 4. The proposed operational footprint also doubled from 11 acres to 23 acres. *Id.* Ocean Era also changed the net mesh material from copper alloy wire to Polyethylene Terephthalate (PET) monofilament. *Id.*

EPA requested a voluntary remand based on Ocean Era's request for a permit modification. The D.C. Circuit Court granted EPA's motion and remanded portions of the

permit that were subject to modification to the agency. Order, *Food & Water Watch, et al., v. EPA*, Case Nos. 22-1253 and 23-1092 (D.C. Cir. Dec. 7, 2023). The remaining parts of the case are being held in abeyance. *Id.*

On May 15, 2025, EPA issued the modified 2025 Permit. Friends of Animals received notice of the modified permit on May 20, 2025. The modified Permit authorized Ocean Era's requested modifications, including the changes to the species and net pen material and design. EPA did not conduct an additional or supplemental NEPA analysis for the 2025 Permit, it did not conduct a new ocean discharge criteria evaluation, and it did not initiate any new ESA consultation, including a biological assessment. Instead, EPA relied on the 2022 permit record, including the 2020 ocean discharge criteria evaluation, biological assessment, and EA.

ARGUMENT

Issuance of the modified 2025 Permit violates at least three federal statutes: the Clean Water Act (CWA, 33 U.S.C. § 1251 et seq.), the Endangered Species Act (ESA, 16 U.S.C. § 1531 et seq.), and the National Environmental Policy Act (NEPA, 42 U.S.C. § 4321 et seq.).

In issuing the 2025 Permit, EPA failed to adequately consider whether the modified VE Project will result in an "unreasonable degradation of the marine environment" and ignored some of the Ocean Discharge Criteria in 40 C.F.R. § 125.22. Moreover, EPA erred by arbitrarily concluding that the VE Project will not likely adversely affect endangered and threatened species and that no formal consultation was required. EPA also erred in continuing to rely on the 2020 permit's inadequate Environmental Assessment (EA).

Finally, EPA improperly concluded that it could use outdated research and analysis that it relied on for the 2020 and 2022 versions of the Permit, instead of updating its analysis to match the conditions in the modified 2025 Permit. To the extent that EPA

continues to rely on past versions of the permit and associated analyses and findings, Friends of Animals maintains and incorporates all its challenges raised in its previous comment letter and EAB petition for review, NPDES Appeal No. 20-08. *See* 2020 Comment, 2020 Petition for Review.

A. EPA failed to comply with the Clean Water Act and made clear errors in its evaluation of the Ocean Discharge Criteria, including failure to issue a new Ocean Discharge Criteria Evaluation for the 2025 Permit.

EPA cannot properly determine, as the CWA requires, that no unreasonable degradation will occur from the 2025 Permit. FoA Comment at 9-19; *see also* 40 C.F.R. § 125.123. This determination must be made by considering the ten factors found at 40 C.F.R. § 125.122. As Friends of Animals explained in its comment, several of these factors are different under the modified 2025 Permit than they were under the earlier permits. *See* FoA Comment at 9-17. However, EPA continued to rely on the Ocean Discharge Criteria Evaluation (ODCE) and permit record for earlier versions of the Permit. *See, e.g.,* Resp. to Comments at 16-17 (continuing to rely on 2022 permit record).

1. EPA failed to consider new pollutants that would be discharged based on the 2025 Permit.

The 2025 Permit introduces new pollutants compared to the earlier versions. For example, the "quantities, composition and potential for bioaccumulation" of the pollutants to be discharged will be different, as will the potential transport of pollutants. 40 C.F.R. § 125.122(1), (2). Red drum themselves constitute a potential biological pollutant if they escape. FoA Comment 19-20. In addition, red drum have different susceptibility to disease, different bacterial infections, and different parasites than the fish contemplated by earlier versions of the Permit. FoA Comment at 8-11. EPA failed to consider this and instead relied on the 2022 permit record, claiming that red drum pathogens are similar to pathogens that affect almaco jack. Resp. to Comments at 11-12. However, EPA's only justification for the

sweeping claim that red drum and almaco jack "are susceptible to many of the same pathogens" was a citation to a master's thesis that simply analyzes diseases affecting the almaco jack without discussing which of those diseases affect red drum at all. Resp. to Comments at 11 (citing Patrick, G. 2019. *Health and disease management of Almaco Jack* (*Seriola rivoliana*) [Master's Thesis]. University of Florida).

This was a clear error, as the two species are susceptible to different diseases and pathogens. Indeed, part of the reason that Ocean Era sought a permit modification was because of the differences between the two species. Thus, EPA should have independently considered the risk of diseases and pathogens in red drum spreading to wild fish and other marine life. Indeed, the scientific literature available regarding red drum's susceptibility to diseases demonstrates that several parasites (Amyloodinium, Trichodina, and Ambiphrya), bacterial infections (Vibrio, Aeromonas, Cytophaga columnaris, and Eubaterium tarantellus), and at least one fungus (Saprolegnia) can occur in red drum cultivation. *See* FoA Comment at 8 (citing J.A. Plumb, *Major diseases of striped bass and redfish*, 33 Vet. Hum. Toxicol. 1-34 (1991)). EPA clearly erred in not addressing the potential transfer of diseases, infections, and parasites from the red drum in the VE Facility.

Moreover, the 2025 Permit's different plastic net material has a higher likelihood of both biofouling and entangling marine animals than the original copper net, which directly implicates the "potential for bioaccumulation" of pollutants as well as adversely impacting the surrounding biological communities and marine mammals. FoA Comment at 11-14; *see also* 40 C.F.R. § 125.122(1)-(3).

The "composition and vulnerability of the biological communities" that could be exposed to these pollutants has also changed significantly in ways that EPA must consider in its analysis. FoA Comment at 14-17. Climate change continues to make the ecosystems

near the VE Project more vulnerable to degradation in ways that were not considered when EPA evaluated the previous permits. FoA Comment at 14- 17 (citing several studies since the 2020 and 2022 permits that demonstrate the increasing vulnerability of the biological communities in the area and the risk of discharging pollutants as authorized by the 2025 Permit).

Furthermore, because EPA's findings to support its no-degradation-determination are based on outdated studies and faulty assumptions about how similar the 2025 Permit will be to the original permit, they are not "supported by substantial evidence on the whole" and should not be accepted. *Arkansas. v. Oklahoma*, 503 U.S. 91, 113 (1992).

