EXPLOITERS
FRIENDS
of ANIMALS

February 4, 2020

VIA USPS & E-MAIL (wahlstrom-ramler.meghan@epa.gov)

Attn: Ms. Meghan Wahlstrom-Ramler
Environmental Protection Agency
NPDES Permitting Section, Water Division
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960
wahlstrom-ramler.meghan@epa.gov

Re: National Pollutant Discharge Elimination System (NPDES) Permit and Rivers and Harbor Act Section 10 Permit for Kampachi Farms – Velella Epsilon (VE) Offshore Aquaculture Project

Dear Ms. Wahlstrom-Ramler,

Friends of Animals[1] submits these comments in response to EPA's release of its Draft Environmental Assessment for the Velella Epsilon Offshore Aquaculture Project (hereinafter "Draft EA"). The Velella Epsilon (VE) project is the first of its kind in both the Gulf of Mexico and in federal waters. Such novelty should make analyses of unknown effects **more** thorough and comprehensive. Yet, EPA has decided to forgo a detailed Environmental Impact Statement and has failed to take a hard look at the impacts of this unprecedented aquaculture project in its Draft EA.

Our oceans are currently being depleted worldwide faster than they can recover, resulting in an overfishing crisis.[2] But Friends of Animals believes (and Congress demonstrated through multiple, overlapping pieces of legislation) that the protection of our natural environment and its wildlife is more important than the human demand for fish, fur, or

[1] Friends of Animals is a non-profit international advocacy organization incorporated in the state of New York since 1957. Friends of Animals has nearly 200,000 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, free-living and domestic animals.
[2] Jason Link & Reg Watson, *Global ecosystem overfishing: Clear delineation within real limits to production*, 5 SCI. ADV. 6 (2019).

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feathers. EPA has statutory duties under multiple environmental laws. Obeyance to these laws must take precedence over commercial interests in harvesting fish.

EPA has failed to adhere to the National Environmental Policy Act by giving short shrift to the VE project in the form of a Draft EA. Friends of Animals asks EPA to draft an Environmental Impact Statement and further look at potential damaging consequences of the proposed VE project.

In addition, approving the NPDES permit would violate the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the Clean Water Act.

LEGAL BACKGROUND

A. National Environmental Policy Act

Congress enacted the National Environmental Policy Act (NEPA) in 1970 to ensure the federal government considers the environment impact of its activities before acting. NEPA is "often called the 'Magna Carta' of Federal environmental laws."[3]

NEPA requires an acting agency to prepare a detailed environmental impact statement (EIS) for federal actions that significantly affect the quality of the human environment. The EIS should include "(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, [and] (iii) alternatives to the proposed action."[4]

Whether an agency action meets the "significant" standard to require preparation of an EIS requires "considerations of both context and intensity."[5] The context of the action includes factors such as "society as a whole (human, national), the affected region, the affected interests, and the locality."[6] The intensity of an action refers to the "severity of the impact" and requires consideration of several factors, including the degree to which the effects are highly uncertain or involve unique or unknown risks; the precedential effect of the action; whether the action is related to other actions with cumulative significant impacts; and the degree to which the action may adversely affect an endangered or threatened species.[7]

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[3] Council on Environmental Quality, *Welcome*, NEPA.GOV, https://ceq.doe.gov/ (last visited Jan 15, 2020).
[4] 42 U.S.C. § 4332(2)(C).
[5] 40 C.F.R. § 1508.27.
[6] 40 C.F.R. § 1508.27(a).
[7] 40 C.F.R. § 1508.27(b).

B. Endangered Species Act

The Endangered Species Act (ESA) was passed in 1973 to prevent extinction of various organisms and protect the ecosystems which sustain them.[8] The plain intent of Congress was "to halt and reverse the trend towards species extinction, **whatever the cost**."[9]

The ESA requires federal agencies to ensure their actions do not threaten the existence of listed species or their habitats.[10] It also prohibits a person from taking a listed animal without a permit. Taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[11]

C. Clean Water Act

In 1972, Congress significantly amended the Federal Water Pollution Control Act of 1948. The law became commonly known as the Clean Water Act (CWA).[12] The law applies to all waters of the United States, which include "relatively permanent, standing or continuously flowing bodies of water 'forming geographic features' that are described in ordinary parlance as 'streams,' 'oceans, rivers, and lakes.'"[13]

The CWA makes it illegal to discharge any pollutant into navigable waters, unless a permit is obtained. Under the CWA, EPA manages the National Pollutant Discharge Elimination System (NPDES), which allows issuance of a permit to lawfully discharge pollutants.[14] The issuance of such a permit is at the crux of the Proposed Action.

NPDES permits "**will contain limits** on what you can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health."[15]

In addition, the CWA prohibits unreasonable degradation of the marine environment. Sections 402 and 403 of the CWA require a NPDES permit for a discharge into the

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[8] Environmental Protection Agency, *Summary of the Endangered Species Act*, https://www.epa.gov/laws-regulations/summary-endangered-species-act (last updated Jul. 5, 2019).
[9] *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978) (emphasis added).
[10] Environmental Protection Agency, *Summary of the Endangered Species Act*, https://www.epa.gov/laws-regulations/summary-endangered-species-act (last updated Jul. 5, 2019).
[11] 16 U.S.C. 1532(19).
[12] Environmental Protection Agency, *Summary of the Clean Water Act*, https://www.epa.gov/laws-regulations/summary-clean-water-act (last updated Mar. 11, 2019).
[13] *Rapanos v. United States*, 547 U.S. 715, 739 (2006).
[14] Environmental Protection Agency, *Summary of the Clean Water Act*, https://www.epa.gov/laws-regulations/summary-clean-water-act (last updated Mar. 11, 2019).
[15] Environmental Protection Agency, *NPDES Permit Basics*, https://www.epa.gov/npdes/npdes-permit-basics (last updated July 12, 2019) (emphasis added).

territorial seas (baseline to 12 nautical miles, or farther offshore in the contiguous zone or the ocean). Before issuing a NPDES permit, discharges must be evaluated against EPA's published criteria for a determination of unreasonable degradation.

The NPDES implementing regulations at 40 C.F.R. § 125.121(e) define unreasonable degradation of the marine environment as the following: (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 aesthetic, recreational, scientific or economic values, which is unreasonable in relation to the benefit derived from the discharge.

