EXPLOITERS
FRIENDS
of ANIMALS

June 28, 2022

VIA U.S. Certified Mail, Return Receipt Requested

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Re: Notice of Intent to Sue for Violations of the Endangered Species Act

Dear Agency Officials,

This letter serves as 60-day notice by Friends of Animals to sue the U.S. Environmental Protection Agency (EPA), Michael Regan in his official capacity as Administrator of the EPA, National Marine Fisheries Service (NMFS), and the Honorable

Gina Raimondo in her official capacity as Secretary of Commerce over violations of the Endangered Species Act (ESA) (16 U.S.C. § 1531, *et seq.*). The EPA has violated the ESA in its decision to issue the National Pollution Discharge Elimination System (NPDES) Permit No. FL0A00001, issued to Ocean Era, Inc. on September 30, 2020, by the Regional Administrator, U.S. Environmental Protection Agency Region V (EPA). Attachment 1, Velella Epsilon NPDES Permit, (hereinafter, "Permit"). The Permit would authorize the first ever aquaculture project in the Gulf of Mexico, the "VE Project."

NMFS also violated the ESA by not relying on the best available science to determine the effect of the VE Project on listed species. At the very least, EPA and NMFS must proceed with a formal consultation, after which NMFS must prepare a biological opinion.

BACKGROUND

The VE Project would be the first of its kind in any federal waters of the contiguous United States. There is no legal framework for regulating this new industry in federal waters. On August 3, 2020, the Fifth Circuit Court of Appeals affirmed a District Court decision that stated in no ambiguous terms that current federal legislation "neither suggests nor says that [NOAA] may regulate aquaculture." *Gulf Fishermen's Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F.3d 454, 456 (5th Cir. 2020).

As an entirely new industry, net pen aquaculture comes with many unanalyzed risks, let alone that no federal legislation allows for its regulation. However, some risks—as evident from the single trial net pen in Hawaii and from similar systems internationally—are clear. These risks are too dangerous to experiment without further study and preparation. Such risks include fish escapes, where the farmed fish are released en masse and compete with other species for food and spawning areas and can even dilute the gene pool within their own species. Due to the net pen design, where fish are crammed into highly unnatural densities, parasites such as sea lice are common. These and other parasites or pathogens can easily spread to the surrounding area since the water flows freely in and out of the net pen. Pharmaceuticals are frequently used in such concentrations of fish in order to keep away parasites and diseases. The dumping of these pharmaceuticals into the open ocean can contribute to the ongoing threat of antibiotic resistance, as is also seen in factory farms for land mammals. Pollution of industrial wastewater represents another enormous threat. Pollutants dispersed openly throughout the vicinity of the net pen include fish fecal matter and uneaten fish food, in addition to pharmaceuticals and the fish escaping themselves.

Such dangerous risks are reason enough why an industry should not move forward in federal waters without sufficient study and analysis, something which has not occurred with the VE Project. Moreover, the VE Project is not occurring in a cold-water environment that is healthy and able to deal with such massive blows to the ecosystem. The VE Project is located in one of the most sensitive and damaged areas of federal waters, the Gulf of

Mexico. One of the most damaging phenomena to occur in the Gulf of Mexico has been the rise of enormous Harmful Algal Blooms (HABs). These HABs routinely kill fish, eels, dolphins, and sea turtles, and represent a threat to human respiratory systems as well.[1]

While the exact formula for HABs to flourish is not entirely known, what is known is that influxes of Phosphorus and Nitrogen increase the severity and duration of these events.[2] Furthermore, the VE Project is located in some of the areas most ravaged by HABs, off of Florida's Southwest coast, "from Pinellas to northern Collier counties." Final Environmental Assessment, National Pollutant Discharge Elimination System Permit for Ocean Era, Inc – Velella Epsilon Offshore Aquaculture Project – Gulf of Mexico (hereinafter, "Final EA") at 15. Sarasota, Florida lies in the middle of this stretch of coastline and is the reference point for the VE Project's offshore location. There could not be a worse location for the VE Project to take place.

On February 4, 2020, Friends of Animals commented on the Draft NPDES permit and Draft EA, bringing the above concerns and more to the attention of EPA. *See* FoA Comment 1-25. Any changes EPA made to these documents because of Friends of Animals' comment, and the 40,000 other comments received, were largely relegated to subtle shifts in language. Several "clarifications" were made that did not substantively mitigate or address any of the dangers presented in comments.

Nonetheless, on September 30, 2020, EPA released the Final NPDES Permit along with the Final EA and Ocean Discharge Criteria Evaluation. The VE Project remains substantially similar to the original drafts, much to the dismay of the environmental groups and Southwest Florida community members who commented. EPA released the Final Ocean Discharge Criteria evaluation, stating that no unreasonable degradation "will likely occur" as a result of the discharge from the permit.

