Permitting Manna Fish Farms, Gulf of Mexico Operations

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**Objectives:**

The purpose of this project is to permit a commercial-scale finfish aquaculture operation in federal waters of the Gulf of Mexico. The objectives for phase 1 of the project include preliminary site screening, completion of the pre-application meeting, collection of bathymetric and hydrographic data, preliminary structural analysis, submission of a permit application, and outreach with the public as well as federal and state agencies.

**Background:**

 The final rule for the Gulf of Mexico Fishery Management Plan for Regulating Offshore Marine Aquaculture in the Gulf of Mexico (GOM) was published in January 20161. The plan established a regional permitting process to manage offshore aquaculture in an environmentally sustainable manner, and NOAA worked with federal permitting agencies to create a coordinated permit process1. NOAA estimated the cost for engineering, siting, and environmental assessment for permitting an offshore commercial structure to be in excess of $1 million. However, investors have expressed concerns regarding the time, actual cost, uncertainty with respect to permit approval, and the potential lack of social acceptance in the Gulf community2. To alleviate the uncertainty and move the industry forward, the University of Southern Mississippi partnered with Manna Fish Farms, The University of New Hampshire, Mississippi-Alabama Sea Grant, The University of Mississippi and NOAA Coastal Aquaculture Siting and Sustainability Program to site and permit a commercial-scale offshore finfish facility for the GOM and evaluate the regional aquaculture permitting process. The team was awarded a grant through the Gulf States Marine Fisheries Commission in June 2018 to assist in achieving phase 1 project objectives. Shortly after the project commenced, the United States Eastern District Court of Louisiana ruled in favor of Gulf Fishermen’s Association et al. in their legal challenge to the National Marine Fisheries Service’s (NMFS/ NOAA Fisheries) authority to regulate aquaculture under the Magnuson-Stevens Act3. The ruling occurred September 2018, and final judgement was signed in November 20184. The NMFS filed a notice of appeal in December 2018, and their appellate brief was filed in June 2019. The Center for Food Safety has been given until August 2019 to file their reply brief for the Government’s appeal. Although on appeal, currently NOAA has no authority to issue a Gulf Aquaculture Permit. Regardless of NOAA’s permit authority, aquaculture can occur in federal waters under permits issued by other federal regulatory agencies, specifically a National Pollutants Discharge Elimination Systems (NPDES) permit from the Environmental Protection Agency (EPA) and a Section 10 permit from the US Army Corps of Engineers (USACE). Therefore, the team has continued the project to permit the finfish farm.

**Process:**

The first task was to identify the site characteristics necessary for the 48ha farm. The team outlined a regional area of interest that spanned the 50-55m depth range south of Mississippi, Alabama and the Florida Panhandle. The team focused on proximity to the ports of Gulfport, MS, Pascagoula, MS, and Pensacola FL to minimize farm to port distance and user conflicts, while selecting areas with currents greater than 15m-sec, and areas with the potential for sand bottom. Species under consideration for growout on the farm also were provided so that temperature could be considered for potential locations. The NOAA Coastal Aquaculture Siting and Sustainability Program used the site characteristics supplied by the team to scientifically screen for suitable locations. The siting model considers multiple layers of data such as oceanographic and biological growing conditions on the farm, but also considers potential conflicts with navigation, military or industrial uses, protected species, and the presence of critical and sensitive habitats. The output is a relative suitably rating displayed by mapping units for the area of interest. Using the relative suitability rating for the entire area of interest, five potential sites that minimized farm to port distance were selected. Considering multiple characteristics for the five sites, a preferred site was selected.

Next, the team completed a pre-application checklist that supplied siting details on all five potential locations, the preferred cage design, a draft layout of the farm, and production and feed information. Although this step was not necessarily required because it was part of the Gulf Aquaculture Permit process, the team determined that this checklist provided the necessary information to engage in an interagency pre-application meeting. A pre-application meeting provided an opportunity for federal agencies to ask questions, raise potential concerns, and provide information on what they may need moving forward with the project. After receiving feedback from federal agencies on the preferred site selection and other information supplied, the team began conversations with Florida state agencies that would also have review of the project through the Coastal Zone Management Act.

The team conducted the seafloor survey for the preferred site including a 0.5km buffer around the preferred location in April and May 2019. A multibeam echosounder and side scan imaging sonar was used to map the seafloor and detect any potential sensitive habitat such as hard-bottom or coral. Additionally, a magnetometer and sub-bottom profiler collected information such as debris, pipelines or potential archaeological resources below the sea floor surface. This information will be used to select the final location for the 48ha farm and guide final design and mooring decisions. A baseline environmental report that supplies the processed maps and information on potential physical, biological, and archaeological resources also will be produced for the permitting and consultation agencies.

Prior to submitting a NPDES permit to the EPA and a Section 10 permit to the USACE, the team will finalize the farm site and conduct structural modeling for the cages. The structural modeling will occur following conversations with permitting and consultation agencies on selected materials. Information regarding feed and effluent characteristics will be supplied to the EPA for inclusion in effluent models.

Feedback for this project has been obtained through discussions with multiple stakeholders. The team has engaged the NOAA Southeast Region Aquaculture coordinator, the EPA Region 4 office, and the USACE from the beginning of the project. The guidance and feedback from these agencies has been instrumental in moving this project through the process in a timely manner. Additional guidance from the Florida Department of Agriculture and Consumer Services Division of Aquaculture has been instrumental in aiding project development. Recreational anglers, commercial fishermen, and members of non-governmental organizations also have supplied important feedback for this project. The team looks forward to completing the remaining objectives and submitting permit applications later this summer.

**Literature Cited**

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