Critically, if there was insufficient information to determine that there will be no unreasonable degradation of the marine environment, then EPA could not authorize any discharge of pollutants without imposing additional conditions. 40 C.F.R. § 125.123(c). EPA does not point to any evidence to demonstrate that the discharge from the 2025 Permit will not cause unreasonable degradation of the marine environment. Therefore, EPA should not have authorized the discharge of pollutants.

2. EPA violated the law by failing to consider how the Permit may cause unreasonable degradation of the marine environment in exacerbating harmful algal blooms and by using the incorrect standard.

Friends of Animals and others notified EPA that the VE Project poses a threat to human health, shorelines, beaches, and the biological community because it would contribute to harmful algal blooms (HABs), also known as red tides. *See, e.g.,* FoA Comment at 15–18.

EPA did not directly address this issue in its response to comments. *See* Resp. to Comments at 16-17. EPA ignored relevant new studies and the harm caused by HABs. Instead, it merely relied on the 2022 permit record. *Id.* EPA claimed that 2025 Permit will

contribute less to HABs than the earlier permit because the VE Project is culturing 55,000 pounds compared to the 88,000 pounds authorized in the 2022 permit. *Id.* at 17; Memo at 3. However, EPA never found that culturing 55,000 pounds of red drum and the associated pollution, including from fish feed and fecal matter, would not contribute to HABs and cause an unreasonable degradation of the marine environment. EPA also failed to properly make this finding for the previous versions of the permit.

Notably, there is mounting evidence that the VE Project would cause HABs in the stated location. For example, a study released in 2024 found that the combination of increased discharge of nutrients coupled with climate change "significantly affects the growth, species composition, toxin production, and toxicity of HAB-forming species." FoA Comment at 16 (quoting Zhangxi Hu et al, Editorial: *The impacts of anthropogenic activity and climate change on the formation of harmful algal blooms (HABs) and its ecological consequence*, 11 Frontiers in Marine Sci. 1397744 (Mar. 26, 2024)). This study specifically mentions that nutrients such as nitrogen and phosphorous fuel HABs. *Id.* These are the main nutrients that the VE Project will discharge.

Additionally, a 2023 review of climate change's impact on the Gulf found that climate change "is poised to exacerbate impacts of coastal eutrophication." FoA Comment at 16 (quoting Sunkara et al, *The Gulf of Mexico in trouble: Big data solutions to climate change science*, 10 Frontiers in Marine Sci. 1075822 (Mar. 14, 2023)). Eutrophication is the overabundance of nutrients in the water, this process fuels HABs. FoA Comment at 16. In fact, another study demonstrates that new HAB-causing species have become more prominent in the Gulf in the last decade and stated that that "improved identification of HAB species" is needed in the Gulf of Mexico. FoA Comment at 16 (citing Gaonkar et al, *Metabarcoding reveals high genetic diversity of harmful algae in the coastal waters of Texas*,

Gulf of Mexico, 121 Harmful Algae 102368 (Jan. 2023)). Collectively, these studies portray an enormous threat that already exists and would be exacerbated by additional nutrients discharged by the VE Project.

Another 2023 study by NOAA found that "[a]ll species in the Gulf of Mexico are projected to experience high or very high exposure to climate-driven change in environmental variables." FoA Comment at 9 (citing Quinlan et al., *Results from the Gulf of Mexico Climate Vulnerability Analysis for Fishes and Invertebrates*, NOAA Technical Memorandum NMFS-SEFSC-767 (Aug. 2023)). Almost half (48%) of these species are moderately or highly vulnerable to climate change. *Id.* Warmer waters can negatively impact factors such as population growth rate, early life stage survival, and spawning. *Id.* This means that any pollution the VE Project would discharge would further degrade an already sensitive body of water.

Given that climate change has altered baseline conditions, it is much more likely that pollution from the VE Project will trigger HABs that jeopardize threatened and endangered species in the Gulf. HABs usually result in "massive fish kills, deaths of marine mammals and seabirds, and alteration [i.e., degradation] of marine" environments. FoA Comment at 16-17 (citing NOAA, *Harmful Algal Blooms Observing System, What are HABs?*). The phytoplankton that comprise these HABs release a toxin, stab other organisms with their shells, and deplete dissolved oxygen in the water, causing marine animals to suffocate. FoA Comment at 17 (citing U.S. National Office for Harmful Algal Blooms, *Impacts of Harmful Algal Blooms*). Even animals not residing in the water, such as seabirds, can become sick and die due to ingesting contaminated fish. *Id.* While Friends of Animals notified EPA that it needed to ensure that these effects of climate change and increased threats from HABs are

taken into consideration before issuing the 2025 Permit, EPA failed to do so. *See* FoA Comment at 15-18; Resp. to Comments at 16-17.

EPA's failure to consider these threats was a clear error because the CWA requires EPA to consider such threats before issuing a permit. 40 C.F.R. § 125.22(a)(2)-(4),(6). In particular, EPA must consider "the effect of disposal of pollutants on human health or welfare, including but not limited to plankton, fish, shellfish, wildlife, shorelines, and beaches;" "the effect of disposal of pollutants on marine life including the transfer, concentration, and dispersal of pollutants or their byproducts through biological, physical, and chemical processes; changes in marine ecosystem diversity, productivity, and stability; and species and community population changes;" and "the effect of disposal, of pollutants on esthetic, recreation, and economic values." 33 U.S.C. § 1343(c)(1)(A), (B), (C). The regulations also state that EPA must consider, among other things, "[t]he potential transport of such pollutants by biological, physical or chemical processes;" "[t]he composition and vulnerability of the biological communities which may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of species identified as endangered or threatened pursuant to the Endangered Species Act;" "[t]he importance of the receiving water area to the surrounding biological community, including the presence of spawning sites, nursery/forage areas, migratory pathways, or areas necessary for other functions or critical stages in the life cycle of an organism;" and "[t]he potential impact of the discharge on human health through direct and indirect pathways." 40 C.F.R. § 125.122(a).