Friends of Animals, along with other groups, petitioned the EPA Environmental Appeals Board (the "Board") for a review of the Permit, arguing that the Permit violated the ESA, as well as the Clean Water Act and the National Environmental Policy Act. Following briefing and a hearing, on May 6, 2022, the Board issued an opinion remanding the Permit in part and denying review in part. Following remand, on June 8, 2022, the EPA issued a

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[1] Doug Stanglin, *Red tide, the toxic algae bloom that kills wildlife, returns to southwest Florida,* USA TODAY (Nov. 13, 2019, 12:20 PM), https://www.usatoday.com/story/news/nation/2019/11/13/red-tide-florida-toxic-algae-bloom-returns-southwest-beaches/4177117002/; Lopez, C.B., Dortch, Q., Jewett, E.B., Garrison, D. 2008. Scientific Assessment of Marine Harmful Algal Blooms. Interagency Working Group on Harmful Algal Blooms, Hypoxia, and Human Health of the Joint Subcommittee on Ocean Science and Technology. Washington, D.C., *available from* https://coastalscience.noaa.gov/publications/handler.aspx?key=5687.
[2] Sea Grant Florida, *Understanding Florida's Red Tide* (Dec. 12, 2018), https://www.flseagrant.org/news/2018/12/understanding-floridas-red-tide.

"Clarification" that its finding that "no unreasonable degradation will likely occur" from the VE Project was "unintentional."[3] The EPA issued the final Permit that same day.[4]

ENDANGERED SPECIES ACT VIOLATIONS

In addition to violations of the Clean Water Act and the National Environmental Policy Act, EPA completely failed to quantify the actual impact of the VE Project on threatened and endangered species' chance of survival and recovery. Moreover, EPA failed to fully consider the significant threats that the VE Project poses as a fish aggregating device, and how it could tip species to the point where survival and recovery will be at risk, especially given the degraded baseline conditions in the Gulf of Mexico. The ESA-listed species who will be negatively impacted by the VE Project include, but are not limited to, the following:

- Oceanic whitetip sharks;
- Giant manta rays;
- Rice's Whales (formerly known as Gulf Bryde's whales[5]);
- Blue whales;
- Fin whales;
- Humpback whales;
- Sperm whales;
- Green sea turtles;
- Hawksbill sea turtles;
- Leatherback sea turtles;
- Kemp's ridley sea turtles; and
- Loggerhead sea turtles.

EPA and NMFS must consider the impacts of the VE Project on these listed species and, at the very least, proceed with a formal consultation and Biological Opinion under the ESA.

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[3] Memorandum from Jeanette Gettle, Director, Water Division to Ocean Era NPDES Permit Administrative Record (June 8, 2022), *available at* https://www.epa.gov/system/files/documents/2022-06/Ocean%20Era%20-%20Clarification%20on%20Remand.pdf.

[4] Authorization to Discharge Under the National Pollutant Discharge Elimination System Permit Number FL0A00001, *available at* https://www.epa.gov/sites/default/files/2020-10/documents/npdes_permit_for_ocean_era_inc._-_velella_epsilon_fl0a00001.pdf.

[5] In 2021, NMFS revised the common and scientific name of the Gulf Bryde's whale to Rice's whale, *Balaenoptera ricei*. NMFS, *Rice's Whale*, https://www.fisheries.noaa.gov/species/rices-whale. Because many of the documents at issue predate that change, any references to the Gulf Bryde's whale should be understood to refer to the Rice's whale (and vice versa).

1. **EPA and NMFS failed to consider the VE Project as a Fish Aggregating Device and the resulting adverse impacts to threatened and endangered species.**

EPA repeatedly acknowledges that the pen system could act as a fish aggregating device (FAD) and attract fishers, species that feed on fish, and others. *See e.g.,* Response to Comments at 35 ("It is reasonable to assume that native fish will be attracted to the pen system."); Biological Evaluation at 17 (claiming that the "most likely effect" of the project was behavioral interactions such as "individuals engaging in investigative behavior around the array or that prey on wild fish accumulated near the facility."); Biological Evaluation at 25 ("Commercial and recreational fishermen are expected to visit the proposed project because it could act as a fish attraction device.").

Despite acknowledging the fact that the VE Project will attract marine life and generate increased traffic, EPA and NFMS failed to analyze these impacts when making a finding regarding whether the VE Project is "likely to adversely affect" or jeopardize the continued existence of any endangered or threatened species.

Friends of Animals notified EPA in its comment and in its petition for review that EPA needed to consider the impact of the VE Project as a FAD. FoA Comment at 7-10; 18-19. Specifically, Friends of Animals described how the VE Project's impact as a FAD will adversely affect ESA-listed species in multiple ways. First, FADs attract fishers who catch the fish attracted to the net pen. The fishing industry has taken advantage of this phenomena for generations. Indeed, Ocean Era, Inc., the Permit holder, touts this ability on its website, claiming that its Hawaii net pens are "highly popular with the local Kona fishing community." Ocean Era, Inc. co-founder Neil Sims stated that at least three types of fishers (local recreational, charter boat, and commercial fishers) were catching fish "hand over fist." FoA Comment at 9. Second, the net pen's ability to act as a FAD also attracts sightseers and other recreationalists. Ocean Era, Inc. admitted that aquaculture facilities "proved to be exciting dive sites for snorkel tours." FoA Comment at 8. Third, the VE Project will also attract threatened and endangered species. FoA Comment at 7. These species are threatened by the net pen itself, which poses an entanglement risk, as well as the danger posed by increased vessels, fishers, and recreationalists all meeting up in the area of the VE Project. FoA Comment at 7-10; 18-19.

