



Manna Fish Farms, Inc.
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New York Offshore Preliminary Farm Information

Intro: Manna Fish Farms, Inc. seeks to permit a commercial scale fish farm in the offshore, federal waters south of Suffolk County, New York. The farm will consist of 12-18 submersible net pens, and sustainably produce approximately 4100 MT (9M lbs.) of finfish per year at full production. This farm will produce quality, domestic marine protein to feed the growing population. Manna has assembled a team of local and world-renowned marine scientists, marine biologists, marine engineers, aquatic veterinarians, and aquaculture operation experts to implement this farming initiative.

Site Selection: After initial pre-application meetings in 2015 and 2018, in 2020 the NOAA NCCOS team completed a siting analysis report regarding the proposed Manna Fish Farms NY Offshore project. Four sites were identified (A, B, C, and D) in the preferred area south of Suffolk County, New York that satisfied the preferred siting parameters provided by the Manna Team. Marine spatial planning efforts resulted in an in-depth analysis of all ocean users potentially traversing the preferred sites, benthic conditions, ocean habitats, endangered species, migratory routes, and all data available to drive analysis and ensure successful site selection. Using the details of the siting report, the Manna Team has selected site A, specifically the western half, as our preferred site. Our draft Baseline Environmental Survey Plan further details this preference. Prior to contracting a surveyor to perform the BES on the preferred site, the Manna Team is requesting clearance of the sites from the Department of Defense (DOD) Clearinghouse, as three out of the four subject sites lie within a military zone. The Manna Team has listed all four sites in its approval request, rather than solely the preferred site, to avoid further delays down the line should the BES yield results that prohibit siting of the farm in the preferred location. Figure 1 shows the location and bathymetry of the four identified sites.

Gear and Equipment: Manna's current plan is to deploy 12-18 submersible net pens at the offshore site. The farm will use the proven StormSafe® Submersible Net Pens; the same technology that Manna's Gulf of Mexico offshore farm will utilize. Each net pen will be moored individually, with a total of six mooring legs per pen. Each mooring leg will include a surface buoy to support the net pen when submerged, in conjunction with fiber rope and anchor chain. High efficiency drag embedment anchors will tether each mooring leg to the sea floor. At full production, the farm will utilize 1-2 feed barges that will be moored on-site to provide automated, daily feed delivery to each net pen. These barges will support daily farm operations and provide power, communications, and feed storage. The barges may also provide on-site living quarters for farm staff. There will be several support and tender vessels involved in the operation as well. Larger support vessels will be used to transport feed to the barges, stock the farm with fingerlings, and harvest fish. Prior to the deployment of the feed barges, these vessels may remain on-site for extended periods of time to support daily operations. Once the feed barges are deployed, the support vessels will shift to a transient role. The smaller tender vessels will remain primarily on-site throughout all stages of production to support all daily farm operations.

Footprint: The Manna Team anticipates a maximum farm footprint of approximately 400 acres resulting from the installation of 18 submersible net pens and the associated mooring gear and other farm equipment.

Fish Species Information: Our preferred species for culture is Striped Bass (*Morone saxatilis*). We recognize there may currently be challenges associated with the culture of striped bass in federal waters of the Exclusive Economic Zone due to the complexity of the stock's management programs. However, with striped bass widely considered a prime candidate species commercially ready for marine aquaculture in the United States, we are interested in exploring what work needs to be done to enable the sustainable offshore culture of this iconic Atlantic species. We firmly agree with the language of the Atlantic Striped Bass Conservation Act: "Atlantic striped bass are of historic commercial and recreational importance and economic benefit to the Atlantic coastal States and to the Nation." The culture of striped bass in offshore net pens provides a much-needed method for sustainable production that will ease the pressure on wild stocks. With the Atlantic States Marine Fisheries Commission's 2022 Stock Assessment report concluding that the species was overfished in 2021, we aim to address any regulatory hurdles that may be holding back the culture of this pivotal species. Our species list, in order of preference, can be seen below.

- Striped Bass (*Morone saxatilis*)
- Black Sea Bass (*Centropristis striata*)
- Steelhead Trout (*Oncorhynchus mykiss*)

Production: Manna will follow a phased and tiered production approach throughout the duration of the EPA's NPDES permit. Phase one will involve the deployment of two StormSafe® Submersible Net Pens, with additional net pens added incrementally over the course of the five-year period until the maximum determined quantity is reached. The farm will implement a tiered production approach to achieve harvest and subsequent sale of fish for as many months out of the year as possible. Assuming a total of 18 net pens deployed, maximum annual production will be approximately 4100 MT (9M lbs.).

