



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
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F/SER31:JLL  
SER-2019-02205

Christopher B. Thomas  
Chief, Permitting and Grants Branch  
U.S. Environmental Protection Agency  
Region 4  
Atlanta Federal Center  
61 Forsyth Street  
Atlanta, Georgia, 30303-8960

Dear Mr. Thomas:

This letter responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) and the Fish and Wildlife Coordination Act (FWCA) for the following action.

| Project Name                               | Applicant(s)        | SER Number      | Project Type  |
|--|---------------------|-----------------|---|
| Veella Epsilon Marine Aquaculture Facility | Kampachi Farms, LLC | SER0-2019-02205 | Offshore Cage Aquaculture, NPDES permit, Section 10 permits |

Your request is on behalf of the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers Jacksonville District (USACE), the two federal agencies responsible for permitting aquaculture operations in federal waters of the Gulf of Mexico. The EPA is proposing to issue a National Pollutant Discharge Elimination System (NPDES) permit to Kampachi Farms, LLC for the point-source discharge of pollutants from their proposed Veella Epsilon marine aquaculture facility. The USACE is proposing to issue a Department of Army permit pursuant to Section 10 of the Rivers and Harbors Act for structures and work affecting navigable federal waters from the same aquaculture facility. The EPA has elected to act as the lead action agency and the USACE is a cooperating and co-federal agency. The EPA and USACE have determined that their proposed actions are not likely to adversely affect any listed or proposed species or designated or proposed critical habitat.

### Consultation History

We received your letter requesting consultation and Biological Evaluation on August 13, 2019 and initiated consultation that day.

### Project Location

The proposed aquaculture facility will be located in the Gulf of Mexico in an approximate water depth of 130 feet (ft) (40 meters [m]), 45 miles (mi) southwest of Sarasota, Florida. The applicant has submitted four potential locations to place the cage and multi-anchor swivel



(MAS) mooring system. The applicant will select one of these four potential locations based on diver-assisted assessments of the sea floor when the cage and the MAS are deployed.

**Proposed Potential Project Locations**

| Address                                   | Location Option | Latitude/Longitude<br>(North American Datum 1983) | Water body     |
|---|-----------------|---|----------------|
| Approximately 45 mi off Sarasota, Florida | 1               | 27.125787°N, 83.197565°W                          | Gulf of Mexico |
|   | 2               | 27.119580°N, 83.197096°W                          |                |
|   | 3               | 27.115655°N, 83.19913°W                           |                |
|   | 4               | 27.108763°N, 83.201529°W                          |                |

Pursuant to 50 C.F.R. § 402.02, the term action area is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. The EPA defined the proposed action area as a 1,000 m radius measured from the center of the MAS, based on the result of their water quality analysis.

**Existing Site Conditions**

The proposed facility will be placed within an area that contains unconsolidated sediments that are 3-10 ft deep. The facility’s potential locations were selected with assistance from NOAA’s National Ocean Service National Centers for Coastal Ocean Science (NCCOS). The applicant and the NCCOS conducted a site screening process over several months to identify an appropriate project site. Some of the criteria considered during the site screening process included avoidance of corals, coral reefs, submerged aquatic vegetation, hard bottom habitats, marine protected areas, marine reserves, and habitats of particular concern. This siting assessment was conducted using the Gulf AquaMapper tool developed by NCCOS.<sup>1</sup>

Upon completion of the site screening process with the NCCOS, the applicant conducted a Baseline Environmental Survey (BES) in August 2018 based on guidance developed by the NMFS and EPA.<sup>2</sup> The BES report noted that there were no physical, biological, or archaeological features that would preclude the siting of the proposed aquaculture facility at one of the four potential locations

**Project Description**

The project applicant, Kampachi Farms, LLC, is proposing to operate a pilot-scale marine aquaculture facility, rearing up to 20,000 almaco jack (*Seriola rivoliana*) for approximately 12 months (with total deployment of the cage system 18 months) in federal waters of the Gulf of Mexico in 130 ft of water.