In response to comments, EPA did not acknowledge the site as a potential FAD or how that could adversely affect threatened and endangered species. Instead, EPA stated that whether the VE Project acts as a FAD "is outside the scope of the NPDES and USACE's permitting actions." Response to Comments at 34; *see also* Response to Comments at 37-39 (only providing cursory analysis of disturbance, entanglement, vessel strikes, water quality, migratory birds, light, and genetic impact, and parasites and pathogens, with no analysis of how the VE Project can act as a FAD).

EPA's conclusion that this issue is outside the scope of the permitting process is clearly erroneous under the law because agencies have an obligation under Section 7 of the ESA to ensure that any action authorized 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." 16 U.S.C. § 1536(a)(2). EPA has similar obligations under the CWA. 40 C.F.R. § 122.49(c). EPA cannot make the required determinations without considering whether the VE Project will act as a FAD, attracting and adversely impacting threatened and endangered species, because EPA must use the best scientific and commercial data available in making this determination. 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.12 (2001) ("A biological assessment shall evaluate the potential effects of the action on listed and proposed species."). Moreover, the current regulations state that "[e]ffects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, **including the consequences of other activities that are caused by the proposed action**." 50 C.F.R. § 402.02 (emphasis added).

EPA's failure to consider the impact of the VE Project as a FAD is a critical error because it undermines key assumptions that formed the basis for the finding that the Permit is not likely to adversely affect threatened or endangered species, including the following: (1) that listed species are not likely to occur in the area;[6] (2) that the effect of the VE Project on maritime traffic is limited to the vessels needed to operate the net pen;[7] and (3) that the impact would be insignificant given the allegedly small physical space of the VE Project.[8] As described in more detail below, the VE Project's ability to attract threatened and endangered animals, as well as other vessels, fishers, and maritime traffic undermines these assumptions and the conclusion that the VE Project will not jeopardize or adversely affect threatened or endangered species. At a minimum, the EPA should have conducted a formal consultation and prepared a biological opinion to consider these issues in more detail.

EPA's biological assessment, EA, and response to comments include contradictory statements that lead to the erroneous conclusion that sharks are "not likely" to occur near the project. Response to Comments at 30. This conclusion fails to consider and contradicts evidence that that the net pen will act as a FAD, and thus is more likely to attract predators, such as listed sharks. Specifically, EPA acknowledges that oceanic whitetip sharks may occur within the action area (Biological Evaluation at 10) and that sharks are

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[6] *See, e.g.,* Biological Evaluation at 21 (finding that impacts are "highly unlikely for each ESA-listed fish species that was considered given their unique habitat preferences and known proximity to the proposed action area); Biological Evaluation at 22 (claiming that sharks, sawfish, and Nassau grouper are not likely to occur in the area); Biological Evaluation at 23 (claiming that whales "are unlikely to overlap geographically with the small footprint of the proposed action area").

[7] Biological Evaluation at 24, 25; Response to Comments at 38.

[8] *See, e.g.,* Biological Evaluation at 22 (claiming that it does not expect disturbance to the giant manta ray, even though it may encounter the facility, because the facility is small and will have a short deployment period).

"opportunistic feeders." Final EA at 20. Friends of Animals pointed to these contradictions in its comment. FoA Comment at 8. EPA failed to respond to this criticism.

EPA erred by failing to consider the project as a FAD that attracts threatened and endangered fish and other fish in making its finding that the VE Project is not likely to adversely affect ESA-listed sharks and other fish. FoA Comment at 8. As discussed above, the VE Facility is likely to attract fishers and others because it is a FAD. As NMFS states on its website, "several lines of evidence suggest that the once common and abundant [oceanic whitetip] shark has experienced declines of potentially significant magnitude due to significant fishing pressure.[9] NOAA explains that there has been an 88 percent decline in the Gulf of Mexico and that the primary threat to the species is incidental bycatch.[10] "Given their life history traits, particularly their late age of maturity and low reproductive output, oceanic whitetip sharks are inherently vulnerable to depletions, with low likelihood of recovery."[11] Fishing is also the main threat to the giant manta rays, which are directly targeted and caught as bycatch, and efforts to address these threats are inadequate.[12] EPA admits that the manta ray is "frequently sighted" within the Gulf of Mexico. Biological Evaluation at 11.

However, EPA completely fails to address how the VE Project will attract fish as well as fishers that could catch listed species, directly or through bycatch, and reduce the number of ESA-listed fish, including the oceanic whitetip shark and giant manta ray.

