



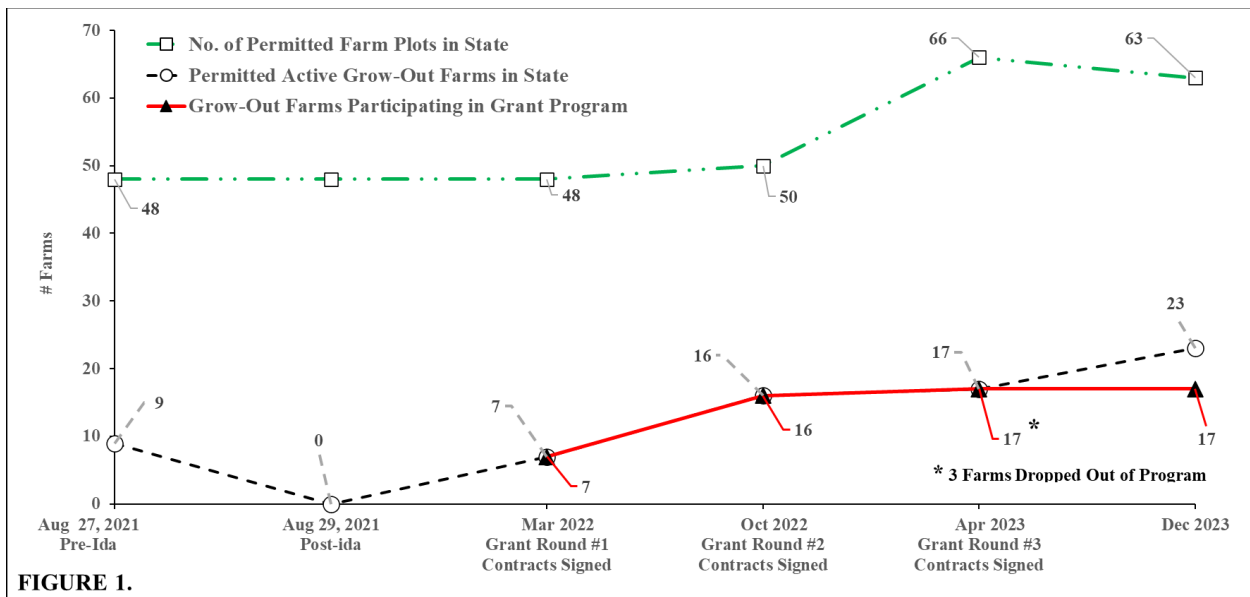
# Alternative Oyster Culture Grants Program, 2021-2023.

From: Melancon, Earl, Ralph (Wood) Oglesby, Thomas Hymel, Albert (Rusty) Gaude', Anne Dugas, Kevin Savoie, Elizabeth Robinson, Brian Callan, Evelyn Ducote, Michael Tarantino. 2023. *Alternative Oyster Culture (AOC) 2021-2023 Grants Program and Status of Fishery in Louisiana. Louisiana Sea Grant Report to Louisiana Department of Wildlife & Fisheries, Office of Fisheries. Full Report: [www.lafisheriesforward.org](http://www.lafisheriesforward.org). 51pp.*

## Executive Summary

The Louisiana Department of Wildlife and Fisheries (LDWF) developed the “*Louisiana Oyster Management and Rehabilitation Strategic Plan.*” The fourth initiative (of 12) within the Plan is the “*Expansion of Alternative Oyster Aquaculture.*” Within Initiative #4 are goals to sustain, enhance, and expand the AOC fishery through oyster seed production grants, implementation of AOC farm startup grants, development of AOC aquaculture parks, and education and outreach opportunities to the industry and public. Louisiana Sea Grant (LASG) was awarded a three-year, 2021-2023, contract from LDWF to implement those goals through a grants program. The Iberia Development Foundation (IDF) disbursed the funds as a subcontractor to LASG through Louisiana State University (LSU).

Alternative Oyster Culture (AOC) began in 2005 as an experimental fishery and grew slowly within the state to nine permitted grow-out farms, one AOC aquaculture park, and one private oyster hatchery by the end of 2020. After the passage of Hurricane Ida in August 2021, all nine grow-out farms were lost due to the storm’s destructive forces (Fig. 1). Three rounds of grant funding opportunities were publicly advertised and a total of \$1,380,000 in grant funds were disbursed by LASG and IDF through the program by its end in December 2023. By December 2023 after the three rounds of funding, the



disbursed funds supported 17 permitted AOC grow-out farms in Louisiana with five of them also having small self-contained seed nurseries, \$840,000 (61% of funds; \$45K/farm, \$15K/nursery), one inland recirculating aquaculture system (RAS) private hatchery with a nursery in Baton Rouge, La., \$240,000 (22% of funds; \$225K/hatchery = \$15K nursery), and three aquaculture parks, \$300,000 (17% of funds; \$100K/park). Farms located in aquaculture parks work under its Coastal Use Permit (CUP) and this is an incentive for them to locate there. The three aquaculture parks account for 58 grow-out farm plots, 92% of the 63 permitted in the state (Fig. 1). The three parks also account for 135 acres, 73%, of the state’s total permitted 185 acres of grow-out farms. The three parks are located near Grand Isle, lower Calcasieu Lake near the town of Cameron, and in the Dos Gris area between Grand Isle and Port Fourchon. Farm plots range in size from 0.5 acres to 2.0 acres. Grand Isle and Cameron are administered by their respective Port Commission, and the Dos Gris (Southern Belle Park) is privately owned by the Marcos Guerrero family. The remaining farm acreage within the state is located on traditional oyster leases and private water bottoms.