EPA does not dispute that HABs are detrimental to human health, shores, beaches, and biological communities. Nor does EPA dispute the evidence that pollutants from the VE Project may exacerbate red tides. *See, e.g.,* 2020 Final EA at 15 (admitting that both

phosphorus and nitrogen from the VE Project may cause excess growth of phytoplankton and lead to esthetic and water quality problems, which may be "of concern" for HABs). Thus, EPA was required to consider how the VE Project threatens human health and the biological community due to its contribution to HABs. 40 C.F.R. §§ 125.122(a), 125.121(e).

However, EPA did not consider the harm from HABs in its determination of no-unreasonable-degradation to the marine environment when issuing the 2025 Permit or when issuing earlier versions of the permit in 2020 and 2022. By failing to do so, EPA made a clear legal error.

As discussed above, EPA did not update its ODCE when issuing the 2025 Permit. Instead, it continued to rely on the ODCE that occurred in 2020. EPA's continued reliance on the 2022 permit record by claiming that fewer nutrients will be released is a clear error because EPA never determined threshold levels of pollutants that could cause or contribute to HABs. EPA admitted in the 2020 ODCE that nutrients "contribute to certain harmful algal blooms," that "HABs are on the rise in frequency, duration, and intensity in the gulf," and that this is "largely because of human activities." ODCE at 34. Yet, EPA claimed that "not enough scientific evidence is available to suggest that [nutrient discharge] from fish farms, or the proposed project, can be directly related to the occurrence of red tides." *Id.* at 35. In the actual evaluation of regulatory factors in the ODCE, EPA fails to mention HABs even once.

EPA's refusal to consider how the VE Project will contribute to and exacerbate HABs is clearly erroneous because EPA cannot disregard the impact of the pollution by casting doubt on the amount of quantitative evidence available. To the contrary, if EPA is unable to obtain sufficient information on any proposed discharge to make a reasonable judgment as to its environmental effect, "no permit shall be issued." 33 U.S.C. § 1343(c)(2).

Moreover, according to federal regulations, if there is "insufficient information" of no unreasonable degradation, then the burden shifts onto EPA to determine that, among other things, "[s]uch discharge will not cause irreparable harm to the marine environment during the period in which monitoring is undertaken." 40 C.F.R. § 125.123(c)(1). Here, EPA clearly erred because it did not consider the threat posed by HABs. Moreover, EPA failed to impose permit conditions that are required when there is insufficient information to determine that there will be no unreasonable degradation of the marine environment. 40 C.F.R. § 125.123(c)(3), (d).

Finally, as discussed in more detail below, the VE Project's contribution to HABs will impact vulnerable biological communities, including threatened and endangered species in the area, and EPA erred by failing to consider this issue. 40 C.F.R. 125.122(3); *infra* at Section B.

B. EPA's failure to ensure that the 2025 Permit will not likely jeopardize the continued existence of any ESA-listed species or adversely affect their critical habitat is clearly erroneous.

In concurrence with National Marine Fisheries Service (NMFS), EPA concluded that issuance of the 2025 Permit is "not likely to adversely affect" ESA listed species largely based on the previously issued documents: the 2019 biological evaluation (BE) prepared for the original permit, the 2019 National Marine Fisheries Service (NMFS) letter of concurrence (LOC), and the 2022 NMFS amended LOC. Memo at 19

EPA's determination that the modified VE project is not likely to adversely affect any listed species is clearly erroneous given that EPA failed to articulate how modifications to fish type, food type, waste quantities, net material, and project footprint will affect the Gulf ecosystem. FoA Comment at 10-14. EPA failed to fully consider the significant threats that the modified VE Project poses as a fish aggregating device (FAD) to ESA-listed species. FoA

Comment at 17-18. Moreover, EPA failed to quantify the actual impact of the modified VE Project on threatened and endangered species' chances of survival and recovery. EPA erred by failing to proceed with a formal consultation and biological opinion before issuing the modified permit.

1. EPA failed to fully consider the adverse effects to threatened and endangered species that the modified VE Project will pose as a fish aggregating device.

Friends of Animals notified EPA that the modified VE project will act as a FAD and adversely affect ESA-listed species in multiple ways: (1) by attracting ESA-listed animals to the facility that might otherwise not be present in the area; (2) by increasing maritime traffic and the risk of vessel strike; and (3) by increasing the risk of entanglement through the changes to net pen material and footprint. FoA Comment at 11-14, 17-18. Current regulations state that the effects of agency actions include "the consequences of other activities that are caused by the proposed action." 50 C.F.R. § 402.02.[3] Thus, EPA was required to consider the impact of the modified VE project, including the effects of creating a FAD.

However, EPA failed to consider or articulate how key modifications to the facility will affect said species and habitat. Moreover, EPA based its finding on a flawed informal

[3] Friends of Animals does not take the position that the ESA regulations are valid. Section 7(a)(2) requires Federal agencies to consult with FWS and NMFS to ensure that **any** action authorized, funded, or carried out by such agency is not likely to jeopardize species or adversely modify critical habitat. The ESA also requires that any doubt should be read in favor of protecting the species and that the proposed action bear the burden of risk and uncertainty. The new regulations improperly limit the effect analysis to those that are "reasonably certain to occur." Thus, the regulation likely limits or excludes consideration of certain consequences that may jeopardize listed species and would result in far greater risk to endangered and threatened species. It also violates the best available science requirement of the ESA. Nonetheless, even using the standard in the recently promulgated regulations, EPA is still required to consider the increased vessel traffic because it is reasonably certain to occur as a result of the VE Project.

consultation and an outdated biological assessment. EPA clearly erred by determining that the modified VE project's status as a FAD is not likely to adversely affect any listed species.

EPA's failure to evaluate FAD related risks posed by the modified VE Project undermines key assumptions that formed the basis for not likely to adversely affect finding, including the following: (1) that listed species are not likely to occur in the area despite the modified facility being more likely to attract them;[4] (2) that the modified VE Project will not generate more maritime traffic than the original;[5] and (3) that the impact would be insignificant given the allegedly small size of the modified VE Project, despite the facility's footprint more than doubling. This undermines EPA's assumptions and the conclusion that the modified VE Project will not likely jeopardize or adversely affect threatened or endangered species. At a minimum, EPA should have conducted a formal consultation and prepared a biological opinion to consider these issues in more detail.

a. EPA did not sufficiently evaluate the effects that modifications to the VE Project may have on attracting ESA-listed species to the net pen.