The Biological Evaluation also claims that the oceanic whitetip shark is not likely to occur near the VE Project given its preference for deeper waters. Biological Evaluation at 22. However, like other statements underlying EPA's finding, this statement is also erroneous and contradicted by the evidence. EPA admitted that the oceanic whitetip shark can be found in waters as shallow as 37 meters. Biological Evaluation at 11. The VE Project will be located at an approximate water depth of 40 meters. Biological Evaluation at 8. Thus, the conclusion that the oceanic whitetip shark is not likely to be found in the project area is clearly erroneous, especially since the net pen will act as an FAD. Moreover, the conclusions that the oceanic whitetip shark and giant manta ray will not likely be adversely affected and that their survival and recovery is not jeopardized are also erroneous, as both species are likely to be in the area and injured by increased fishing vessels, recreation vessels, and potentially the net pen itself.

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[9] National Oceanic and Atmospheric Administration, *Species Directory: Oceanic Whitetip Shark, available at* https://www.fisheries.noaa.gov/species/oceanic-whitetip-shark.

[10] *Id.*

[11] *Id.*

[12] National Oceanic and Atmospheric Administration, *Species Directory: Giant Manta Ray, available at* https://www.fisheries.noaa.gov/species/giant-manta-ray.

2. EPA and NMFS erred by failing to consider the impacts of increased maritime traffic caused by the VE Project.

EPA admits that "[a]ll sizes and types of vessels have the potential to collide with nearly any marine species. Strikes can result in death or injury to the marine animal and may go unnoticed by the vessel operator. Some marine species spend short durations 'rafting' at the ocean's water surface between dives which makes them more vulnerable to vessel strikes." Biological Evaluation at 17-18.

However, EPA errs in failing to consider the impact of vessel strikes caused by the increase of maritime traffic that the VE Project would attract. EPA claims that "opportunities for disturbance from vessels participating in the proposed project are minimal" because "vessels participating in the proposed project are minimal." Biological Evaluation at 24, 25. EPA also states that strikes from other vessels not operated by the facility are anticipated to be improbable due to the distance from shore, approximately 45 miles. Biological Evaluation at 25. Not only are these conclusions not supported by any evidence,[13] they also ignore the increased level of vessels that are reasonably certain to occur around the proposed project. Bringing eager fishers to the area will increase the number of vessels, and hook-and-line fishers, as similar devices did in Hawaii. FoA Comment at 11. This significantly raises the likelihood that marine life will be adversely affected. *Id.*

EPA acknowledged that commenters expressed concerns about "vessel strikes from increased traffic." Response to Comments at 37. However, EPA fails to address this effect or respond to these comments. Instead, EPA repeats that "[t]he probability that collisions between the marine mammals considered in the Biological Evaluation with the vessel associated with the proposed project was determined to be low given there is only one vessel and it will be following NMFS guidelines on how to reduce vessel strikes with marine mammals. Vessel strike impacts are discountable." Response to Comments at 38.

This is both factually and legally erroneous. Under the ESA, agencies have an obligation to ensure that "any action . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification." 16 U.S.C. § 1536(a)(2). This determination must be based on the best scientific and commercial data available. *Id.* Moreover, the current regulations state that the effect of the action includes "all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would

[13] EPA fails to cite any evidence that vessel strikes are unlikely because of the VE Project's distance from the shore. To the contrary, the National Oceanic and Atmospheric Administration states that "[v]essel strikes can occur anywhere in the world's oceans where ships and marine animals co-occur." NOAA, *Understanding Vessel Strikes, available at* https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes.

not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action." 50 C.F.R. § 402.02. Thus, EPA cannot ignore the best available data, including its own statements, that the VE Project will act as a FAD and attract both ESA-listed species and maritime traffic to the same area.

But for the proposed action, the area would not see an increase in fishers and recreationalists. There is clear and substantial information that the VE Project will increase vessel traffic in the area. *See, e.g.,* FoA Comment at 8-9; Biological Evaluation at 25. Thus, it was erroneous for EPA to limit its analysis to "only one vessel" (Response to Comments at 38) and ignore comments expressing concerns about how increased traffic is likely to adversely affect threatened and endangered animals.

3. EPA's and NMFS's conclusion that the VE Project is not likely to jeopardize or adversely affect ESA-listed sea turtles is clearly erroneous.

EPA acknowledges that there are five ESA-listed sea turtle species that may occur in or near the VE Project area: Green sea turtles, Hawksbill sea turtles, Leatherback sea turtles, Kemp's ridley sea turtles, and Loggerhead sea turtles. Biological Evaluation at 14. Again, EPA errs in failing to consider the effects of the VE Project as attracting additional sea turtles, fishers, and vessels. Thus, its conclusion that "effects from disturbance are expected to be insignificant" is contradicted by the evidence. *See* Biological Evaluation at 24.