D. Magnuson-Stevens Fishery Conservation and Management Act

Congress passed the Magnuson–Stevens Fishery Conservation and Management Act (MSA) in 1976. MSA gives the National Marine Fisheries Service (NMFS) authority to regulate the fisheries of the United States, including all "catching, taking, or harvesting of fish."[16]

In 2016, NMFS promulgated regulations authorizing a new plan to allow permits for aquaculture facilities in the Gulf of Mexico.[17] In 2018, the District Court of Eastern Louisiana ruled that aquaculture does not qualify as "fishing" under the MSA.[18] The Court stated that there was a "clear indication that Congress did not intend for the MSA to grant NMFS the authority to regulate aquaculture."[19]

FACTUAL BACKGROUND

Kampachi Farms, LLC (hereinafter "Kampachi Farms") applied for an NPDES permit to operate the Velella Epsilon facility or VE project. The VE project would consist of a mesh net pen enclosure, housing approximately 20,000 different members of the species *Seriola rivoliana.*

The VE Project would be the first of its kind in federal waters in the Gulf of Mexico. The VE Project would discharge several types of effluents into the Gulf of Mexico approximately forty-five miles southwest of Sarasota, Florida, and would thus require an NPDES permit under the CWA to operate.

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[16] 16 U.S.C. §1802(16)(a).
[17] NOAA Fisheries, *NOAA expands opportunities for U.S. aquaculture* (Jan. 11, 2016), https://www.fisheries.noaa.gov/media-release/noaa-expands-opportunities-us-aquaculture.
[18] *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 341 F. Supp. 3d 632, 638 (E.D. La. 2018).
[19] *Id.* at 640.

DISCUSSION

A. EPA should consider its obligations under the National Environmental Policy Act.

1. The Proposed Action meets the level of significance that triggers preparation of EIS.

The proposed action in the approval of the NPDES permit for Velella Epsilon (VE) could result in major environmental impacts and warrants preparation of an EIS. Simply put, the Draft EA is inadequate and ineffective. EPA tellingly refers to this legislatively-mandated Environmental Assessment as "voluntary."[20] While the VE project does not reach sufficient minimum harvest weight[21] to qualify as a Concentrated Animal Aquatic Production (CAAP) under the CWA, the intensity of the proposed action indicates that the action necessitates further review via an EIS.

a. VE involves unique or unknown risks - 1507.28(b)(5)

The effects of the VE project involve unique and unknown risks. If allowed to move forward, VE would be the first offshore aquaculture in federal waters. It would also be the first offshore aquaculture in the Gulf of Mexico, an area the EPA has deemed "critical" to improve water quality.[22] For example, the impacts involve unique and unknown risks to a variety of threatened and endangered animals, unique and unknown risks involving nutrient discharge, and unique and unknown risks from pharmaceutical discharge (*see* analysis below).

b. This action will establish a precedent - 1507.28(b)(6)

The EPA states that the Draft EA will "help streamline the NEPA process for any future aquaculture permitting actions."[23] By making the Draft EA a guide to be considered in subsequent similar actions, EPA has explicitly made this a precedent-setting action.

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[20] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 2 (2019).
[21] CAAP facilities must produce 100,000 pounds of aquatic animals annually to fall under the national standards of performance in 40 CFR Part 451. VE will produce 88,000 pounds annually. *See* Draft EA at 11.
[22] Environmental Protection Agency, *Why is Improving Water Quality in the Gulf of Mexico so Critical?*, https://www.epa.gov/gulfofmexico/why-improving-water-quality-gulf-mexico-so-critical (last updated May 30, 2017).
[23] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 2 (2019).

The potential for precedent might be more nebulous if future operations were unforeseeable. However, future operations that could result from a successful demonstration of the VE Project are almost certain.

In fact, the EPA itself states that they "believe[] it is reasonably foreseeable that the growth of the aquaculture in the Gulf **will occur** at future point."[24] The reasonableness of these future operations occurring only emphasizes the precedential nature of the Proposed Action.

c. EPA failed to fully analyze the cumulative impacts of the Proposed VE project, along with past and present pollution, climate change, and potential future aquaculture facilities - 1507.28(b)(7)

The Council on Environmental Quality (CEQ) defines cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and **reasonably foreseeable future actions** regardless of what agency (Federal or non-Federal) or person undertakes such other actions."[25]

In the Draft EA, EPA only takes a cursory look at the cumulative impacts of one currently-existing facility in the Gulf of Mexico: Manna Fish Farms. If the VE project was the only foreseeable aquaculture facility being added in the Gulf, this scope of cumulative effects might be appropriate. However, as discussed above, it is reasonably foreseeable that future facilities **will** be built in the Gulf.

EPA drives this point home when they refer to the VE project as a "pilot-scale" facility, i.e. a smaller system that will provide knowledge to help build full-scale production systems. This represents a second set of cumulative impacts from future actions that have gone ignored: effects from larger facilities, as opposed to simply additional facilities that will be the same size as the VE Project.

EPA ignores the cumulative impacts from additional, larger future aquaculture facilities – whose permit processes EPA will "help streamline" – when discussing the impacts of the Proposed Action. This lack of foresight directly contravenes EPA's duties under NEPA, and further raises the intensity of the Proposed Action.

EPA also fails to consider the cumulative impacts of increasing pollution, acidification, and climate change. EPA may not simply list past and current activities impacting the area. They

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[24] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 49 (2019).
[25] 40 C.F.R. Section 1508.7 (emphasis added).

must also consider how all these factors interact with one another, and how the VE project could exacerbate the problems already facing the area. As mentioned above, the EPA has deemed the Gulf of Mexico "critical" to improve water quality and any additional pollution could have significant impacts to the area.

In addition to ESA-listed species, there are numerous species designated by the State of Florida as threatened or as a species of concern that the VE project will likely impact, such as the American oystercatcher, black skimmer, Florida sandhill crane, least tern, little blue heron, reddish egret, and the West Indian manatee. EPA failed to take a hard look at the cumulative impacts to these species.

EPA must consider the cumulative impacts of pollution, ocean acidification, and climate change of the VE project on threatened and endangered species, and species of special concern.

d. This Action May Adversely Affect Endangered or Threatened Species - 1507.28(b)(9)

Lastly, EPA acknowledges that the known behavior of several ESA-listed species takes them near the chosen site for the Proposed Action. These include, *inter alia*, species of fish (smalltooth sawfish, giant manta ray, and oceanic whitetip shark), marine mammals (manatees, sperm whales, Bryde's whale, Atlantic spotted dolphin, and common bottlenose dolphin), sea turtles (green sea turtle, hawksbill, Kemp's ridley, leatherback, and loggerhead), and birds (piping plover and red knot).

The Draft EA's most glaring weakness vis-à-vis ESA-listed species is the complete omission of the submersible fish pen's ability to act as a Fish Aggregating Device (FAD). FADs can be man-made or natural, but in either case rely on fishes' natural fascination with floating objects. Fishers have known about and exploited this behavior "for centuries."[26] There is no excuse for this phenomenon to be absent in the Draft EA. In fact, NOAA stated it best – in a reported cited in the Draft EA – when it admitted, "[l]ittle research has documented the extent to which marine predators target wild fish around farms, but **this would be useful** for understanding ecological interactions between farming and marine life."[27] EPA has not conducted or produced any additional research to glean this useful information. Nor have they disclosed why they could not conduct additional research on this important impact.