EPA failed to assess whether the modified VE Project will be more likely to attract threatened and endangered species than the originally planned facility despite the modified VE Project being over twice as large, using food that is higher in protein than the original permit, and employing a net more prone to algae and crustacean growth.

Many ESA-listed species reside in the project area, including fish, marine mammals, sea turtles, and birds. FoA Comment at 13. EPA acknowledged that there are several ESA-listed species that may be affected by the modified VE Project including: ESA-listed sea turtles (green, hawksbill, leatherback, Kemp's ridley, and loggerhead); marine mammals

[4] Memo at 14 ("Due to increased biofouling that may occur, fishes and sea turtles may be attracted to the cage to feed on biofouling algae and crustaceans.").

[5] Memo at 13-14.

(Rice's whale, blue whale, fin whale, sei whale, and sperm whale); and other fish species (smalltooth sawfish, Nassau grouper, giant manta ray, and oceanic whitetip shark). Memo, Appendix E at 4.

EPA and NMFS concluded that many listed species are not likely to be affected given the relative distance of their usual habitat to the facility. . Memo, Appendix E, Appendix 1 at 5; Appendix H, Enclosure 1 at 13-18. However, excess feed, waste, and biofouling will attract fish and other marine animals to the facility who might otherwise not be present, including ESA listed species. *See* Memo, Appendix E at 6-7; FoA Comment at 17. EPA failed to quantitatively assess how the change in amounts of excess feed and fish waste allowed under the 2025 Permit will serve as attractants to ESA-listed species. Instead, EPA justified the permit modification by stating, "[r]ed drum require a different feed than Almaco jack that is lower in protein." Memo at 3. However, this justification is clearly erroneous given that the Memo reported that adult red drum feed has 44% protein compared to 41% protein in adult almaco jack feed. *Id.* at 5.

Moreover, even if the modified VE project may contribute less discharges via excess food and fish waste, the project is more likely to generate particulate matter from frequent cleanings of the modified net pen than the original. *Id.* at 13. "Giant manta rays and oceanic whitetip sharks may be attracted to the farm location to feed on fish or farm discharge." Memo, Appendix E at 7. And, endangered "oceanic whitetip shark are highly mobile and opportunistic predators, [who] may be attracted to the farm location." *Id.* Additionally, "[d]ue to the increase in fish around the fish cage, there is a possibility that the farm will attract predators such as sharks or killer whales, which could prey on listed. . . manta rays." *Id.*

The accumulation of algae and crustaceans also serves as an attractant to endangered species. For example, EPA noted that due to the increased biofouling, fish and sea turtles are more likely to be attracted to the modified net pen. Memo at 14. Additionally, KikkoNet is more likely to accumulate biosolids than the originally permitted copper alloy net. Memo, Appendix H, Enclosure 1 at 9 (citing a study showing that KikkoNet is capable of hosting 150 times more parasitic flatworm eggs per cm of netting material than the copper alloy alternative).

EPA did not perform or rely on a quantitative analysis that establishes a threshold of excess feed or fish waste that would be likely or unlikely to attract listed species. Therefore, its conclusion that the modified VE Project acting as a FAD is unlikely to adversely affect threatened and endangered species is clearly erroneous.

b. EPA failed to consider how modifications to the VE Project would generate additional maritime traffic and increase the risk of harm to ESA-listed species.

EPA's conclusion that ESA-listed species are not likely to be adversely affected by the modified VE Project is clearly erroneous because EPA did not address the likelihood that an increase in maritime traffic from fishing vessels could lead to increased rates of vessel strike or accidental bycatch. EPA recognized vessel strike and bycatch as potential hazards to marine animals. Memo at 12; Memo, Appendix E at 5. It also acknowledged that commercial and recreational fishing vessels will be attracted to the modified facility. Memo, Appendix E at 5-6. However, EPA relied on the NMFS 2022 LOC, which stated that "the proposed farm would only potentially shift current fishing vessel distribution from areas where vessels may currently aggregate." Memo, Appendix E at 6. EPA failed to recognize that it is precisely the relocation of fishing vessels from "where they may currently aggregate" to the modified facility that endangers sea turtles, marine mammals, and other

ESA-listed species, who may also aggregate there. As such, the finding that ESA-listed species will not likely be adversely affected is clearly erroneous.

Strikes between a marine animal and vessel may injure or kill the animal, including air-breathing whales and sea turtles as well as any other marine species, when feeding, basking or swimming close to the surface (e.g., giant manta rays and oceanic whitetip sharks). Memo, Appendix E, Appendix 1 at 6. The VE Project will increase the number and frequency of maritime traffic around the facility by attracting commercial, charter, and recreational fishing vehicles. Memo, Appendix E at 5-6.

Moreover, there is also likely increased vessel traffic based on the modifications to the net pen design, material, and operation of the VE Project. The operational footprint of the modified VE Project is 23 acres, over twice as large as the originally proposed 11-acre footprint. Memo, Appendix E at 5. EPA found that Ocean Era will have two vessels present at the facility, a support vessel and a harvest vessel. *Id*. The harvest vessel is only expected to be present at the facility during on-site harvesting. *Id*. The support vessel will be present at the facility throughout the life of the project "except during certain storm events or times when resupplying is necessary." *Id.* The modified permit requires "more regular cleaning" of the pen relative to the original, "biweekly for the first [six] months, then increasing the cleaning (as needed) to potentially weekly for the last [six] months." Memo at 13.

EPA failed to consider increased maritime traffic and risk to ESA-listed species created by modifications to the Permit. EPA did not account for increased traffic caused by "more regular cleanings" of the net due to increased biofouling and the necessary resupplying of the Ocean Era support vessel. EPA also did not attempt to factor in a baseline increase of major storm activity in the Gulf, which will also likely generate increased traffic from the vessel moving to and from the facility. Moreover, EPA failed to

articulate a baseline amount of traffic that would render ESA-listed species likely or unlikely to be jeopardized. Instead, EPA relied on its previous conclusion that increased vessel traffic in the area is not likely to adversely affect listed species; a conclusion also reached without proper quantitative analysis. Lastly, as previously mentioned, EPA failed to account for the modified VE Project's status as a FAD, which may increase the presence of ESA-listed species.

c. EPA's finding that the modified VE Project will not likely increase the risk of entanglement of ESA-listed species is clearly erroneous.