For example, EPA acknowledged that "ESA-listed sea turtles may be attracted to aquaculture facilities as potential sources of food, shelter, and rest." Biological Evaluation at 24. EPA also states that "[s]ea turtles are known to bite baited hooks and can be hooked incidentally by these fishermen." Final EA at 42. EPA acknowledges that "[s]ea turtles may experience disturbance by stress due to a startled reaction should they encounter vessels in transit to the proposed project site." Biological Evaluation at 24. In particular, "Loggerhead sea turtles are a long-lived, slow-growing species, vulnerable to various threats including alterations to beaches, vessel strikes, and bycatch in fishing nets." Biological Evaluation at 15. It is estimated that "hundreds of sea turtles are struck by vessels in the United States every year, and many of them are killed without being observed. Vessel strikes are one of the most common causes of sea turtle stranding in the United States. In Florida alone, injuries consistent with vessel strikes are observed in 20 to 30 percent of stranded sea turtles."[14] The federal recovery plans for ESA-listed sea turtle species that may occur in the area identify aquaculture, vessel strikes, recreational fishing,

[14] National Oceanic and Atmospheric Administration, *Understanding Vessel Strikes, available at* https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes.

commercial fishing, boating, and diving as threats to the species.[15] For example, the Recovery Plan for the loggerhead sea turtles states bycatch "is the most significant anthropogenic threat to the conservation of Atlantic loggerhead populations.[16] It also states that "[t]he seriousness of the threat caused by vessel strikes to loggerheads in the Atlantic and Gulf of Mexico cannot be overstated."[17] The Recovery Plan emphasizes that "increases in vessel traffic that result for aquaculture operations must be evaluated with respect to the effect on resident or migratory sea turtle populations.[18] However, EPA and NOAA failed to do so.

Instead, EPA's conclusion is irrational and contradicts its own earlier statements. EPA concludes that "[t]he action agencies do not expect increased fishing activity in the project area since there were no reports or observations of interactions between fishermen and ESA-listed species in previous Velella trials (Velella Beta and Velella Gamma) in Hawaii (NMFS, 2016)." Biological Evaluation at 25. To begin with, this statement contradicts statements EPA made earlier in the same paragraph that "[c]ommercial and recreational fishermen are expected to visit the proposed project because it could act as a fish attraction device." *Id.* Moreover, the number of "reported" interactions of a separate project located in a completely different environment does not demonstrate that there will be no increased fishing activity. To the contrary, EPA knows that detection of sea turtles by vessel operators is difficult. Biological Evaluation at 18. Thus, the lack of "reported" interactions does not show that such interactions do not occur. Rather, the amount of increased traffic and animals is a better indication of how sea turtles will be impacted. As reported by NMFS,

> It is estimated that hundreds of sea turtles are struck by vessels in the United States every year, and many of them are killed without being observed. Vessel strikes are one of the most common causes of sea turtle stranding in the United States. In Florida alone, injuries consistent with vessel strikes are observed in 20 to 30 percent of stranded sea turtles.[19]

In short, as Friends of Animals explained in its comment, the Permit is a serious threat to sea turtles. FoA Comment at 11. EPA erred by failing to address how increased vessels, fishing, and disturbance will affect ESA-listed sea turtles. *See Oceana, Inc. v. Ross*, No. 15-cv-0555 (PLF), 2020 U.S. Dist. LEXIS 188328, at *71 (D.D.C. Oct. 9, 2020) (finding that the agency's no-jeopardy conclusion was arbitrary and capricious because it lacked

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[15] National Marine Fisheries Service and U.S. Fish and Wildlife Service. 2008. Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (*Caretta caretta*), Second Revision (Hereinafter, "Loggerhead Sea Turtle Recovery Plan") at I-54, I-57 to I-58, II-6 (recovery goals).
[16] Loggerhead Sea Turtle Recovery Plan at II-1.
[17] Loggerhead Sea Turtle Recovery Plan at I-75.
[18] Loggerhead Sea Turtle Recovery Plan at I-583.
[19] National Oceanic and Atmospheric Administration, *Understanding Vessel Strikes, available at* https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes.

discussion of many of the effects on the sea turtle species that it identified earlier in its evaluation).

4. EPA's and NMFS's conclusion that the VE Project is not likely to jeopardize or adversely affect ESA-listed marine mammals is clearly erroneous.

EPA acknowledges that the endangered Gulf Bryde's whale, now known as the Rice's whale, is common in the Gulf, and endangered blue whale, fin whale, humpback whale, and sperm whale could all occur in the action area. Biological Evaluation at 12. "The Gulf Byrde's whales are one of the most endangered whales in the world, with likely less than 100 whales remaining." Biological Evaluation at 13. However, EPA erred by failing to consider the VE Project's as a FAD that would attract whales and other vessels. Specifically, EPA emphasized that its conclusion that the VE Project will not adversely affect ESA-listed whales was based on "minimal vessel trips." Biological Evaluation at 23. It also stated that "[t]he expected absence of the ESA-listed marine mammals in or near the proposed action area is an important factor in the analysis of whether impacts from the proposed project will have any effect on ESA-listed whales." Biological Evaluation at 23. Moreover, EPA failed to consider and respond to Friends of Animals' concerns that increased noise caused by the VE Project would injure marine mammals. As Friends of Animals explained,

> Open systems such as the VE Project have been the loudest among aquaculture production systems examined, and the majority of ambient noise recorded in net pens falls within the 100 to 500 Hz range. This is within the range that could impact marine mammals. For example, fin whales and baleen whales are impacted by low frequency noises. Baleen whales, such as the Gulf Bryde's whale, have very specialized skulls that can capture the energy of low frequencies and direct it toward their ear bones to hear. If the sounds waves are longer than the whale's body, they can vibrate its skull in a process known as bone conduction. Simulation studies also found that a fin whale's bone conduction mechanism is 4x more sensitive to low-frequency sounds than the pressure mechanism that goes through the tympanoperiotic complex (TPC-which holds the whale's ear bones on its skull).