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[26] Steve Beverly et al., *Anchored fish aggregating devices for artisanal fisheries in South and Southeast Asia: benefits and risks*, THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, http://www.fao.org/3/a-i3087e.pdf (2012).
[27] Price, C.S. and J.A. Morris, Jr., *Marine Cage Culture and the Environment: Twenty-first Century Science Informing a Sustainable Industry*. NOAA Technical Memorandum NOS NCCOS iv (2013) (emphasis added).

FADs have the potential to harass or harm protected 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 phenomenon for generations. Indeed, Kampachi Farms touts this ability on their website, claiming that their Hawaii net pens were "highly popular with the local Kona fishing community."[28] Kampachi Farms 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."[29]

The net pen's ability to act as a FAD also attracts sightseers. Kampachi Farms again attempts to frame this in a positive light, stating that it "proved to be exciting dive sites for snorkel tours."[30] Sims reiterates this point, stating, "[l]ocal diver and snorkel tour operators brought their passengers out to dive on the offshore pen sites."[31]

i. Fish

In dismissing the possibility of adverse effects on fish, EPA ignores the certainty that the net pen will act as a FAD. This makes it more likely that the facility will attract predators. The EPA states that the whitetip shark can be found in waters as shallow as 37 meters. The VE project site is on the 40-meter isobath. EPA also states that the oceanic whitetip shark is an "opportunistic feeder." EPA did not address the FAD potential of the net pen when it comes to assessing adverse impacts on this species. It simply states that the shark is "not likely" to occur near the project.

Another threat to the oceanic whitetip shark is bycatch. Bycatch tends to be worse when fishers use purse seine, which is common in commercial fishing. At a minimum, fishers should be taught proper methods for handling and releasing bycatch. Once again, EPA does not mention this threat in the Draft EA, let alone proper methods to avoid or mitigate this potential disaster.

The EPA invokes the hollow doctrine of "not likely" in its assessment of adverse impacts on the giant manta ray. After admitting that the giant manta ray could encounter the facility,

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[28] Kampachi Farms, Inc., *Velella Epsilon: Pioneering Offshore Aquaculture in the Gulf of Mexico* (Nov. 2, 2017), http://www.kampachifarm.com/blog/tag/Sustainability.
[29] Dale White, *U.S. Environmental Protection Agency accepting pro and con public comments about the concept*, HERALD TRIBUNE (Sept. 27, 2019, 9:36 AM), https://www.heraldtribune.com/news/20190926/floating-fish-farm-in-gulf-proposed-southwest-of-sarasota.
[30] Kampachi Farms, Inc., *Velella Epsilon: Pioneering Offshore Aquaculture in the Gulf of Mexico* (Nov. 2, 2017), http://www.kampachifarm.com/blog/tag/Sustainability.
[31] Dale White, *U.S. Environmental Protection Agency accepting pro and con public comments about the concept*, HERALD TRIBUNE (Sept. 27, 2019, 9:36 AM), https://www.heraldtribune.com/news/20190926/floating-fish-farm-in-gulf-proposed-southwest-of-sarasota.

EPA states only that "long term impacts are not expected." EPA's analysis fails to fully consider and disclose the potential immediate and direct impacts of the VE project on the giant manta ray. Moreover, the EA limits its consideration of impacts to the first eighteen months (the permit is valid for five years, discussed below) and ignores the cumulative impacts of additional, larger aquaculture facilities spread throughout the gulf.

EPA also fails to consider the impact of the VE project on the fish that will be confined in the net. Captive aquaculture systems negatively impact captive fish causing chronic stress, overall decrease in health status and immune responses.[32] In particular, the Draft EA needs to consider and disclose the impact of the VE Project on the fish in the net pen. Many of these fish are transferred from facilities on land, which also exacerbates the stress and health impacts of the VE project. In addition, noise from service vessels as well as from increased boat and recreational activity all impact the fish and need to be considered. Finally, fish in such a confined area are more susceptible to disease and parasites. Due to the open nature of the pen, this means that **all** nearby fish, including ESA-listed species, have the possibility to contract any disease or parasite in the pen. For reasons discussed in Section (C)(2) below, fish escape represents another threat by which parasites or disease can be spread to other fish in the vicinity.

ii. Marine Mammals

EPA states that dolphins are "attracted to concentrated food sources." A net pen full of fish qualifies as such a source.[33] EPA also acknowledges that vessel strikes represent a serious risk for dolphins.[34] Yet, EPA failed to connect the dots with the net pen acting as a FAD. FADs attract dolphins just like they attract fish.[35]

As discussed above, the FAD will bring both various fishers and various tourism-related activities right up to the VE project's vicinity. These additional vessels have the potential to strike dolphins and were not considered when EPA discussed adverse effects on the protected dolphin species. EPA's suggestion that vessel captains slow to a no wake does not suffice, as it relies on the behavior of an unconnected, disparate group of VE employees, fishers, and tourists.

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[32] Craig Radford and Matthew Slater, *Soundscapes in Aquaculture Systems*, 11 AQUACULTURE ENVIRONMENT INTERACTIONS 53, 53-62 (2019).
[33] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 38 (2019).
[34] *Id.*
[35] John R. Hunter, et al., *Association of Fishes with Flotsam in the Offshore Waters of Central America*, 66 FISHERY BULLETIN 22 (1966).

Likewise, gawking tourists will raise the chance that dolphins become habituated to anthropogenic sources of food. As EPA admits, dolphins who grow familiar with human contact have increased "risk for boat strike or gear entanglement."[36]

Moreover, noise from the facility, from vessels going to the facility, as well as increased commercial and recreational activity is likely to negatively impact marine mammals. EPA failed to consider how the VE project will impact the acoustic habitat and the marine life in the Gulf of Mexico. Notably, EPA recognized that disturbance and ocean noise may impact marine mammals but failed to adequately consider **how** it would impact them. It failed to disclose the range and intensity of sounds that are likely to come with the VE project. This information is critical because noise disturbance can significantly impact threatened and endangered animals as well as species of special concern. 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.[37] This is within the range that could impact marine mammals. For example, fin whales and baleen whales are impacted by low frequency noises.[38] Baleen whales 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.[39] 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).[40]

iii. Sea Turtles

The Draft EA states that sea turtles are attracted to aquaculture facilities "as potential sources of food, shelter, and rest."[41] All five of the ESA-listed sea turtles face a dual threat of baited hooks and vessel-based behavior disturbance. Sadly, the ability of the net pen to act as a FAD exacerbates both possibilities.

