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Intelligence

Offshore cobia project

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By Daniel D. Benetti, Ph.D.

Cage results positive in Bahamas



A diver inside the submersible cage checks on the condition of cultured cobia. Photo by Island School/Cape Eleuthera Research Institute.

AquaSense LLC, a private company from the Bahamas, in collaboration with the Island School, Cape Eleuthera Research Institute, and University of Miami Rosenstiel School of Marine and Atmospheric Science, is developing a new offshore aquaculture project in South Eleuthera, Bahamas. Strongly supported by the Bahamian government, the project will bring new environmentally sound and economically feasible aquaculture technology to the country. Snapperfarm, Inc. from Puerto Rico is also collaborating with the project, kindly sharing the experiences it acquired from running a similar operation off Culebra Island in Puerto Rico.

Project site

Last October, a Boeing 727 was chartered to transport 20,000 cobia fingerlings produced at the Aquaculture Center of the Florida Keys in Florida, USA, to the new facilities in South Eleuthera. The *Rachycentron canadum* fingerlings were stocked in a submersible cage deployed approximately 3 km east of Cape Eleuthera, just off the Exuma Sound, where the water depth drops to over 500 meters.

The cage is located in a 30-meter deep site with a predominantly sandy bottom and current velocity ranging 0.37 to 1.48 kilograms per hour. The site was selected during a feasibility study conducted by the project participants in collaboration with experts from Ocean Spar Technologies, the cage manufacturer.

Preliminary results

After an initial mortality of approximately 6,000 fingerlings due to unforeseen problems related to transportation and stocking conditions, survival rates during the nursery and juvenile stages have been over 99 percent. Just three months after stocking in the sea cage, fish already have an average weight of 550 grams.

It is still too early to estimate feed-conversion rates, but they are expected to be low based on current results. The site's exceptional environmental conditions, as well as the valuable support provided by Snapperfarm, are proving instrumental in the ongoing success of this project.



Close view of cobia juveniles inside their sea cage. Photo by Island School/Cape Eleuthera Research Institute.

Environmental monitoring

The University of Miami is conducting an environmental assessment of the demonstration project by collecting and analyzing water quality samples at the cage and control sites once a month. The environmental monitoring also includes benthic sampling and epiphyte collection in the area surrounding the cage to determine whether nutrient inputs and solid wastes are having an impact on the site's water column and bottom.

Conclusion

The main objective of the project is to demonstrate that cobia can be successfully raised in the Bahamas using advanced culture technology with low impact and high yield. It is expected this first cage will produce 70 metric tons (MT) of market-size (4 to 8 kg) cobia to be sold primarily to the local market.

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