FoA Comment at 10. EPA admits that

> Underwater noises can interrupt the normal behavior of whales, which rely on sound to communicate. As ocean noise increases from human sources, communication space decreases and whales cannot hear each other, or discern other signals in their environment as they used to in an undisturbed ocean. Different levels of sound can disturb important activities, such as feeding, migrating, and socializing. Mounting evidence from scientific research has documented that ocean noise also causes marine mammals to change the frequency or amplitude of calls, decrease foraging behavior, become displaced from preferred habitat, or increase the level of stress hormones in their bodies.

> Loud noise can cause permanent or temporary hearing loss. Underwater noise threatens whale populations, interrupting their normal behavior and driving them away from areas important to their survival. Increasing evidence suggests that exposure to intense underwater sound in some settings may cause some whales to strand and ultimately die.

Biological Evaluation at 17.

Despite this evidence, EPA concluded that "the noise emitted from the engines and generator would not significantly add to the frequency or intensity of ambient sound levels in the proposed action area and are not expected to be different from other vessels operating in federal waters." Biological Evaluation at 23. However, EPA failed to analyze how traffic is likely to increase. EPA also failed to quantify the frequency and intensity of sounds caused, directly and indirectly, by the VE Project. The claim that sounds are not expected to be "different" is not sufficient to demonstrate that the VE Project will not adversely affect or even jeopardize endangered whales. The noise, even if it is similar to other noise pollution in the ocean, can still adversely impact endangered whales and jeopardize their survival and recovery. Indeed, the existing noise pollution in the ocean is a leading threat to these species. NMFS, Endangered and Threatened Wildlife and Plants; Endangered Status of the Gulf of Mexico Bryde's Whale, 84 Fed. Reg. 15446, 15485 (Apr. 15, 2019). NMFS found that current exposure to anthropogenic noise, primarily by vessels, commercial shipping traffic, and seismic surveys can increase stress in whales, mask communication and environmental cues, lead to reduced foraging and reproductive success, and lead to habitat displacement. *Id.* at 15466. NMFS explained that the Gulf of Mexico Bryde's whale "is continuously being exposed to noise at levels that would cause acute auditory injury, or result in behavioral effects even if the species was temporarily exposed." *Id.* at 15466.

In addition, "high background noise reduces the ability of acoustically sensitive species, such as the [Gulf of Mexico] Bryde's whales, to detect and interpret critical acoustic cues, such as those used for communication, detecting predators or prey, or navigation, even if they do not exceed the thresholds for behavioral effects used to evaluate impulsive sound." *Id.* at 15466. Thus, EPA erred by failing to consider and quantify the risk that noise caused by the VE Project will adversely affect whales in the area. EPA's failure to consider this is a crucial error because thesewhales are "one of the most endangered whales in the world."[20] Thus, "[a]ny human induced mortality can have population-level consequences." 84 Fed. Reg. at 15463 (citing Laist, D. W., Knowlton, A. R., Mead, J. G., Collet, A. S., & Podesta, M.

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[20] National Oceanic and Atmospheric Administration, *NOAA Lists Gulf of Mexico Bryde's Whales as Endangered, available at* https://www.fisheries.noaa.gov/feature-story/noaa-lists-gulf-mexico-brydes-whales-endangered.

(2001) Collisions between ships and whales, Marine Mammal Science, 17(1), 35-75 and Jensen AS, Silber GK (2004) Large whale ship strike database, NOAA Technical Memorandum NMFS-OPR-25). The Recovery Plan also states that "aquaculture may be a major threat to the species." Bryde's Whale Recovery Outline.[21]

In addition, EPA's continued reference to "recorded incidents" from other projects in different environments to conclude that the VE Project will not impact listed species is not the best available science. *See* Biological Evaluation at 24 (noting that "there have been no recorded incidents of entanglement from ESA-listed marine mammal species interacting with a permitted commercial-scale marine aquaculture facility in Hawaii").[22] EPA's statement is misleading for at least two reasons. First, incidents are likely to go unreported. *See* 84 Fed. Reg. at 15462 ("The number of reported vessel collisions with Bryde's whales in the Gulf of Mexico and elsewhere worldwide, with the exception of New Zealand, is likely underestimated because [Gulf of Mexico] Bryde's whales are an offshore species and have low carcass detection and recovery rates compared to more coastal species."). NMFS explained that a study "estimates that as few as 2 percent of cetacean deaths in the Gulf of Mexico are actually detected." 84 Fed. Reg. at 15462, 15478 ("Ship strikes pose a 'high' severity threat to the [Gulf of Mexico] Bryde's whale with 'high' certainty.").[23]

Second, relying on reported incidents from previous projects in different locations is also problematic because those projects did not involve the same species. In fact, the only whale species considered in the projects that EPA cited was the Humpback whale, which does not occur near the VE Project. In contrast, here, the blue whale, fin whale, Rice's Whale (formerly known as Gulf Bryde's whale), sperm whale, and sei whale, none of which were cited in the previous projects, are all potentially within the action area for the VE Project.