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[36] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 28 (2019).
[37] Craig Radford and Matthew Slater, *Soundscapes in Aquaculture Systems*, 11 AQUACULTURE ENVIRONMENT INTERACTIONS 53 (2019).
[38] Laura Geggle, *All About the Bass: How Baleen Whales Hear Very Low Frequencies,* LIVE SCIENCE, (January 29, 2015); available from: https://www.livescience.com/49636-baleen-whales-skull-acoustics.html
[39] *Id.*
[40] *Id.*
[41] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 40 (2019).

Bringing eager fishers to the area will almost certainly increase the number of hook-and-line fishers in the area, as similar devices did in Hawaii. This is a grave and direct threat to individual sea turtles. As the EPA states, sea turtles are "known to bite baited hooks and can be hooked incidentally."[42] Bringing more fishers to the net pen will significantly raise the likelihood that sea turtles will be caught. The Draft EA omits the higher chance for incidental hooking entirely.

Vessels in the area also pose a risk of disturbance by stress to the turtles.[43] For the sea turtle, it makes no difference whether this vessel contains fisher or tourist. Thus, sea turtles will have a much higher chances of disturbances with both fisher vessels and tourist vessels crowding around the VE project. The Draft EA refers to the "limited trips to the site," as if VE staff would be the only vessels near the net pen. For reasons discussed above, this is not the case. Again, the Draft EA does not mention the additional FAD-related vessel traffic.

iv. Birds

Of the fourteen ESA-listed birds in the eastern Gulf of Mexico, the Draft EA singles out only two species. The Draft EA recognizes two important points: (1) that migratory birds and seabirds will be attracted to the site due to the presence of fish, and (2) that these birds will be threatened by entanglement and diving to access fish underwater. Even if the piping plover and red knot are the only federally listed birds to ever encounter the VE project, EPA must fully consider the impact to these birds. In addition, Florida has itself listed several "species of special concern" that occupy the southwestern Florida coast.

One must look no further than EPA's suggested course of action to see that protection is insufficient. Shockingly, the Draft EA suggests that VE staff suspend all activity if a protected species "comes within 100 m of the activity."[44] Only a course of no action would be more inadequate than this method. This suggestion once again completely ignores the fact that, as a FAD, the VE project will also attract boatloads of tourists and various types of fishers. All these people would need instruction to suspend all **their** surface activities should an ESA-listed bird come within one hundred meters of their activity.

Training people to recognize protected birds presents additional problems with this plan. Even if all staff, tourists, and fishers know to suspend activity if they see a protected bird, it is unlikely that they will know of and be able to identify protected birds. Red knots and

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[42] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 40 (2019).
[43] *Id.*
[44] *Id.* at 42.

piping plovers do not carry large signs, or even display highly unique visual features. Even if one knew what to look for, identifying such birds might not be easy even for a seasoned birder equipped with binoculars on stable terrain. To suggest that staff, tourists, and fishers, occupied with their own activity on the open ocean, can and will identify protected birds at one hundred meters with the naked eye defies logic.

While it is unclear whether suspension of surface activities will even reduce the threat of entanglement, this suggested course of action ignores the times when **no** staff will be present. Birds will be attracted to the site regardless of the human presence. Any plan that relies on the VE staff will not be implemented when there is not a staff member present. EPA does not quantify how often staff will be present; they only repeat the phrase "given the limited trips to the facility."[45] The EPA must reassess the VE project's potential to adversely affect ESA-listed bird species.

2. EPA should thoroughly analyze the impacts of the proposed action.

As discussed above, the proposed action warrants an EIS. However, regardless of whether EPA prepares an EA or an EIS it must take "a hard look" at the impacts of an action prior to making an irreversible and irretrievable commitment of resources. NEPA requires EPA to adequately evaluate all potential environmental impacts of proposed actions. To meet this obligation, EPA must identify and disclose to the public all foreseeable impacts of the proposed action, including direct, indirect, and cumulative impacts.

Additional NEPA analysis is needed on the following: (1) the timeframe of the permit and project; (2) the potential for VE to contribute to an ongoing red tide crisis on the Southwest coast of Florida; (3) the amount and type of pharmaceuticals; and (4) the effects of increased pollution in the Gulf of Mexico on marine life and humans.

These impacts deserve a full study by independent scientists and should be disclosed to the public for additional comments. Aquaculture in the open ocean represents a sufficiently unknown threat EPA should require additional scientific data before approving any permit.

3. EPA should revisit and clarify the timeframe of the Draft EA.

The Draft EA is confusing and misleading as to its scope. For much of the Draft EA, the VE project is described as having a deployment period of eighteen months."[46] Yet, the Draft EA

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[45] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 39, 40, 54, (2019); *see also* Draft Biological Evaluation 21, 22, 23 (2019).
[46] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 9, 36, 39, 40, 41, 53, 54 (2019).

also admits that the NPDES permit is valid for five years.[47] Kampachi Farms will have the legal authority to continue using the net pen system for five years. This means that the VE project could be duplicated up to two more times within the five-year span. There is no indication that Kampachi Farms sees this as a one-off experiment. To the contrary, Kampachi Farms has described this as "pioneering" and a "demonstration." Co-founder Neil Sims stated that he wants to "engage [local communities] in the discussions about how this industry might move forward."[48]

Surprisingly, the Draft EA states point blank that EPA believes it is "reasonably foreseeable" that the aquaculture industry will experience growth in the future. Yet, the Draft EA mentions nothing about the cumulative impacts from any such growth. By narrowly confining the effects of the VE project to eighteen months, EPA has failed to take an accurate assessment of the full, five-year scope of the Proposed Action. It has also ignored the potential precedent this could set for further projects and the cumulative impacts of the aquaculture industry in the Gulf of Mexico.

Additionally, EPA should not allow the VE project to deploy additional cycles of the facility until a review with clear evidence of no impacts has occurred. EPA should not allow perfunctory findings of NLAA (not likely to adversely affect) to create precedent with additional deployments or new facilities.

4. EPA should take a hard look at the possibility of the VE project to contribute to catastrophic harmful algal blooms caused by *Karenia brevis*.

a. The VE project is being thrown into an area already decimated by HABs.

