

RESTORATION AQUACULTURE IN FLORIDA

SCIENCE, POLICY AND PRACTICE



Researchers, policymakers, and practitioners gathered at a 2-day workshop in October 2022 to discuss restoration aquaculture in Florida, including potential for an ecosystem services marketplace. This workshop was made possible through funding from NOAA Sea Grant and The Nature Conservancy.

2022 WORKSHOP SUMMARY

Aquaculture as a tool for restoration continues to gain traction across the US. This includes using aquaculture to restore populations or targeted placement of organisms to address environmental issues. UF/IFAS faculty worked with partners to convene a 2-day workshop in the Tampa Bay region for stakeholders to gather for facilitated discussions, presentations, and networking around restoration aquaculture. Made possible through funding from NOAA Sea Grant, Florida Sea Grant and The Nature Conservancy, **the workshop's primary objective was to identify priorities and opportunities for advancing restoration aquaculture within Florida.** A follow-up survey ranked these identified priorities. This document summarizes outcomes of the workshop and survey, including post-workshop developments and next steps.

GOALS

Characterize the state of the science of aquaculture for water quality restoration.

Understand how payments for ecosystem services might be deployed.

Identify obstacles and opportunities in the regulatory framework for Florida to further restoration aquaculture efforts.

Workshop contacts

Josh Patterson joshpatterson@ufl.edu

Ashley Smyth ashley.smyth@ufl.edu

Angela Collins abcollins@ufl.edu

PRIORITIES RANKED IN ORDER OF IMPORTANCE

Coordinate research efforts

- Establish a funding mechanism to ensure long-term monitoring
- Identify consistent and transparent approaches within and across species and regions

Create a statewide network

- Establish an interagency task force to coordinate permitting, rulemaking and other regulatory matters

Streamline and expedite the regulatory and permitting process

- Develop a regulatory guidance document or permitting flow chart for restoration aquaculture projects
- Generate a map of areas already identified as suitable for restoration aquaculture

Reform policy

- Develop an explicit payment for ecosystem services program
- Clarify the relationship between the riparian rights of upland property owners and restoration aquaculture projects
- Allow commercial practitioners to develop restoration aquaculture lease agreements independent of non-profit or research partnerships

Revisit seagrass considerations in aquaculture policy

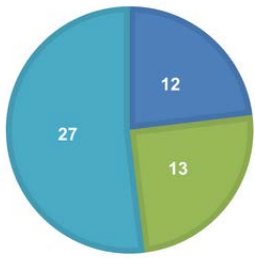
- Increase flexibility in seagrass buffer requirements
- Encourage co-restoration of seagrass and shellfish

Advance a payment for ecosystem services plan for aquaculture

- Establish a sustainable source for payments (e.g., storm water fees, recurring budget item, local penny tax, etc.)

WORKSHOP PARTICIPANTS

■ Policy ■ Practice ■ Science



SURVEY RESPONDENTS

■ Policy ■ Practice ■ Science



Scan here to watch expert presentations from the workshop.

During the October 2022 workshop, 42 participants identified priorities for advancing restoration aquaculture in Florida. A follow-up survey asked them to rank these priorities in order of importance (see results above on page 1).

CURRENT EFFORTS

There is heightened energy and investment directed at restoration projects, including those involving bivalve shellfish to address water quality impairments. It is anticipated that improved water quality will enhance seagrass restoration, recovery, and recruitment success. Examples of ongoing and upcoming funded initiatives:

- [A Billion Clams for Charlotte Harbor](#) (\$1M)
- [All Clams on Deck](#) (\$5.5M)
- [Indian River Clam Restoration Initiative](#) (\$2.2M)
- [Sarasota Bay Watch](#)* clam restoration activities, ongoing since 2015.

*Sarasota Bay Watch was the first entity to receive approval for a restoration aquaculture lease from the Florida Department of Agriculture and Consumer Services (FDACS, 2022).

After several years without funding, the Florida Aquaculture Review Council State Aquaculture Plan* was fully funded for 2023. The Plan recognizes the growing importance of restoration aquaculture as a tool in water quality protection. 2023 ARC Plan priorities relevant to restoration aquaculture:

- Conduct restorative/conservation aquaculture projects in direct collaboration with industry partners to identify impacts of and address coastal issues such as nutrient pollution, shoreline erosion and restoration of aquatic plant, shellfish and fish populations. (E.7)
- Determine the total value of the bivalve shellfish, seagrass and other aquaculture species' contribution to ecological services in the coastal and marine environment. (E.8)
- Conduct program development for bivalve shellfish, seagrass, seaweed, fish and other aquaculture species to be used in a nutrient mitigation, nutrient credit, nutrient trading or similar conservation/restoration program. (J.2)

*<https://ccmedia.fdacs.gov/content/download/89185/file/florida-aquaculture-plan-2022.pdf>

The State of Florida is working with Florida Sea Grant to create a formal Consortium that will engage experts in an interdisciplinary approach to develop the critical information needed to ultimately guide future efforts. There exists a significant need to systematically evaluate projects and determine the best approaches moving forward. Standardized mechanisms are currently lacking that recommend best practices for maximizing project success or evaluating efficacy of such projects.

Scan here to learn more about using shellfish aquaculture for water quality improvement initiatives in Florida.



FLORIDA SEA GRANT FELLOW
Sydney Williams

As a direct result of the workshop, Florida Sea Grant directed funding for a research fellow dedicated to this topic. Sydney Williams will begin working with stakeholders to streamline restoration aquaculture permitting and policy in January 2024. Sydney is in the final year of her PhD at the University of Florida, where she studies carbon and nitrogen sequestration services provided by ribbed mussels in salt marshes. As president of Georgia Sustainable Shellfish Company, she is also learning how to grow clams on her aquaculture lease. Sydney will focus on the permitting and policy surrounding co-restoration of seagrass and hard clams during her Restoration Aquaculture Fellowship.

NEXT STEPS

CONSORTIUM

This planned consortium aims to utilize the best available science and incorporate new research to inform best practices in seagrass and bivalve restoration. The group will work together to clarify regulations & process.

RESEARCH

Utilize consortium to direct and implement prioritized research questions.

PAYMENTS FOR ECOSYSTEM SERVICES

Continue exploration of payments for ecosystem services provided by aquaculture, including market mechanisms, subsidies, taxes and fees. Identify mechanisms for approaches that will require new legislation or rulemaking.