5. EPA and NMFS failed to consider and incorporate degraded baseline conditions into their analysis.

Friends of Animals and others notified EPA that it may not simply list past and current activities impacting the area. It must also consider how all these factors interact with one another and how the VE Project could exacerbate the problems already facing the area. FoA Comment at 6-7. EPA has deemed the Gulf of Mexico "critical" to improve water

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[21] National Oceanic and Atmospheric Administration, *Gulf of Mexico Bryde's Whale Recovery Outline, available at* https://www.fisheries.noaa.gov/resource/document/gulf-mexico-brydes-whale-recovery-outline.
[22] Citing Blue Ocean Mariculture, LLC. 2014. Final Environmental Assessment for a Production Capacity Increase at the Existing Open Ocean Mariculture Site off Unualoha Point, Hawaii.
[23] Citing Williams, R., Gero, S., Bejder, L., Calambokidis, J., Kraus, S. D., Lusseau, D., ... & Robbins, J. (2011). Underestimating the damage: interpreting cetacean carcass recoveries in the context of the Deepwater Horizon/BP incident, *Conservation Letters*, *4*(3), 228-233.

quality and any additional pollution could have significant impacts to the area. FoA Comment at 6-7. However, EPA failed to consider how the VE Project would exacerbate existing pollution and threats facing ESA-listed species.

The EPA erred by repeatedly evaluating the effects of the VE Project as compared to other actions in the Gulf of Mexico, rather than, "focusing its analysis on whether the action effects, when added to the underlying baseline conditions, would tip the species into jeopardy." *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 929 (9th Cir. 2008).

In fact, EPA admits that "[m]ore information on the short- and long-term impacts of the DWH [Deep Water Horizon] blowout is needed to assess whether the additional stress caused by the DWH blowout has resulted in a cumulative effect beyond current thresholds." Final EA at 50. Then, EPA concludes that the VE Project would have minimal or negligible impacts "[g]iven the relatively small footprint of the VE Project in context of the previously discussed impacts," such as the Deepwater Horizon Oil Spill. Final EA at 56; *see also* Final EA at 64 (claiming that "the anticipated impacts associated with the VE Project "include relatively minimal impacts to physical, biological, socioeconomic resources"); Response to Comments at 38 ("Additionally, the navigational light from the mooring vessel or buoys are not anticipated to be significant or provide increased light exposures **in comparison** to other industries in the Gulf.") (emphasis added). Even if the VE project will have a "relatively" small footprint compared to some other events, it could still push some species into extinction. It was irrational for EPA to conclude that the impacts would be negligible or minimal without analyzing the baseline condition or how the VE project could contribute to the decline of species that are already on the brink of extinction due to other events, such as the Deep Water Horizon blowout or other baseline pollution. As explained by the Ninth Circuit, if an agency merely compares the effects of the proposed action to the risk posed by baseline conditions, "a listed species could be gradually destroyed, so long as each step on the path to destruction is sufficiently modest. This type of slow slide into oblivion is one of the very ills the ESA seeks to prevent." *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 930 (9th Cir. 2008); *see also Ore. Natural Desert Assoc. v. Jewell*, 840 F.3d 562, 568 (9th Cir. 2016) (finding that establishment of a baseline is a "practical requirement in environmental analysis often employed to identify the environmental consequences of a proposed agency action").

Finally, EPA completely failed to quantify the actual impact of the VE Project and how it could affect ESA-listed species' chances of survival and recovery. In fact, there is no analysis in the Biological Evaluation of how the VE Project could impact the recovery of ESA- listed species. *Nat'l Wildlife Fed'n.*, 524 F.3d at 936 ("It is only logical to require that the agency know roughly at what point survival and recovery will be placed at risk before it may conclude that no harm will result from 'significant' impairments to habitat that is already severely degraded.").

6. EPA and NMFS erred by failing to consider the impact of the VE Project on HABs and ESA-listed species.

Friends of Animals notified EPA that the VE Project is likely to contribute to, and exacerbate, harmful algal blooms (HABs) which can adversely affect and jeopardize the survival and recovery of ESA-listed species. FoA Comment at 13. In its response to comments, EPA acknowledged that commentors notified it that "nutrients from the offshore fisheries, and the distortion of nutrient ratios, result in an increased risk from toxic blooms, both in their frequency of occurrence and their geographic extent." Response to Comments at 23.