Marine debris ingestion and entanglement has been shown to cause morbidity and mortality in the ESA-listed species that may be effected. FoA Comment at 11-12. EPA's conclusion that the permit modification will not increase the risk of entanglement to ESA listed species is clearly erroneous. EPA failed to sufficiently consider the increased risk of entanglement in the expanded mooring system. FoA Comment at 11-14. Additionally, EPA did not consider the increased risk of entanglement due to new design, material, and potential damage to the modified VE Project from major storms. FoA Comment at 11-17. Furthermore, EPA failed to consider degradation and microplastic shed caused by regular cleanings to the net pen fence mesh.

The modified mooring system will "increase the operational footprint [from 11 to 23 acres]. . . , include more lines in the water column, [and] add more structures on the seafloor." Memo at 14. In total, the modified mooring system will quadruple the amount of line used to support the net pen from 1,476 feet to 6,205 feet. Memo at 5.

There are recorded instances of fatal marine mammal entanglement at offshore fish farms. Memo at 14. Although there is always a risk of entanglement, it is greater when the mooring lines are in slack. *Id.* EPA noted that "[d]ue to the proposed changes in net pen

mooring. . . , the bridle lines will no longer be in slack during the fish farming operation." Memo at 14. The bridle lines account for only 1,128 feet of the 6,205 total feet of mooring line used in the modified operation. *Id*. at 5. Contradicting the previous statement, EPA noted that "the only time that some lines may be slack is when the cage is raised and lowered" during maintenance or storm events. *Id.* at 14. The Gulf will suffer from major storm events with increased strength and intensity in the future. FoA Comment at 14. The modified net pen will undergo "more regular" cleanings, bi-weekly for the first sixth months, and then up to weekly cleanings for the next sixth months, as needed. Memo at 13. This "more regular" maintenance and increased threat from major storms implies that the mooring lines are more likely to be in slack under the 2025 Permit than the original. However, EPA did not evaluate these threats, which are likely to cause deadly harm to ESA-listed species.

Under the modified permit "farm workers will be able to monitor for any listed species interactions during most situations when the cage is being raised and lowered," or when mooring lines are slacked. However, the Permit does not require farm workers to be trained in the identification of endangered species. Nor did EPA account for the increased risk of damage to the facility from more frequent and intense major storm events.

Additionally, EPA acknowledged that sea turtles may suffer disturbance from stress "via a startled reaction should they encounter the proposed facility." Memo, Appendix E, Appendix 1 at 6. Sea turtles might suffer a behavioral reaction when "approaching and investigating the facility." *Id.* However, despite the modified project having double the footprint and quadruple the amount of mooring line, EPA concluded that because the 2025 Permit allows for only one facility the project "will in no way limit movement or ability of a species to avoid the area." Additionally, EPA noted that "[t]he facility is not in an area

known to be a hot spot or high use area" for feeding. *Id.* This rationale is clearly erroneous because EPA failed to consider its own point that sea turtles may approach the facility in an investigatory nature. The justification that the facility is not currently known to be a feeding ground is undermined by the fact that the modified VE Project will likely act as a FAD, and that the KikkoNet fencing is more likely to grow algae that attracts sea turtles to feed than the original copper alloy fencing. Memo at 14.

Additionally, EPA noted that "[t]he facility is not in an area known to be a hot spot or high use area" for feeding. *Id.* This rationale is clearly erroneous because EPA failed to consider its own point that sea turtles may approach the facility in an investigatory nature. The justification that the facility is not currently known to be a feeding ground is undermined by the fact that the modified VE Project will likely act as a FAD, and that the KikkoNet fencing is more likely to grow algae that attracts sea turtles to feed than the original copper alloy fencing. Memo at 14.

EPA clearly erred in finding that it "does not expect there to be an increase in effects to listed species beyond those that have previously been considered." *Id.* EPA failed to quantitatively analyze the increase in risk caused to ESA-listed animals by the massive expansion of the mooring system. Beyond claiming that the modified mooring lines will be "durable," EPA did not require Ocean Era to provide evidence that this will not impact ESA-listed species. Additionally, EPA performed no analysis outside of its reliance on the durability and maintained tension of the proposed mooring lines to establish that there will not be an increase in adverse effects to listed species despite the addition of over 5,000 ft of line. This finding is clearly erroneous given that EPA failed to consider the extent to which the modification could affect listed species.

Additionally, EPA's finding is clearly erroneous because it failed to consider the increased risk of unreasonable degradation of the environment and entanglement due to potential debris generated by more frequent major storms. EPA noted that KikkoNet "may introduce plastic particles into the marine environment due to the natural wear and tear of the mesh." Memo at 15. EPA also stated that the "large amount of dilution available in [the Gulf] adequately mitigates any risk of microplastics" to marine mammals. Resp. to Comments at 14. EPA arelied on the "durability of the netting, regular netting inspections, and the short time span of the project" to conclude that "the effects from natural wear and tear of the KikkoNet to listed species is expected to be insignificant." Memo at 16. Ocean Era will perform more regular cleanings on the net pen to prevent the buildup of biofouling agents, like algae and crustaceans. *Id.* at 13. The nets will be cleaned by brushing and pressure washing. *Id.* at 14. Climate change and hurricanes are expected to become stronger and more intense. FoA Comment at 14. EPA's claim that the "cage system is designed to survive storm events by lowering the cage," was not supported by evidence and did not address the likelihood or risk of damage to the modified net pen and mooring system in the event of one or more major storms. Resp. to Comments at 20.

Moreover, EPA failed to consider the increased likelihood of major storms resulting in damage or debris from the modified VE Project. Debris in the form of monofilament mesh released into the environment could cause entanglement of marine animals. Additionally, abrasive cleaning of the mono-filament material, such as the planned brushing or pressure washing, will risk shedding microplastics into the ocean, regardless of any regular inspections. Both risks may occur regardless of the "durability of the netting, regular netting inspections, and the short time span of the project," and would cause degradation of the marine environment. However, EPA failed to name or analyze these

risks in their issuance of the modified permit. Furthermore, EPA's conclusion that the large amount of dilution available in the Gulf mitigates any risks of microplastics is arbitrary. One study has revealed that 60% of the world's fish have bioaccumulated some level of microplastics. FoA Comment at 13.