A single CopperNet offshore strength (PolarCirkel-style) fully-closed submersible fish pen will be deployed on an MAS mooring system. The engineered MAS will have up to three anchors (concrete deadweight or embedment anchors) for the mooring, with a swivel and bridle system. The cage material for the proposed project is constructed with rigid and durable materials

<sup>1</sup> The Gulf AquaMapper tool is available at: <https://coastalscience.noaa.gov/products-explorer/>

<sup>2</sup> The BES guidance document is available at: <https://www.fisheries.noaa.gov/content/fishery-management-plan-regulating-offshore-marine-aquaculture-gulf-mexico>

(copper mesh net with a diameter of 4 millimeter [mm] wire and 40mm x 40 mm mesh square). The mooring lines for the proposed project will be constructed of steel chain (50 mm thick) and thick rope (36 mm) that are attached to a floating cage that will rotate in the prevailing current direction; this will maintain the mooring rope and chain under tension during most times of operation. The bridle line that connects from the swivel to the cage will be encased in a rigid pipe.

The CopperNet cage design is flexible and self-adjusts to suit the constantly changing wave and current conditions. Consequently, the system can operate floating on the ocean surface or submerged within the water column of the ocean. Normal operating condition of the cage is below the water surface. The cage will be submerged and only brought to the surface for brief periods to conduct maintenance, feeding, or harvest activities due to the high-energy open ocean environment.

When a storm approaches the area, the operating team uses a valve to flood the floatation system with water, causing the entire cage array to submerge. A buoy remains on the surface, marking the net pen's position and supporting the air hose. When the pen approaches the bottom, the system will maintain the cage several meters above the sea floor. Submerged and protected from the storm above, the system is still able to rotate around the MAS and adjust to the currents. After storm events, facility staff makes the cage system buoyant, causing the system to rise back to the surface or near surface position to resume normal operational conditions. The proposed project cage will have at least one properly functioning global positioning system device to assist in locating the system in the event it is damaged or disconnected from the mooring system.

One support vessel, expected to be a 70-ft-long Pilothouse Trawler (20 ft beam and 5 ft draft) with a single 715 horsepower engine, will be tethered to the facility. Another vessel would be used for harvest and transport of the fish. The exact harvest vessel is not known; however, it is expected to be a vessel already engaged in offshore fishing activities in the Gulf.

### **Construction Conditions**

The applicant has agreed to follow a protected species monitoring plan (PSMP), which they developed with assistance from the NMFS Protected Resources Division. The purpose of the PSMP is to provide monitoring procedures and data collection efforts for species protected under the MMPA or ESA that may be encountered at the proposed project. The PSMP also contains precautionary measures including suspending vessel transit and all surface activities (including stocking fish, harvesting operations, and routine maintenance operations) when a protected species comes within 100 m of the activity until the animal(s) leave the area. The applicant also commits to following vessel strike avoidance guidelines developed by the NMFS. (i.e., NMFS Southeast Region Vessel Strike Avoidance Measures and Reporting for Mariners; revised February 2008).