However, EPA failed to consider, or even attempt to quantify, how the VE Project would contribute to HABs and impact ESA-listed species. EPA failed to rely on the best available science, as is required by the ESA. 16 U.S.C. § 1536(a)(2). EPA acknowledged its conclusion that "no good scientific evidence is available to suggest that macronutrients and micronutrients from fish farming is related to the occurrence of red tides" was misleading. In particular, EPA cited work by Professor Graham Harris as support for its conclusion. However, when notified how his work was being cited by EPA, Professor Harris responded that "there is an extensive international literature on the stimulation, growth and harmful effects of what are called HABs—Harmful Algal Blooms—many of them, like the dinoflagellate Red Tides are toxic. All are stimulated by increased nutrient loads." Response to Comments at 24.

Rather than rely on the best available science and consider the impact of the VE Project on HABs, EPA merely dismissed the issue by claiming that "there is not enough quantitative evidence to conclude that marine aquaculture, or the proposed fish farm, can be directly linked to the occurrence of *K. brevis*." Response to Comments at 24. EPA's refusal to consider how the VE Project will contribute to and exacerbate HABs is clearly erroneous for several reasons. First, EPA errs as a matter of law by dismissing the effect of HABs when it claims there is "not enough quantitative evidence." Response to Comments at 24. 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. Moreover, if additional data would provide a better information base from which to formulate a biological opinion, the consulting agency (FWS or NMFS) may request an extension of formal consultation so the action agency can obtain additional data to determine how or to what extent the action may affect listed species or critical habitat. 50 C.F.R. § 402.14(f); FWS and NMFS, Endangered Species Consultation Handbook (March 1998) at 4-6. Here, the best available evidence suggests that the VE Project would contribute to HABs and impact threatened and endangered animals. For example, EPA admits that uneaten food, fecal matter, and metabolic wastes from the facility will lead to increased phosphorus levels, and "increased phosphorus may, along with nitrogen, contribute to algal blooms and coastal eutrophication." Ocean Discharge Criteria

Evaluation at 35. Further, the EA acknowledges that both phosphorus and nitrogen from the facility may cause excess growth of phytoplankton and lead to aesthetic and water quality problems. Final EA at 15. Thus, EPA cannot dismiss this information by claiming that "quantitative direct links to marine aquaculture are lacking in the scientific literature." *Id.* at 15.

Second, EPA erred in determining that it could ignore HABs merely because the VE Project would not be the "sole" cause of HABs. Response to Comments at 22, 23. EPA relies on a quote from the Florida Fish and Wildlife Conservation Commission that "[n]o single factor causes blooms of *K. brevis*. Blooms form as a result of the interactions between biology, chemistry, and ocean currents that unite nutrients with light and carry red tide to the beach." Response to Comments at 24. However, even if no single factor causes HABs, EPA still has an obligation to consider how the VE Project will contribute to HABs. 50 C.F.R. § 402.02. EPA's failure to consider how the VE Project would impact HABs and ESA-listed species is significant, especially given the fact that the other conditions necessary for HABs are already present and HABs could adversely affect and jeopardize threatened and endangered species. For example, in the severe Florida red tides of 2005 and 2006, at least 179 loggerhead sea turtles died.[24] Other ESA-listed species are also likely to be harmed by the VE Project and its contribution to HABs. *See, e.g.,* 84 Fed. Reg. at 15475 (Gulf of Mexico Bryde's whale); Recovery Plan Loggerhead Sea Turtle at I-62; FoA Comment at 13.

Third, EPA erred by dismissing the impact of the VE Project and HABs based on the claim that the impact could be small in comparison to other pollution. EPA stated that "[d]ue to the **relatively** small fish biomass production estimated for this demonstration and the limited discharges other than fish food and fecal matter, the volume and constituents of the discharged material are not considered sufficient to pose a significant environmental threat." Response to Comments at 23 (emphasis added). However, 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. *Nat'l Wildlife Fed'n,* 524 F.3d at 929. Given the Gulf of Mexico's fragile ecosystem and the threats facing listed species, even a small event could have a significant impact on the species survival and recovery. For example, in its determination that the Gulf of Mexico Bryde's whale is endangered, NMFS found that HABs are considered a threat to the critically endangered whale and that "a HAB-induced mortality of a single breeding female would significantly degrade the status of the population." 84 Fed. Reg. at 15475.

CONCLUSION

If EPA and NMFS do not act within 60 days to correct these violations, Petitioners intend to pursue litigation in federal court against EPA and NMFS. However, this is not our

[24] National Centers for Coastal Ocean Science, *Metabolism and Physiology of Red Tide Toxins in Turtles, available from* https://coastalscience.noaa.gov/project/metabolism-physiology-red-tide-toxins-turtles/.

preference. The purpose of the 60-day notice provision in the ESA is for violators of the law to come into compliance, therefore avoiding the need for litigation. Accordingly, if you have any plans to cure these violations, please contact me to discuss.

Sincerely,

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