The Draft EA briefly discusses the yearlong harmful algal blooms (HABs) caused by the species *Karenia brevis*. These HABs caused Florida to suffer losses of almost $150 million from fish deaths, marine animal deaths, and the resulting loss of tourism. The 2017-2018 HAB hit hardest in Southwest Florida, or as the Draft EA puts it, "from Pinellas to northern Collier counties."[49] In October 2019, another bloom occurred in the same area, killing fish, eels, dolphins, and even protected loggerhead sea turtles.[50] As recent as January 10, 2020,

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[47] *Id.* at 3, 7, 48, 52.
[48] Kampachi Farms, Inc., *Velella Epsilon: Pioneering Offshore Aquaculture in the Gulf of Mexico* (Nov. 2, 2017), http://www.kampachifarm.com/blog/tag/Sustainability.
[49] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 15 (2019).
[50] 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/.

K. brevis was found in "low" concentrations of 10,000 – 100,000 cells/liter (level 3, with level 5 being the worst) offshore of Collier county.[51] Shellfish are no longer safe for human consumption at 5,000 cells/liter.[52]

The VE project, while offshore, sits roughly equidistant from Pinellas county and Collier county. That is, the VE project site lies squarely in the middle of the most affected areas in Florida.

Furthermore, this area is of special concern to the EPA itself. On the EPA's website discussing the **entirety** of the Gulf of Mexico, EPA singles out just two specific areas of concern. One of those areas is the North Water Tower Project (NWTP) in North Sarasota, FL.[53] Not only is Sarasota county roughly in the middle of the Pinellas-Collier corridor, it is also the mainland reference point for the VE project, commonly described as forty-five miles southwest of Sarasota. It would be hard to come up with a less desirable location for a new industry to apply for discharge permits.

b. Scientists has conclusively shown that excess nutrients such as nitrogen and phosphorous contribute to red tide HABs.

While excess nitrogen and phosphorous sources (stormwater runoff, fertilizer runoff, faulty wastewater systems, etc.) may not cause the formation of HABs, scientists believe those excess nutrients worsen the severity and duration of HABs.[54]

K. brevis blooms originate 10-40 miles offshore in the Gulf of Mexico. They **require** nitrogen and phosphorous to grow and survive.[55] It may be "impossible to link a red tide bloom to one particular source of nitrogen or phosphorus," but it is undeniable that these two elements contribute to and amplify HABs.[56]

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[51] Florida Fish and Wildlife Conservation Commission, *Red Tide Current Status*, https://myfwc.com/research/redtide/statewide/?redirect=redtidestatus (last updated Jan. 10, 2020).
[52] Sea Grant Florida, *Understanding Florida's Red Tide* (Dec. 12, 2018), https://www.flseagrant.org/news/2018/12/understanding-floridas-red-tide.
[53] Environmental Protection Agency, *Why is Improving Water Quality in the Gulf of Mexico so Critical?*, https://www.epa.gov/gulfofmexico/why-improving-water-quality-gulf-mexico-so-critical (last updated May 14, 2020).
[54] Sea Grant Florida, *Understanding Florida's Red Tide* (Dec. 12, 2018), https://www.flseagrant.org/news/2018/12/understanding-floridas-red-tide.
[55] *Id.*
[56] *Id.*

c. The primary pollutants of aquatic net pens are nitrogen and phosphorous.

With aquatic net pens, most of the nitrogen pollution comes from the organic matter in waste food and feces. About seventy-eight percent of nitrogen consumed by the fish is released to the environment.[57] As with nitrogen, most phosphorous discharge comes from waste food and feces.[58] An average of seventy-one percent of phosphorous is released to the environment.[59]

Given the high likelihood that these nutrients will be discharged into the open ocean, EPA should require numeric effluent limitations, along with downstream water monitoring. Yet, the NPDES permit lacks both. EPA relies heavily on Best Management Practices (BMPs) to control the discharge of pollutants. Not only are BMPs difficult to monitor, they are wholly ineffective for a brand-new industry that does not have a clear set of practices to follow. EPA leaves much of these practices to the discretion of Kampachi Farms.

The Draft Biological Evaluation (BE) and Draft Ocean Discharge Criteria Evaluation (ODCE) mention several times how VE's discharge will include a "comprehensive environmental monitoring plan."[60] However, their plan does not sufficiently monitor down-stream levels. The only locations involved in this "comprehensive" monitoring plan are (1) a baseline, up-stream location, and (2) "near the cage."[61] So sure is EPA that **all** pollutants, nutrients, and pharmaceuticals will be harmlessly dispersed that they do not bother monitoring **any** locations other than an up-stream baseline and the immediate vicinity of the net pen. This ignores the possibility for currents and winds to act as an effluent conveyor belt, as is known to occur with red tides that start away from land.

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[57] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Draft ODC Evaluation 35 (2019).
[58] *Id.* at 36.
[59] Islam, M., *Nitrogen and phosphorus budget in coastal and marine cage aquaculture and impacts of effluent loading on ecosystem: review and analysis towards model development*, 50 MARINE POLLUTION BULLETIN 48-61 (2005).
[60] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Draft ODC Evaluation 46 (2019).
[61] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Draft ODC Evaluation 48 (2019).

d. Ocean currents are predominantly southeast and northeast, which in both cases will send streams of discharge to Florida's HAB-ravaged west coast.

Red tides travel inshore in wind and water currents.[62] In Appendix A, the Draft EA mentions current velocity measurements from the closest NOAA buoy anchored to the site of the Proposed Action.[63] At all three depth measurements (four meters, twenty-two meters, and forty-four meters), the buoy showed a significant current in the southeast direction.[64]

A separate EPA study of ocean currents at the Tampa Ocean Dredged Material Site also showed that the current flow off the west Florida coast was "predominantly in the south-southwest direction."[65] However, this same report showed that north-northeast currents dominated in the spring months.[66]

The Draft EA mentions the effects of local currents several times. Typically, the Draft EA discusses currents to suggest a reason why the pollution (of nutrients, pharmaceuticals, or other waste) will not present much of a problem: currents will safely disperse the pollutants elsewhere.[67] This begs the question: to where exactly are these pollutants being dispersed? Dispersing in a northeast direction will point towards Sarasota and the North Water Tower Project (recall that the site is described as "southwest" of Sarasota). Dispersing in a southeast direction will point to Fort Meyers and Collier County: some of the areas most affected by *K. brevis* in the last two years.

These current directions, combined with the fact that *K. brevis* populations already naturally exist off Florida's west coast, present a dangerous mix of possibilities. *K. brevis* has the potential to start feeding – and blooming – from nutrients much further out, making its eventual landfall even more dangerous. EPA did not discuss this possibility in the Draft EA, and instead heavily relied on dispersion to discount these potential impacts.

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[62] Mote Marine Laboratory and Aquarium, *Florida Red Tide*, https://mote.org/pages/florida-red-tide1 (last visited Jan. 14, 2020).
[63] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Appendix A, Baseline Environmental Survey Report 25 (2019).
[64] *Id.*
[65] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Appendix C, Draft Ocean Discharge Criteria Evaluation 10 (2019).
[66] *Id.*
[67] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, 33, 52, 53, 54 (2019).