**Effects Determination(s) for Species the Action Agency or NMFS Believes May Be Affected by the Proposed Action**

| <b>Species</b>  | <b>ESA Listing Status<sup>3</sup></b> | <b>Action Agency Effect Determination</b> | <b>NMFS Effect Determination</b> |
|---|---------------------------------------|---|----------------------------------|
| <b>Sea Turtles</b>  |                                       |   |                                  |
| Green (North Atlantic [NA] distinct population segment [DPS]) | T                                     | NLAA                                      | NLAA                             |
| Green (South Atlantic [SA] DPS)                               | T                                     | NLAA                                      | NLAA                             |
| Kemp's ridley   | E                                     | NLAA                                      | NLAA                             |
| Leatherback   | E                                     | NLAA                                      | NLAA                             |
| Loggerhead (Northwest Atlantic [NWA] DPS)                     | T                                     | NLAA                                      | NLAA                             |
| Hawksbill   | E                                     | NLAA                                      | NE                               |
| <b>Fish</b>   |                                       |   |                                  |
| Smalltooth sawfish (U.S. DPS)                                 | E                                     | NLAA                                      | NLAA                             |
| Nassau grouper  | T                                     | NLAA                                      | NE                               |
| Giant manta ray   | T                                     | NLAA                                      | NLAA                             |
| Oceanic whitetip shark  | T                                     | NLAA                                      | NLAA                             |
| <b>Invertebrates and Marine Plants</b>                        |                                       |   |                                  |
| Elkhorn coral ( <i>Acropora palmata</i> )                     | T                                     | NLAA                                      | NE                               |
| Staghorn coral ( <i>Acropora cervicornis</i> )                | T                                     | NLAA                                      | NE                               |
| Boulder star coral ( <i>Orbicella franksi</i> )               | T                                     | NLAA                                      | NE                               |
| Mountainous star coral ( <i>Orbicella faveolata</i> )         | T                                     | NLAA                                      | NE                               |
| Lobed star coral ( <i>Orbicella annularis</i> )               | T                                     | NLAA                                      | NE                               |
| Rough cactus coral ( <i>Mycetophyllia ferox</i> )             | T                                     | NLAA                                      | NE                               |
| Pillar coral ( <i>Dendrogyra cylindrus</i> )                  | T                                     | NLAA                                      | NE                               |
| <b>Marine Mammals</b>   |                                       |   |                                  |
| Bryde's whales  | E                                     | NLAA                                      | NE                               |
| Blue whale  | E                                     | NLAA                                      | NE                               |
| Fin whale   | E                                     | NLAA                                      | NE                               |
| Sei whale   | E                                     | NLAA                                      | NE                               |
| Sperm whale   | E                                     | NLAA                                      | NE                               |

There are listed species for which you made NLAA determinations for the proposed project but for which we believe there are no effects. Our rationale for that determination for each of these species is as follows:

1. Hawksbill sea turtles have very specific life history strategies, which are not supported at the project site. Hawksbill sea turtles typically inhabit inshore reef and hard bottom areas where they forage primarily on encrusting sponges. The proposed facility is located in an offshore area that contains 3 to 10-ft deep unconsolidated sediments and not near any

<sup>3</sup> E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect; NP = not present

hardbottom habitat. Consequently, we believe that Hawksbill sea turtles will not be present, and that there are no potential routes of effects on this species.

2. The absence of Nassau grouper in the Gulf of Mexico (excluding around the Florida Keys and Dry Tortugas) is well-documented by the lack of records in Florida Fish and Wildlife Conservation Commission, Fisheries Independent Monitoring data as well as in various surveys conducted by NMFS, Southeast Fisheries Science Center. Nassau grouper are not found in or close enough to the action area for there to be any potential routes of effects to this species.
3. The proposed project will be placed in an area consisting of unconsolidated sediments and not near any hardbottom. In your analysis, you concluded that water quality effects are not expected to occur outside of 30 m (0.02 mi) due to the small size of the facility. You also concluded that sedimentation from the Velella Epsilon facility is not expected outside of 1,000 m (0.62 mi), and impacts resulting from the proposed facility are likely limited to within 300 to 500 m (0.12 to 0.31 mi) from the cage. Listed corals generally occur in the Gulf only near the Florida Keys and Dry Tortugas and in the Flower Banks National Marine Sanctuary, located off the coast of Texas and Louisiana. Listed corals do not occur in or close enough to the action area for there to be any potential routes of effects on these species.
4. Two strandings on the Louisiana and Texas coast comprise the only possible record of blue whales in the Gulf of Mexico and identifications for both strandings are questionable, thus we do not believe blue whales live in the Gulf of Mexico.
5. Water depth at the project site is only 40 m deep, and the site is approximately 80+ mi from Bryde's whale biological important areas, the 100-m depth contour, and the shelf break. Sperm whales are the most abundant large cetacean in the Gulf of Mexico, found year-round in waters greater than 200 m. Sei whales also typically occur in these deeper waters. Sei whales are generally found in oceans along the 100-meter depth contour with sightings also spread over deeper water including canyons along the shelf break. Fin and sei whale do occasionally strand in the Gulf indicating they may occur, but neither is commonly observed in the waters of the Gulf of Mexico. We do not believe any of these species will occur in the action area for this project or close enough for there to be any potential routes of effects to these species.