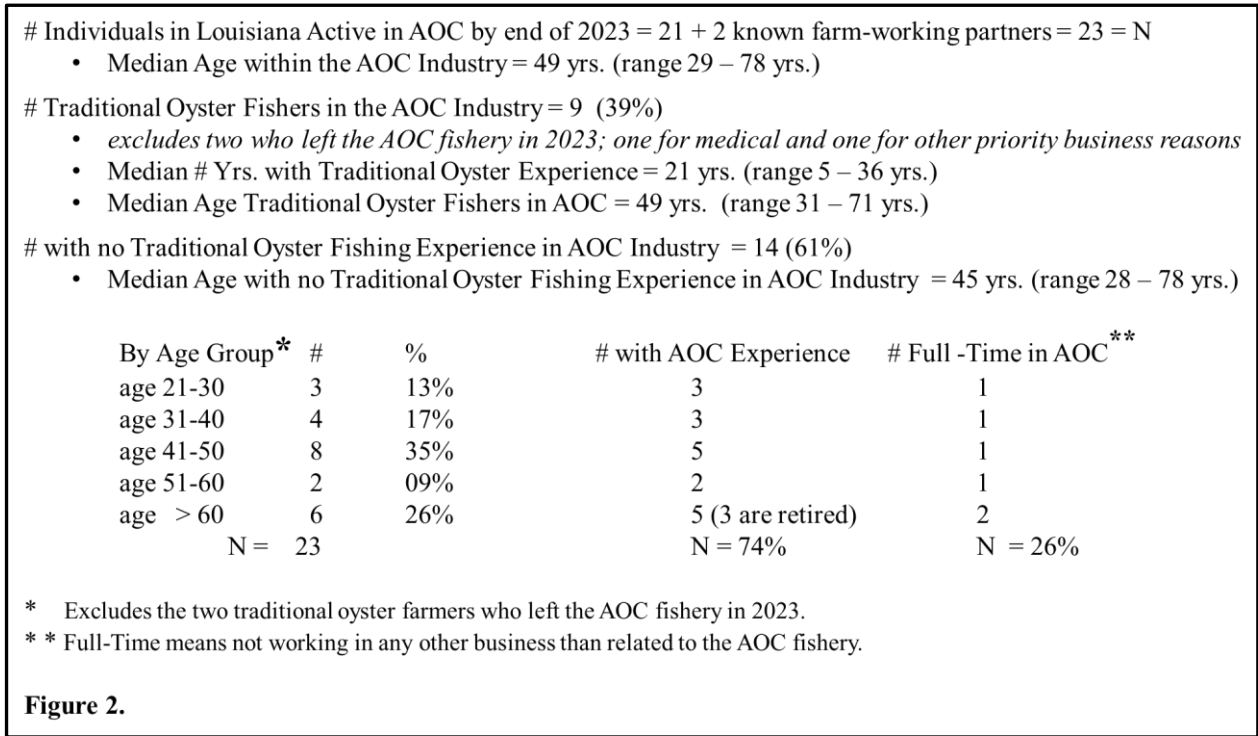
The grant program’s highest funding priority was to help re-establish the farms lost to Hurricane Ida, followed by traditional oyster harvesters who wanted to get into AOC. The number of traditional oyster harvesters



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that applied was 10 and nine were funded. The median age of all AOC farmers in the state (grantees + non-grantees) by the end of 2023 was 49 yrs. (range 29-78 yrs.) and six individuals were considered full-time in AOC (Fig. 2). Two of the full-timers are retired individuals from other professions. Two of the seven younger farmers in the 21-40 yrs. old groups started part-time and have now become full-time. Prior AOC experience was also a high priority and 74% of farmers possessed at least one year (Fig. 2), but the pool of experience dwindled significantly by the third round. The lack of any AOC experience and formal educational opportunities for training are a potential hindrance for anyone wanting to enter the fishery due to the technical nature of it, which is different from a wild-harvest fishery.