Dispersing sediment to the bottom of the ocean floor does not help either. The upwelling of dense, nutrient-rich water to the ocean surface remains a "necessary condition for *K. brevis* along the west Florida coastline."[68]

e. EPA should mandate phytoplankton monitoring

To help combat the new threats associated with the Proposed Action, EPA should enhance the standard level of monitoring with new monitoring methods. At a minimum, this should include monitoring for nearby phytoplankton. These already-existing phytoplankton could easily be fueled by nutrient discharge. By monitoring for phytoplankton (especially *K. brevis*), EPA can help prevent the facility from exacerbating HABs via inevitable nutrient discharge.

5. EPA should provide guidelines and additional monitoring for the use of pharmaceuticals.

Using the same dispersion analysis, EPA discounts the possibility of **any** adverse effect from the use of pharmaceuticals. The Draft EA states that Kampachi Farms has indicated that pharmaceuticals "will likely not be used."[69] This represents an ideal situation for a first-of-its-kind facility and ignores a staple of aquaculture: antibiotics. The very next sentence of the Draft EA indicates that Kampachi Farms will have free reign to dose the water with as much therapeutics, antibiotics, drugs, and other treatments as they see fit. The EPA only requires that these be reported after the fact.[70] EPA's subsequent approval or disapproval will do nothing to ameliorate potential harm from streams of antibiotics reaching Florida's west coast.

EPA states no suggested limit, or even guidelines, as to what kind of loading rates Kampachi Farms should ideally achieve when pharmaceuticals become necessary. The Draft EA does fully disclose what kind of therapeutics, antibiotics, drugs, or other treatment should be used or avoided. The Draft EA looks at studies concerning only one antibiotic, Oxytetracycline (OTC), and buries that in the appendices, not the Draft EA itself.

Furthermore, EPA cites studies from more than thirty years ago, suggesting that the Draft EA relies on stale data. In fact, the Draft Ocean Discharge Criteria Evaluation (Draft ODCE)

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[68] National Centers for Coastal Ocean Science, *Seasonal Forecasting of Karenia brevis Red Tide Blooms in the Eastern Gulf of Mexico*, https://coastalscience.noaa.gov/project/seasonal-forecasting-of-karenia-brevis-red-tide-blooms-in-the-eastern-gulf-of-mexico/(last visited Jan. 21, 2020).
[69] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Appendix C, Draft Ocean Discharge Criteria Evaluation 43 (2019).
[70] *Id.*

contains more studies published in the 1970s than in the 2010s. More than two-thirds of the studies that EPA cites in the Draft ODC were published before 1990 and are not directly applicable to the impacts of this new VE project.

EPA should also require full qualitative and temporal records of all antibiotics used. As the permit stands, simply requiring type and total volume will not suffice. EPA must include further reporting that discloses the specific type and rate of discharge for each pollutant. Otherwise, Kampachi Farms could disguise heavy doses with additional periods of smaller doses. Additionally, EPA should analyze the impact from **all** potential pesticides or antibiotics, not just one.

This reporting should include arrayed monitoring sites in the benthic zone to determine accumulation rates. Additionally, benthic testing should include more than just biomass, which can mask changes to the entire community. The testing plan discussed in the Draft Permit will only measure very near to the pen, and lacks a specified, definitive sampling pattern.

B. The Biological Evaluation does not adequately consider the impacts of the proposed VE project, and EPA is required to formally consult with NMFS and FWS under Section 7 of Endangered Species Act.

EPA must undertake formal consultation with NMFS and FWS pursuant to Section 7 of the ESA in order to analyze the impact of the proposed VE project on threatened and endangered species. EPA should complete formal consultation and release a draft biological opinion for public comments before moving forward with the proposed project. As discussed above in Section (A)(1)(d)(i)-(iv), the VE project is likely to adversely affect listed species and critical habitat in numerous ways. The Biological Evaluation (BE) does not adequately consider these impacts. It ignores the risk that the facility will act as a FAD, and it selectively relies on old and inapplicable studies from other areas.

Particularly, the BE fails to fully consider the impact of entanglement, vessel strikes and noise disturbance. The BE erroneously relies on reporting from different Velella projects (Gamma and Delta) to conclude that this project will not adversely impact threatened or endangered species. However, these other aquaculture facilities were not located in the Gulf of Mexico, did not impact the same species, and should not be used to conclude that there will be no adverse impacts for the VE project.

Notably, the proposed project is likely to adversely impact threatened and endangered species through vessel strikes, entanglement and noise and light disturbance. As mentioned above, the facility will attract additional vessels and ships, which in turn can attract fish

and whales, and this is likely to increase vessel strikes.[71] Moreover, the problem will be exacerbated by the fact that animals will also be attracted to fish in the net pen.

In fact, many of the listed species in the area have been entangled, harmed, and even killed in other aquaculture facilities, including humpback whales and leatherback sea turtles.[72] Increasing water nutrient could also harm whales, fish, and reptiles in the area and limit available prey species due to increased pollution. This will also increase the risk of more severe and frequent dead zones.

The BE also includes conflicting statements about how far out the water quality effects are expected to occur and fails to include any scientific information or analysis to support its finding that this will not adversely impact threatened and endangered species.

Finally, the BE fails to consider how noise related to aquaculture activities may have a variety of attraction and repulsive effects on the invertebrates, fish, birds, and marine mammals in the area.[73] In short, there is no support for the BE's finding that the VE project is not likely to adversely affect the 26 species identified in the BE.

C. EPA should consider its obligations under the Clean Water Act (CWA).

The Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) to "protect and improve water quality by regulating point-source discharges."[74] These permits must comply with EPA's ocean discharge criteria for

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[71] Jason Nark, *Whales are dying along East Coast-and scientists are racing to know why*, NATIONAL GEOGRAPHIC (Mar. 13, 2019), https://www.nationalgeographic.com/animals/2019/03/humpback-whales-unusual-mortality-event.

[72] *See, e.g.*, Megan Thomas, *2nd humpback death in 2 weeks worries experts, farmed salmon industry*, CBC NEWS (Nov. 30, 2016), https://www.cbc.ca/news/canada/british-columbia/humback-whale-deaths-1.3874915; Glenda Luymes, *Dead humpback whale found entangled in empty aquaculture lines*, VANCOUVER SUN (Nov. 20, 2016), https://vancouversun.com/news/local-news/dead-humpback-whale-found-entangled-in-empty-aquaculture-lines; Price, C.S., et al., *Protected Species & Marine Aquaculture Interactions*, NOAA Technical Memorandum NOS NCCOS 211, 27 (2017), https://coastalscience.noaa.gov/data_reports/protected-species-and-marine-aquaculture-interactions.