### **Critical Habitat**

We do not concur with your determination that the proposed action may affect hawksbill, leatherback, and loggerhead sea turtle critical habitat. The project is not located in or near designated critical habitat of these or any other species. The nearest critical habitat to the project is loggerhead nearshore nesting habitat (Units 29 and 30), more than 40 mi away from the action area.

### **Analysis of Potential Routes of Effects to Species**

Potential routes of effects to the listed species that may occur in the action area (i.e., sea turtles [green NA and SA DPSs, loggerhead, leatherbacks, and Kemp's ridleys] and ESA-listed fish [i.e., smalltooth sawfish, giant manta rays, and oceanic whitetip sharks]<sup>4</sup>) include disturbance, vessel strike, entanglement, and water quality changes.

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<sup>4</sup> Hereafter, sea turtles and ESA-listed fish refer to these specific species.

### *Vessel strike*

A vessel strike is a collision between any type of boat and a marine animal in the ocean. Collision with the hull, outboard motor, or propeller of a vessel can kill or injure marine animals including air-breathing whales and sea turtles as well as any other marine species when feeding, basking or even just swimming close to the surface (e.g., giant manta rays and oceanic whitetip sharks). Collisions may occur anywhere a vessel cross paths of a species. However, we have determined that the potential for a vessel strike on any listed species to result from this proposed action is discountable. The proposed project involves only two vessels. A support vessel will be present at the facility throughout the life of the project except during certain storm events or times when resupplying is necessary; a harvest vessel (expected to be a vessel already engaged in offshore fishing in the Gulf) will be used to transport the fish, once grown, to land. Vessels are expected to follow the vessel strike and avoidance measures that have been developed by NMFS<sup>5</sup>. A collision between any specific vessel and marine animal is extremely unlikely to occur. For example, when using the conservative mean estimate of a sea turtle strike every 193 years (range of 135-250 years) per vessel, it would require a moderately-sized marina project (e.g., ~200 new vessels introduced to an area) to potentially result in a sea turtle take in any single year (Barnette 2018<sup>6</sup>). Given the limited vessel activity and duration of the project, a vessel strike is extremely unlikely.

### *Disturbance*

ESA-listed fish and sea turtles may experience disturbance by stress via a startled reaction should they encounter the proposed facility, including the cage associated and the support vessel and/or harvest vessel or associated noise (e.g., vessel engine or barge generator), when moving through the area. A behavioral reaction could range from the animal approaching and investigating the facility to avoidance and moving away from the area. A potential source of disturbance from the proposed aquaculture facility would be vessel engine and barge generator noise. ESA-listed fish and sea turtles may also be attracted to aquaculture facilities as potential sources of food, shelter, and/or rest. However, any stress and behavioral effects on ESA-listed fish and sea turtles from disturbance are expected to be insignificant. The facility is not in an area known to be a hot spot or high-use area for any important activities (e.g., feeding, reproducing) of the sea turtle or ESA-listed fish species. Also, because this is a pilot study with only one cage in the open ocean, the proposed project site is small (each potential site <8 square kilometers) and will in no way limit movement or ability of a species to avoid the area or navigate through the area. As a result, disturbance from human activities and equipment and vessel operation resulting from the proposed action is expected to have only insignificant effects on ESA-listed fish and sea turtles.

### *Entanglement/Entrapment*

The cage, mooring lines, and bridle line from the proposed project may pose an entanglement and an entrapment risk to ESA listed fish and sea turtles. Entanglements occur when lines, netting, or other man-made materials become wrapped around the body (e.g., flipper, fin) of the

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<sup>5</sup> NMFS. Vessel Strike Avoidance Measures and Reporting for Mariners NOAA Fisheries Service, Southeast Region, February 2008. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, Saint Petersburg, Florida.  
<https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance>

<sup>6</sup> Barnette, M. C. 2018. Threats and Effects Analysis for Protected Resources on Vessel Traffic Associated with Dock and Marina Construction. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Saint Petersburg, Florida.