In sum, EPA's finding that the modified VE Project is not likely to affect these ESA-listed species is clearly erroneous given that EPA failed to consider that the modified facility may create significant threats by attracting, disturbing, and potentially entangling ESA listed species. EPA based its conclusions on flawed and dated biological evaluations and informal consultations rather than conducting new evaluations for the modified Permit.

2. EPA failed to consider how baseline environmental conditions have degraded in the Gulf, which makes ESA-listed species and habitats more vulnerable to the harmful effects of the VE Project.

Friends of Animals and others notified EPA that conditions in the Gulf have changed since EPA last conducted its analysis and warned that the VE Project could exacerbate the problems already facing the area. FoA Comment at 14-17. However, EPA failed to consider how the modified VE Project would contribute to existing pollution and threats facing ESA-listed species.

EPA's failure to consider the degradation of the baseline environmental conditions in the Gulf renders its conclusion that the modified VE project will not likely adversely affect any ESA-listed species or protected habitat clearly erroneous. Climate change has already caused and will continue to cause widespread degradation of the Gulf ecosystem, which will be more vulnerable to pollutants and other negative impacts from the VE Project. FoA Comment at 14-17. EPA claimed that it adequately considered the impact of climate change in its 2022 Final EA and made no attempt to update its analysis for changed

climate conditions. Resp. to Comments at 17. Even more egregious, the climate analysis in the Final EA did not attempt to analyze the Gulf ecosystem's increased vulnerability from climate change and other types of degradation, so EPA cannot rely on it to justify its lack of consideration of any of these impacts.

Climate change has continued to worsen since 2022, with 2023 registering as the hottest year on record. FoA Comment at 14. This will lead not only to increasingly intense storms, but also to more fragile and vulnerable ecosystems in the Gulf. This will only exacerbate the potential for the VE Project to adversely affect protected species and habitats in the Gulf. For example, climate change will exacerbate the effects of coastal eutrophication in the Gulf, which will make the VE Project even more likely to cause HABs through nutrient buildup. FoA Comment at 16.

Furthermore, a 2023 study indicates that HAB-causing species are becoming increasingly common in the Gulf. *Id.* (citing Quinlan et al., Results from the Gulf of Mexico Climate Vulnerability Analysis for Fishes and Invertebrates, NOAA Technical Memorandum NMFS-SEFSC-767 (2023)). This study projected that all species in the Gulf will experience "high or very high exposure to climate-driven change in environmental variables," which will make them more vulnerable to subsequent stressors and pollutants like those that the VE Project will add to the Gulf. *Id.* Forty-eight percent of Gulf species already are moderately or highly vulnerable to climate-related changes that could negatively impact population growth, early life survival, and spawning. *Id.*

Finally, EPA claimed that none of the effects of climate change are relevant to the specific modified permit conditions. Resp. to Comments at 17. However, this assertion ignored the fact that changing the fish species and net material will impact the amount of nutrient discharge and biofouling, which will change the impact of the VE Project on the

Gulf's ecosystem. And without considering the changed baseline conditions that the VE Project's modifications will affect, EPA could not accurately predict the changed conditions' impacts on the Gulf ecosystem, listed species, and critical habitat area to conclude whether there will be an adverse effect or not.

3. EPA's conclusion that the modified VE Project is not likely to contribute to HABs due to the offshore location of the facility is clearly erroneous.

Friends of Animals notified EPA that the VE Project is likely to contribute to, and exacerbate, HABs which can adversely affect and jeopardize the survival and recovery of ESA-listed species. FoA Comment at 18. Rather than consider the risk of HABs to ESA-listed species, EPA merely stated that "all potential water quality risks associated with the modified permit are less" compared to the earlier versions of the permit. Memo, Appendix H, Enclosure 1 at 7. This is clearly erroneous because EPA did not establish a quantitative baseline of safe or unsafe discharge levels created by the original permit. Thus, EPA could not conclude that the modified Permit will not jeopardize endangered species or critical habitat merely because it authorizes reduced fish weight compared to the original permit.

Importantly, for the original facility, EPA failed to fully consider how the VE Project would contribute to HABs and impact ESA-listed species. *See* Friends of Animals Petition for Review and Reply, *In re: Ocean Era, Inc*., NPDES Appeal Nos. 20-08. The conclusion regarding the impacts to threatened and endangered species must be based on the best available science, rather than requiring conclusive evidence. 16 U.S.C. § 1536(a)(2); 16 U.S.C. § 1533. The best available science suggested that the original VE Project would contribute to HABs and impact threatened and endangered animals. *See* Friends of Animals Petition for Review and Reply, *In re: Ocean Era, Inc*., NPDES Appeal Nos. 20-08.

Additionally, EPA had an obligation to consider how the VE Project will contribute to HABs, even if the facility would not be the sole or even leading contributor to HAB forming conditions. 50 C.F.R. § 402.02. EPA's failure to consider how the VE Project would impact HABs and ESA-listed species is significant, given the fact that the other conditions necessary for HABs are already present and HABs could adversely affect and jeopardize threatened and endangered species. Moreover, it is a legal error to conclude that the VE Project does not pose a significant threat merely because the pollution may be small in comparison to other pollution in the Gulf. *See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv*, 524 F.3d 917, 929 (9th Cir. 2008) (holding that an agency must incorporate baseline conditions into its jeopardy analysis). Given the Gulf's fragile ecosystem and the threats facing ESA-listed species, even a small event could have a significant impact on species' survival and recovery.

The same rationale that EPA failed to apply when considering the likelihood that the original facility would contribute to the development of HABs in the Gulf is applicable to the modified Permit. Thus, EPA's conclusion that "all potential water quality risks associated with the modified permit are less when compared to the 2022 permit" and so unlikely to contribute to HAB formation is clearly erroneous.

C. EPA failed to comply with the National Environmental Policy Act.

Aquaculture located offshore, in open waters, is entirely new. In fact, the VE Project would be the first of its kind in any federal waters of the contiguous United States. As an entirely new industry in the United States, it comes with many unanalyzed risks. Moreover, the VE Project is located in one of the most sensitive and damaged areas of federal waters. This is precisely the type of decision that would benefit from NEPA review. Because EPA chose to prepare a NEPA analysis for issuance of a permit to Ocean Era for such a facility, it

must follow NEPA properly. *See Pac. Coast Fed. of Fishermen's Ass'ns v. U.S. Dep't of. Int.*, 996 F. Supp. 2d 887, 899-900 (E.D. Cal. 2014) (holding that "once an agency elects to prepare an EA, the EA is subject to independent review, even if it has already been determined that no EIS is required"), *remanded on other grounds* 655 F. App'x 595 (9th Cir. 2016).