There are **challenges** for any start-up business and AOC is no exception. The five challenges listed here are not exclusive but highlight needs that are foundational in nature for potential success:

**Hurricanes** - Hurricanes are an issue for all Gulf and South Atlantic states. From 2005, the beginning of AOC in coastal Louisiana, to 2023 there were 26 storms consisting of 16 hurricanes, eight of which were category three or higher, nine tropical storms, and one tropical depression. In Louisiana, as in other states, AOC rebounded slowly after each storm. But the challenges will not diminish as ocean water temperatures in the Gulf of Mexico and Atlantic Ocean become warmer creating the potential for stronger and more frequent storms. The ability to cope with hurricanes to protect AOC infrastructure is at the forefront of commercial need.

**Coastal Restoration** - Most present AOC farms are located within the Barataria estuary in the Mid-Barataria Sediment Diversion freshwater outfall; those farms were present prior to the grants program and prior to federal (USACE) approval of the Mid-Barataria Project. No coastal restoration effort is more influential on the oyster industry than existing and proposed coastal restoration projects with hydrological modifications that influence salinity habitat. Future farm locations will need to consider present and future planned coastal restoration efforts by the state.



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- **Farm Economics** - Most Louisiana AOC farmers are working at a “sweat equity farming” level, meaning that they are a labor force of one (the owner) or two. To increase the potential for profit, small farms are receiving a premium price per oyster through direct-sales efforts. Small farms will likely continue to be an important part of the fishery. However, small farms may have less resilience from market price fluctuations and environmental uncertainties such as natural mortality events. A recent economy-of-scale study for Louisiana AOC recommends 4-acre and larger farms to increase resilience. But to increase farm size requires more upfront investment, with labor as a significant cost. In other states there is a recent trend towards larger farms. Larger farms may require wholesale distribution to move products in bulk. There are no known wholesale outlets presently associated with AOC farmers for efficient shipments of large orders. Working with wholesalers may require a reduction in price per oyster for the farmer. This could potentially reduce opportunities for small-farm profit that relies on bypassing the wholesaler.
- **Oyster Seed Availability** - The lack of a consistent supply of oyster seed for farmers is an issue not only in Louisiana but throughout the Gulf of Mexico states. Oyster seed in AOC cages are a product of hatchery spawns. Louisiana has one private hatchery, and it may have the potential to supply the needs of the state’s present number of farmers. However, Louisiana does allow restricted importation of out of state seed. The timing of seed availability and quantity throughout the year remains a potential bottleneck to the farmer. Hatcheries can hold oyster seed for only a short period of time and may require oyster seed nursery outlets to hold it until seasonally needed by a farmer. There are a few nurseries in the Gulf states and one inland experimental nursery in Louisiana associated with the private hatchery. Commercial nurseries may have their own challenges including having a critical number of farmers to purchase seed at an optimum size for nursery profit. The economic challenges of an AOC nursery farm in Louisiana are presently unknown.
- **Legislative and Regulatory Requirements** – There is a 150-year history of traditional oyster fishery governance in Louisiana. But AOC is new and dates to 2005 with the establishment of the first experimental aquaculture park. Couple the Louisiana Department of Health (LDH) and the LDWF enforcement regulations with a “new” fishery and you have a recipe for confusion by all parties.

### Observations that may Assist AOC Development for Potential Success in Louisiana:

- **Solutions are needed to reduce the destructive forces of hurricanes on AOC farms.**
- **Importance of documenting economic information to assist in business decisions and success.**
- **Outreach and formal training opportunities will help to understand the technical aspects of AOC and better ensure that informed decisions are made prior to entering the fishery.**
- **The direct-sale market generates a premium price and is the economic driver for small farms.**
- **Large-scale farms may need the development of wholesale distribution for growth of AOC.**
- **Commercial-scale oyster seed nursery farms may have the potential to support growth of AOC.**
- **Traditional oyster fishery laws and regulations may need tweaking for AOC development.**

Off-Bottom oyster cage culture is not unique to Louisiana and has become established within the last two decades by all the northern Gulf and South Atlantic states. Louisiana has a rich fisheries culture and many of the AOC farmers who, if not themselves traditional commercial fishers, have generational heritage within their family. There is also an entrepreneurial spirit within the small AOC farmers, such as using social media as a direct-sale method, ecotourism, and selling AOC merchandise; example, Bayou Rosa Oysters (<https://bayourosaoysters.com>). This generational heritage and entrepreneurial attitude are strengths for small AOC farmers without precluding the importance of developing larger farms; starting small and growing the business may be a good strategy for learning such a technical fishery. AOC produces a boutique-type half-shell oyster for the market and presently is a small part of Louisiana’s total oyster production but does offer an opportunity to diversify the industry. More information on AOC can be accessed at the Louisiana Fisheries Forward web site ([www.lafisheriesforward.org](http://www.lafisheriesforward.org)), the LDWF web site ([www.wlf.louisiana.gov/subhome/commercial-oyster](http://www.wlf.louisiana.gov/subhome/commercial-oyster)), the LASG ([www.laseagrant.org/outreach/aquaculture/](http://www.laseagrant.org/outreach/aquaculture/)), and from your local Louisiana Sea Grant/LSU AgCenter Marine Fisheries Extension agent.