[73] *See, e.g.,* Myriam D. Callier, et al, *Attraction and repulsion of mobile wild organisms to finfish and shellfish aquaculture: a review,* REVIEWS IN AQUACULTURE Vol. 10, Issue 4 (2017), https://onlinelibrary.wiley.com/doi/10.1111/raq.12208; Craig Radford & Matthew Slater, *Soundscapes in aquaculture systems*, 11 AQUACULTURE ENVTL. INTERACTIONS 53 (2019); Ted Cranford & Petr Krysl, *Fin Whale Sound Reception Mechanisms: Skull Vibration Enables Low-Frequency Hearing*, 10 PLOS ONE 1 (2015); NATIONAL RESEARCH COUNCIL, LOW-FREQUENCY SOUND AND MARINE MAMMALS: CURRENT KNOWLEDGE AND RESEARCH NEEDS (1994), https://doi.org/10.17226/4557.

[74] 33 U.S.C. § 1342.

preventing unreasonable degradation.[75] Nutrients and fish escapes comprise the most relevant pollutants for the VE project.

The regulations further define ten factors that should be considered in determining whether a discharge will cause unreasonable degradation. These regulations require that EPA base its decision on these ten factors, including most relevantly: (1) the potential transport of such pollutants by physical processes, (2) the potential direct and indirect impacts on human health, and (3) the impact on existing commercial fishing.[76] These factors indicate that the VE project will cause unreasonable degradation to the marine environment.

1. EPA did not consider the potential for physical transport of nutrients thoroughly enough.

EPA must consider the potential for physical transport of nutrients under 40 CFR 125.122. As discussed in Section (A)(4)(d), the facility has a significant and unaddressed potential to transport waste streams with the predominant current direction. EPA acknowledges this by declaring that the "physical transport of these waste streams is considered to be the most significant source for dispersion of the wastes..."[77] Yet, the Draft EA sets nothing in place to prevent, or even monitor, these waste streams. The monitoring plan embedded in the NPDES permit has a narrow scope: one site up-stream (presumably where no discharge will flow), the cage site itself, and one site a paltry **five meters** downstream.[78]

If EPA had evidence suggesting that pollution streams would conveniently aggregate at that site, we would have a great understanding of the pollution flow. As it is, ocean currents and winds can carry nutrients such as phosphorus or nitrogen in the form of fish feces or food much further than five meters. EPA has ignored the possibility for transport more than five meters away. Whatever direction the prevailing current may be (northeast or southeast), it can very likely transport nutrients towards Florida's west coast.

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[75] 40 C.F.R. § 125.121.
[76] 40 C.F.R. § 125.122.
[77] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project,* Appendix C, Draft Ocean Discharge Criteria Evaluation 46 (2019).
[78] Environmental Protection Agency, *Authorization to Discharge under the NPDES Permit FL0A0001* 6 (2019).

a. EPA should set additional monitoring requirements in place.

Friends of Animals suggests that nutrient gradient tests for both nitrogen and phosphorous be set up in waters around the cages. Standard NPDES monitoring at just one or two points near the cage does not suffice for such a new and untested method of aquaculture.

In addition, EPA should require detailed records of the amount and varieties of feed that are used. This should include information about the composition of the feed. As discussed repeatedly in the Draft EA, uneaten fish food can provide both nitrogen and phosphorus to opportunistic phytoplankton and result in unreasonable degradation of the marine environment. The exact type of fish feed should be specified **before** the facility discharges into the ocean.

2. EPA insufficiently considered the threat of fish escapes.

The CWA prohibits discharging pollutants without a permit. The CWA defines pollutants as, *inter alia*, "biological materials."[79] Several courts have deemed fish to qualify as biological materials.[80] Thus, fish escaping from the VE project qualify as pollution. EPA needs to do more than simply acknowledge the threat of a fish escape.

The Draft EA repeatedly mentions both the potential adverse effects of an escape: loss of genetic fitness to wild fish, spread of disease, competition for food and space, and predation on wild stock.[81] EPA briefly alludes to just one avenue for mitigating this disaster: "good management practices."[82] What constitutes good management? The Draft EA does not say.

In fact, one needs to pore into the Draft NPDES permit to read how cursorily EPA has considered this threat. The permit requires Kampachi Farms to report any fish escape.[83] That will be nice to know when a fish escape occurs, but EPA should require specific measures to prevent fish escape and consider how such escapes would result in an unreasonable degradation of the marine environment. Again, the permit is found to be lacking here. EPA administers no guidelines, no suggested courses of actions, and no procedures of any kind.

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[79] 33 U.S.C. §1362(6).
[80] *See, e.g., Nw. Envtl. Advocates v. EPA*, 537 F.3d 1006, 1021 (9th Cir. 2008); *Nat'l Wildlife Fed'n v. Consumers Power Co.*, 862 F.2d 580, 583 (6th Cir. 1988).
[81] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 31, 57 (2019).
[82] *Id.* at 31.
[83] Environmental Protection Agency, *Authorization to Discharge under the NPDES Permit FL0A0001* 6 (2019).

EPA simply defers to Kampachi Farms, and suggests the following to prevent disaster: "The permittee shall… h.) Develop procedures to contain and transfer commercial fish and other aquatic life in a manner which shall prevent the entry of commercial aquatic life into waters of the United States."[84] This is not sufficient, as evidenced by the "large escape event" during Kampachi Farms' Velella Gamma trial.[85] It is simply unacceptable to allow the permittee to call their own shots when it comes to NPDES permits.

EPA must formulate specific guidelines as to how this facility should operate. Similarly, EPA should mandate that Kampachi Farms disclose the full genetic records of the F1 progeny they intend to grow in the facility. Threats to genetic fitness from a fish escape still pose problems. Having full genetic knowledge will help inform an accurate consideration of this threat.

a. EPA has not addressed the role of climate change in extreme weather events which could result in fish escapes.