Although the CWA states that certain actions shall not be deemed a major federal action within the meaning of NEPA, the potential applicability of any categorical exclusion does not excuse clear errors when the agency nonetheless chooses to prepare an EA and FONSI. *See* 33 U.S.C. § 1371(c)(1).

1. EPA erred by not supplementing the environmental analysis based on the modified Permit.

Courts have long held that when new information comes to light, agencies must consider it and evaluate it, and courts must be satisfied that "the agency has made a reasoned decision based on its evaluation of the significance—or lack of significance—of the new information." *Marsh*, 490 U.S. at 378. Thus, the issuance of a NEPA document "does not always mark the end of the NEPA process." *Friends of the Capital Crescent Trail v. FTA*, 877 F.3d 1051, 1055 (D.C. Cir. 2017). Instead, "post decision supplemental environmental impact statements . . . [are] at times necessary to satisfy [NEPA's] 'action-forcing' purpose." *Marsh*, 490 U.S. at 370-71.

Agencies must prepare a supplemental EIS if the major federal action has not yet occurred and there is new information demonstrating that the action will significantly impact the environment in general or to an extent that the agency has not considered. *Id.* at 374. Courts regularly apply these EIS supplementation requirements to EAs. *See, e.g.*, *Earth Island Inst. v. USFS*, 87 F.4th 1054, 1069 (9th Cir. 2023); *TOMAC v. Norton*, No. 01-0398 (JR), 2005 U.S. Dist. LEXIS 4633, at *11 (D.D.C. Mar. 25, 2005). In fact, EPA stated that its

regulations require a supplemental environmental review of any NEPA determinations when "there is a substantial change to the action that is relevant to environmental concerns or if there are significant new circumstances or new information relevant to environmental concerns." Memo at 29; 40 C.F.R. § 6.200(h).

"'New circumstances' are circumstances which significantly change the underlying project, and 'new information' is intervening information not already considered." *Earth Island Inst.*, 87 F.4th at 1069. The duty to supplement a NEPA analysis is governed by a rule of reason which depends on factors such as "the environmental significance of the new information, the probable accuracy of the information, the degree of care with which the agency considered the information and evaluated its impact, and the degree to which the agency supported its decision not to supplement with a statement of explanation or additional data." *Cuomo v. U.S. NRC*, 772 F.2d 972, 975 (D.C. Cir. 1985).

Here, EPA's failure to supplement the EA violated NEPA because there were substantial changes to the action and new information and circumstances relevant to environmental concerns that EPA had not already considered. *See* FoA Comment at 6-20. EPA admits there were changes and "new circumstances relevant to environmental concerns" but it wrongly found that these circumstances "do not indicate the potential for significant effects and therefore do not require a supplement." Resp. to Comments at 9. However, changes to the net pen and the type of fish are substantial changes that are relevant to significant environmental concerns such as risk of entanglement and pollution. *See* FoA Comment at 6-20.

Moreover, new information demonstrates that the Facility will cause significant impacts, such as HABs, fish escapes, and severe weather, such as hurricanes. *Id*. EPA neither prepared a NEPA analysis evaluating the substantial changes nor considered new scientific

information regarding significant environmental concerns. *See, e.g.*, Memo at 6 (EPA admitting it did not analyze the potential impacts of a "new pollutant (red drum)" escaping into the Gulf). Thus, EPA clearly erred in not preparing a supplemental NEPA analysis.

2. EPA failed to take a hard look at the VE Project's impacts.

When preparing an EA, agencies must evaluate the environmental impacts "to the fullest extent possible," 42 U.S.C. § 4332, and "take a 'hard look'" at the action's effects "before implementing it." *Envtl. Def. Ctr. v. Bureau of Ocean Mgmt.,* 36 F.4th 850, 872 (9th Cir. 2022). A hard look includes considering "all foreseeable direct and indirect impacts." *Idaho Sporting Cong. Inc. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002); 40 C.F.R. § 1508.1(i). It also must include both "a complete discussion of relevant issues" and "meaningful statements regarding the actual impacts of a proposed project." *Earth Island Inst. v. USFS*, 442 F.3d 1147, 1172 (9th Cir. 2006), *abrogated on other grounds by Winter v. NRDC*, 555 U.S. 7 (2008). "General statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided." *Conservation Cong. v. Finely*, 774 F.3d 611, 621 (9th Cir. 2014). An EA "must provide sufficient information and analysis for determining whether to prepare an EIS or to issue a FONSI" and "must focus on resources that might be impacted and any environmental issues that are of public concern." 40 C.F.R. § 6.205(d).

a. EPA failed to take a hard look at the possibility of harmful algal blooms.

EPA wrongfully dismisses concerns about HABs because the VE Project may discharge less pollutants under the 2025 Permit than it would under previous versions of the permit. Resp. to Comments at 17. But scientific evidence demonstrates that the modified VE Project will still likely contribute to more intense and frequent HABs due to

climate change and discharge of excess nitrogen and phosphorus. *See* FoA Comment at 15-18.

It is undeniable that HABs only need three things to thrive: sunlight, warm temperatures, and nutrients (specifically nitrogen and phosphorus, which are the two nutrients that the Facility will discharge the most). Thus, the VE Project's discharge of nitrogen and phosphorus will contribute to HABs. EPA erred by ignoring the fact that, even if these nutrients may not be the sole cause of HABs, they can still undoubtedly *worsen* the existing HABs and trigger new ones. EPA completely failed to take a hard look at how the VE Project is likely to contribute to, and exacerbate, HABs.