Buoy and Navigational Aid: The farm will be marked by four permanent surface buoys, one at each corner of the farm footprint. These buoys will contain lights with appropriate visibility in accordance with all United States Army Corps of Engineers (USACE) and United States Coast Guard (USCG) regulations. The Manna Team will contact the Aids to Navigation (ATON) Officer for the USCG, Sector Long Island Sound, and plans to submit a request to the USCG to designate the four corner buoys as Private Aids to Navigation (PATONs). Approval of this request will result in these buoys being added to the USCG Light List and recognized on NOAA Electronic Navigation Charts (ENC) for proper demarcation of the farm.

Monitoring: Manna will implement thorough and verified monitoring protocols for the farm site. These will include hydrological surveys and water quality and benthic assessments prior to the installation of any equipment, with water quality and benthic monitoring continuing on a regular basis throughout all phases of operation, as informed by the parameters of the NPDES permit. Manna will be fully transparent with the monitoring process.

Standard Operating Procedures:

The Manna Team will develop and implement comprehensive standard operating procedures for the proposed project. These plans will include, but will not be limited to, fish health management, emergency response, environmental monitoring, protected species monitoring, and best aquaculture practices. These plans will be developed in coordination with all relevant regulatory agencies and will adhere to all requirements and conditions set forth by said agencies.

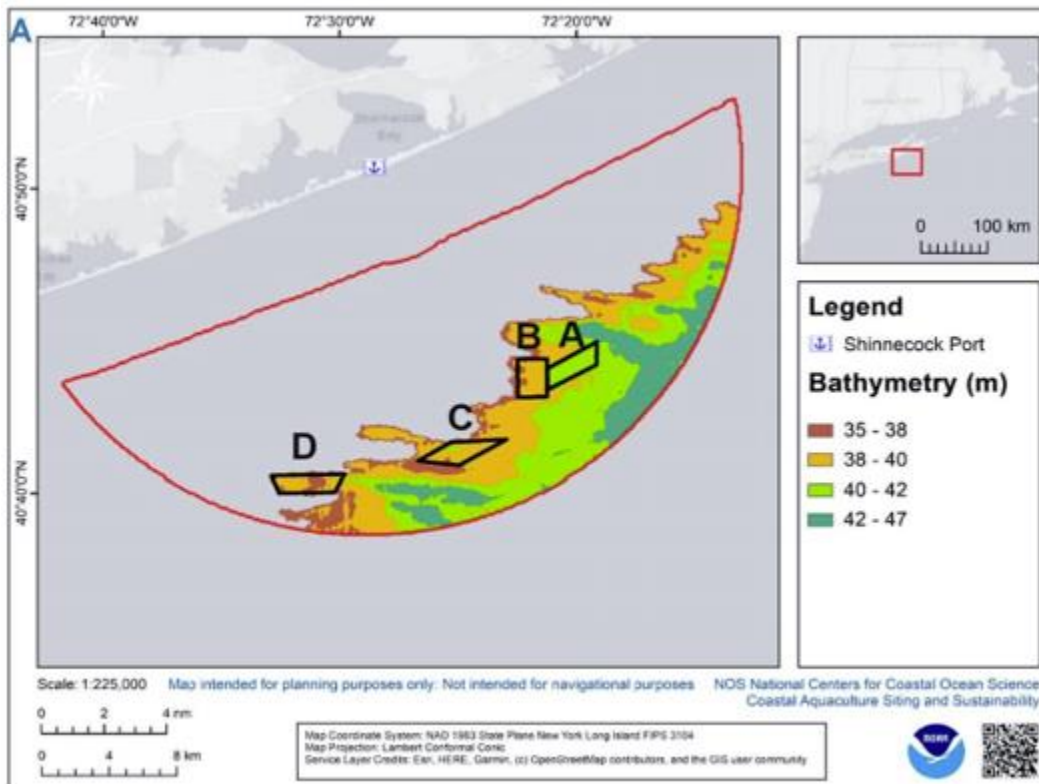


Figure 1. Bathymetry of the four alternative site locations for the proposed Manna Fish Farms site.