The Draft EA admits to the potential for extreme weather events, and for this potential to only grow as climate change continues to impact the Gulf of Mexico.[86] After all, warmer waters fuel more powerful hurricanes.[87] NOAA expects the proportion of tropical cyclones (hurricanes) that will reach "very intense" levels to increase.[88]

Once again, however, EPA ends its analysis prematurely. Much like with fish escapes, EPA relies on "mitigation measures in the NPDES" to completely discount any potential for harm. In a display of circular logic, these mitigation measures include the directive to operate the facility in a "sound manner to prevent or minimize the impacts of disasters." The mitigation measures include requirements to "provide a facility-specific analysis of each type of disaster" and "describe the procedures used to prevent, control, and/or minimize the impacts of disasters."[89]

EPA has not made any actual considerations as to how to prepare for the inevitable powerful hurricane in the Gulf of Mexico. Instead, they have again allowed the permittee

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[84] Environmental Protection Agency, *Authorization to Discharge under the NPDES Permit FL0A0001* 18 (2019).
[85] Environmental Protection Agency, *Environmental Assessment, Velella Delta Project, RIN 0648-XD961* 35 (2016).
[86] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* (2019).
[87] NOAA, *How does the ocean affect hurricanes?*, OCEAN EXPLORATION AND RESEARCH, https://oceanexplorer.noaa.gov/facts/hurricanes.html (last visited Jan. 28, 2020).
[88] NOAA, *Global Warming and Hurricanes*, GEOPHYSICAL FLUID DYNAMICS LABORATORY, https://www.gfdl.noaa.gov/global-warming-and-hurricanes/ (Dec. 17, 2019).
[89] Environmental Protection Agency, *Authorization to Discharge under the NPDES Permit FL0A0001* 18 (2019).

itself to define the terms of the permit. EPA should make concrete guidelines for proper maintenance of this facility, and EPA should do this **before** issuing an NPDES permit.

3. EPA insufficiently considered the potential impact on human health.

a. The facility poses a substantial risk to contribute to HABs, which negatively impact human health.

The clear weight of the evidence demonstrates that HABs feed off excess nutrients. Just because we can't trace a given HAB to an individual source doesn't absolve nitrogen and phosphorus of their unequivocal role in HABs.

In this vein, EPA uses sleight of hand to distract from nutrient pollution as a legitimate concern. The Draft EA misleadingly states that "no good scientific evidence is available to suggest that macronutrients and micronutrients from fish farming is related to the occurrence of red tides."[90] Nutrients from aquaculture have not caused previous red tides, because there has been no marine aquaculture yet in the federal waters of the Gulf of Mexico. This obscures the widespread scientific consensus that nitrogen and phosphorous **contribute** to the extreme growth of HABs.

The real issue here – one that EPA has not meaningfully addressed – lies with the potential to exacerbate naturally-occurring algal blooms. It is undisputed that the blooms start offshore. Science has conclusively demonstrated that winds and ocean currents bring the blooms in shore.[91] Likewise, there is no debate whether blooms thrive off excess nutrients. This problem extends far beyond the Draft EA's scope of five meters away from the VE facility.

b. The facility poses a risk to transfer parasites or disease to other fish.

Even though the Draft EA mentions the threat of parasites at least three times, EPA did not make any plans to account for this risk. The Draft EA simply states, "[a]ntibiotics are considered a method of last resort and are being replaced by other sound management approaches."[92] The Draft EA does not discuss what these management approaches entail. It is inappropriate to assume that antibiotics will not be necessary in such a new facility.

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[90] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, Appendix C, Draft Ocean Discharge Criteria Evaluation 36 (2019).
[91] Rebecca Burton, *Red Tide is Expensive. Here's Why*, UNIVERSITY OF FLORIDA THOMPSON EARTH SYSTEMS INSTITUTE (May 29, 2019), https://www.floridamuseum.ufl.edu/earth-systems/blog/red-tide-is-expensive-heres-why/.
[92] Environmental Protection Agency, Draft Environmental Assessment, *NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project* 16 (2019).

EPA should make several additional monitoring requirements. Arrays of control fish should be set out near the VE project and monitored for disease. This will allow EPA to determine if any parasites are being transferred out of the mesh pen. Additionally, EPA should require testing to be done of wild fish populations near the cage. Closely related fish who aggregate nearby, such as blue runner or banded rudderfish, should be monitored for disease to ensure nothing is escaping from the facility.

D. EPA should recognize that, under the Magnuson-Stevens Act, NOAA and NMFS lack legal authority to regulate aquaculture as fishing.

The Magnuson-Stevens Act (MSA) gives NMFS authority to regulate fisheries. However, offshore aquaculture facilities are not fisheries. MSA only grants the NMFS authority to issue regulations involving "fishing."[93] Aquaculture can only be described as "fishing" in the same sense that animal agriculture can be described as "hunting." Aquaculture is not fishing.

A recent case out of the U.S. District Court for the Eastern District of Louisiana has demonstrated that Congress did not grant NMFS, a division of National Oceanic and Atmosphere Institute (NOAA), authority to extend their oversight to aquaculture.[94]

The court in *Gulf Fisherman's Association* found that NMFS may not stretch the definition of "harvesting," one of the statutory definitions of fishing, to include aquaculture.[95] The legislative history supports this idea, and many of the principles and guidelines of the MSA do not apply to aquaculture.[96]

Despite this ruling being handed down in late 2016, the Draft EA incorporates NMFS' *ultra vires* documents relating to aquaculture: the 2008 PEIS for proposed aquaculture regulations in the Gulf of Mexico EEZ, and NMFS' 2016 final rule for regulating offshore aquaculture in the Gulf of Mexico.[97]

NMFS does not have ground on which to assert authority and should not be allowed to distort the MSA to promulgate rules for aquaculture in the United States. New industries such as marine aquaculture **should** have regulations to help prevent environmental catastrophe. Now that NMFS' regulations have been vacated, no valid or appropriate

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[93] 16 U.S.C. § 1802(16).
[94] *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 341 F. Supp. 3d 632 (E.D. La. 2018)
[95] *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 341 F. Supp. 3d 632, 638 (E.D. La. 2018).
[96] *Id.* at 639.
[97] Environmental Protection Agency, *Draft Environmental Assessment, NPDES Permit and Rivers and Harbors Act Section 10 Permit for Kampachi Farms – Velella Epsilon Project*, 11 (2019).

regulations exist for marine aquaculture. EPA should factor in this absence of guidelines when considering the potential impacts of the VE project.

CONCLUSION

In conclusion, Friends of Animals strongly opposes the sufficiency of the Draft Environmental Assessment. EPA's quick dismissal of a wide variety of environmental ills and statutory requirements flies in the face of their duty as stewards of the environment. Friends of Animals requests that EPA conduct a complete and through Environment Impact Statement to understand the true potential for negative impacts of the VE project in the Gulf of Mexico. Friends of Animals recommends that EPA consider what the ESA and CWA statutorily require. Finally, EPA must also realize that both NOAA and NMFS lack authority to regulate this uncertain and unconventional aquaculture industry.

Thank you for the opportunity to comment, and please contact me if you have any questions or concerns.

Sincerely,

Adam Kreger
Friends of Animals
Wildlife Law Program
Western Region Office
7500 E. Arapahoe Rd., Suite 385
Centennial, CO 80112
Adam.Kreger@friendsofanimals.org