Instead of considering these impacts, EPA claimed that it considered HABs in 2022 and that the modified Permit will contribute less to nitrogen and phosphorus loads than previously permitted since the Facility will hold less fish by weight than previously analyzed. Resp. to Comments at 17. But these claims are flawed for three reasons. First, the 2022 analysis of HABs was insufficient. Second, EPA did not know or analyze how much nitrogen and phosphorus is needed to create a HAB and thus did not take a hard look at the facility's impacts or "provide sufficient information and analysis for determining whether to prepare an EIS or to issue a FONSI." 40 C.F.R. 6.205(d). Third, the Facility will still hold 55,000 pounds of fish. Memo at 3. This large number of fish will discharge a significant amount of nitrogen and phosphorus. EPA's failure to take a hard look at the VE Project's impact on HABs constituted a clear error.

b. EPA failed to take a hard look at the use and impact of pharmaceuticals.

EPA made a clear error under NEPA when it failed to consider the harmful effects of antibiotic resistance through excessive application of pharmaceuticals. *See* FoA Comment

at 8-11. EPA also failed to provide any sort of mitigation measures for pharmaceuticals that would render the impacts insignificant. 40 C.F.R. §§ 6.205(e)(3), 6.206(c), (d), (g).

Instead of analyzing these impacts, EPA claimed that it already considered the discharge of pharmaceuticals in the 2022 permit record. Resp. to Comments at 12. But EPA's 2022 analysis was deficient. *See* Friends of Animals Petition for Review and Reply, *In re: Ocean Era, Inc*., NPDES Appeal Nos. 20-08.

Moreover, EPA claimed that Ocean Era stated that antibiotics will "not likely be used" because strong ocean currents will flush the fish culture area, the cage would be cleaned, the net material has anti-biofouling properties, and the lack of nearby aquaculture facilities. Resp. to Comments at 12. However, EPA immediately followed this by describing conditions "[i]n the event that therapeutants are used." *Id.* In fact, the use of therapeutants "is authorized." Memo at 4. Moreover, the use of pharmaceuticals is reasonably foreseeable because scientific literature demonstrates that red drum are susceptible to parasites and disease, *see* FoA Comment at 8-12, which contradicts EPA's conclusion that use of pharmaceuticals is not likely. EPA violated NEPA by not taking a hard look at this issue and instead relying on the applicant's unsupported statement that antibiotics will likely not be used. *See Idaho v. Interstate Com. Comm'n*, 35 F.3d 585, (9th Cir. 1994) (rejecting an agency's deferral to the licensee's judgment regarding environmental impacts).

Further, EPA's own guidance states that NPDES permits "will contain limits" on "discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health."[6] But the 2025 Permit does not

[6] Environmental Protection Agency, *NPDES Permit Basics*, https://www.epa.gov/npdes/npdes-permit-basics (last updated July 12, 2019) (emphasis added).

contain limits on the use of antibiotics and instead merely adopts Ocean Era's contention that no antibiotics are currently planned for use. Resp. to Comments at 12. Notably, Ocean Era need not receive approval to use antibiotics. Instead, Ocean Era must only report how many antibiotics it pumped into the surrounding area **after** it has already done so.

Moreover, EPA claimed that label directions, reporting requirements, and veterinarian guidance will help control the inevitable use of antibiotics. Resp. to Comments at 12. But these factors speak to the efficacy of antibiotics on fish, not to the safety of adding pharmaceuticals in the open ocean. They do not regulate, ensure, or limit the amount of antibiotics used.

EPA clearly erred when it failed to take a hard look at the environmental effects of pharmaceutical use with the VE Project. Simply stating that it believes pharmaceutical use is "unlikely" does not satisfy NEPA's hard look requirements because it does not "provide sufficient information and analysis for determining whether to prepare an EIS or to issue a FONSI." 40 C.F.R. 6.205(d).

3. EPA erred by concluding the Facility would not significantly impact the environment.

EPA's EA does not support its decision to issue a FONSI instead of an EIS because it failed to provide a convincing statement explaining how the VE Project's effects would be insignificant. To prevail on a claim that an agency failed to prepare an EIS, "plaintiffs need not prove that significant environmental effects *will* occur; they need only raise a 'substantial question' that they might." *Envtl. Def. Ctr.,* 36 F.4th at 878-79 (quotation omitted). Courts have described this as a "low standard." *Id.* at 879 (quotation omitted). In reviewing an agency's decision not to prepare an EIS, courts must determine whether the agency took a hard look at the impacts and "provided a convincing statement of reasons to

explain why a project's impacts are insignificant." *350 Mont.*, 50 F.4th at 1265 (internal quotations omitted). "Conclusory assertions about insignificant impacts will not suffice." *Envtl. Def. Ctr.*, 36 F.4th at 879.

The VE Project meets several regulatory factors requiring preparation of an EIS, any one of which would be sufficient alone to require an EIS. *See* FoA Comment at 6-20. First, the facility will likely significantly affect the environment through the release of "hazardous or toxic substances" such as HABs. 40 C.F.R. § 6.207(a)(3). Second, since this action is the first of its kind in federal waters, it involves "uncertain environmental effects or highly unique environmental risks that are likely to be significant" and could set harmful precedent. *Id.* Third, the action will likely significantly affect "fish or wildlife habitat" through entanglement, pollution, parasites and other diseases. *Id.* Finally, approval of this action will also likely produce significant cumulative impacts because it will lead to the expansion of aquaculture. *Id.* EPA failed to provide a convincing reason why these impacts would be insignificant.

RELIEF SOUGHT AND REQUEST FOR ORAL ARGUMENT

Friends of Animals respectfully requests that the EAB hold the Permit invalid and remand it to EPA to correct the deficiencies described above. EPA must provide a thorough explanation of its process and its ultimate finding. If EPA cannot make an affirmative finding, based on the evidence before it, that the discharge will not significantly impact the surrounding environment, jeopardize threatened or endangered species, or cause unreasonable degradation, then it must prohibit the discharge.

Petitioners also request oral argument before the EAB on this Petition because they believe that oral argument will be of assistance to the EAB.

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Date: June 16, 2025

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STATEMENT OF COMPLIANCE WITH WORD LIMITATION

In accordance with 40 C.F.R §§ 124.19(d)(1)(iv) and (d)(3), I hereby certify that this petition does not exceed 14,000 words. Not including the cover page, tables, signature block, statement of compliance with word limitation, and certificate of service, this petition contains 11,943 words (including footnotes), as counted by Microsoft Word.

CERTIFICATE OF SERVICE

I, Jennifer Best, hereby certify that on June 16, 2025, I served a true and correct copy of the foregoing Petition for Review to the following by email, U.S. mail, and through the EAB's e-filing system.

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