animal. Entrapment can occur when an animal becomes restrained or stuck in man-made structure and cannot escape. However, we believe the effects to sea turtles or ESA listed fish from entanglement will be discountable because of how the cage will be constructed and deployed. The risk of sea turtles and ESA listed fish being entangled or entrapped is greatly reduced by using rigid cage materials and by keeping all lines taut. The cage and moorings for the proposed project are constructed with rigid and durable materials, and the mooring lines will be constructed of steel chain and thick rope that will be maintained under tension by the ocean currents during most times of operation. For example, the lines would likely remain taut even as the currents shift because of the weight of the chain and rope creating a negative buoyancy on the facility anchorage lines. The cage, even in storm conditions, will be at least several meters from the sea floor, allowing safe passage under the cage. Additionally, the bridle line that connects from the swivel to the cage will be encased in a rigid pipe. The limited number of vertical mooring lines (3) and the duration of cage deployment (less than 18 months) will also reduce the risk of potential entanglement. Because of the proposed project operations and duration, we expect that the effects of possible entanglement to be discountable.

#### *Water quality*

Sea turtles and ESA-listed fish species may be affected by water quality/habitat degradation if it leads to reduced habitat quality. However, we believe any potential water quality effects on ESA-listed fish and sea turtles from the proposed action will be insignificant. Effluent from the proposed action can adversely affect water quality, sea floor sediment composition, and benthic fauna through the additions of uneaten feed, ammonia excretions, and fish feces from the increased fish biomass. The release of nutrients, reductions of dissolved oxygen, and the accumulation of sediments under certain aquaculture operations lead to eutrophication and degradation of benthic communities. The EPA evaluated the proposed action's potential impacts to water quality and impacts of organic enrichment to the seafloor and benthic communities. The EPA also considered the potential water quality impacts from chemical spills, drugs, cleaning, and solid wastes. The discharge of wastewater from the proposed project are expected to have a minor impact on water quality due to factors concerning the low fish biomass produced; the relatively small amounts of pollutants discharged; depth of the sea floor; and current velocities at the proposed action area. The EPA anticipates that the proposed activity would add relatively small amounts of nutrient wastes (nitrogen, phosphorus, particulate organic carbon, and solids) to the ocean in the immediate vicinity of the proposed action area. The facility's effluent is expected to undergo rapid dilution from the prevailing current; constituents will be difficult to detect within short distances from the cage. Per EPA's analysis, (1) water quality effects are not expected to occur more than 30 m (0.02 mi) away from the cage site due to the small size of the facility, and (2) sedimentation from the Vellella Epsilon facility is not expected to go more than 1,000 m (0.62 mi) from the cage, and impacts resulting from the proposed facility are likely limited to within 300 to 500 m (0.12 to 0.31 mi) from the cage. The discharges authorized by the proposed NPDES permit represent a small incremental contribution of pollutants and will have an insignificant affect any on the ESA-listed fish or sea turtles in the action area.

#### **Conclusion**

Because all potential project effects to listed species were found to be discountable, insignificant, or beneficial, we conclude that the proposed action is not likely to adversely affect listed species under NMFS's purview. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new

information reveals effects of the action not previously considered, or if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. NMFS's findings on the project's potential effects are based on the project description in this response. Any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

In your letter to us, you also initiated consultation pursuant to the Fish and Wildlife Coordination Act (FWCA). NMFS's Southeast Regional Office, Habitat Conservation Division reviewed the information in the Draft Biological Evaluation pursuant to the FWCA, and based on that review, we anticipate any adverse effects that might occur on marine and anadromous fishery resources would be minimal. Therefore, we do not object to issuance of the permit per the FWCA.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Jennifer Lee, Fishery Biologist, at (727) 551-5778 or by email at [Jennifer.lee@noaa.gov](mailto:Jennifer.lee@noaa.gov).

Sincerely,

David Bernhart  
Assistant Regional Administrator  
for Protected Resources

cc: F/SER – J. Beck  
F/SER31 – J. Lee

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