



**Announcement FY 2018-19**  
**Florida Aquaculture Review Council**  
**Call for Statements of Interest**

The Aquaculture Review Council, an advisory council to the Commissioner of Agriculture, is pleased to announce a call for Statements of Interest to perform applied aquaculture research and economic development projects during the State of Florida 2018-19 fiscal year (July 1, 2018 to June 30, 2019). Statements must address research and economic development priorities identified in the *October 2016 Florida Aquaculture Plan*.

The Council is focused on stimulating the growth and development of aquaculture in Florida. The solicitation for statements is intended to create a partnership between the public sector (universities, non-profits, State and Federal agencies) and the aquaculture farming community to jointly address aquaculture applied research and economic development priorities and transfer project results directly to Florida aquaculturists.

This package contains all necessary information and instructions for preparing Statements of Interest.

**Applicants must submit their statements to the Department of Agriculture and Consumer Services, Division of Aquaculture, by 5:00 p.m. local time on Friday, December 16, 2016. The document may be submitted via hand delivery, courier, mail, fax, or as an email attachment in a portable document format (.pdf).**

Statements of Interest will be evaluated by the Council and selected investigators invited to submit full proposals during May 2017. Funding for projects selected by the Council is contingent upon a legislative appropriation. If funds become available, the start date for projects will be July 1, 2018.

**Eligibility**

Applicants can be private sector or state, local or federal government organizations. Investigators outside the State of Florida are eligible, but the project MUST be directly applicable to the priorities listed in this announcement. Only projects addressing research and economic development priorities identified in the *October 2016 Florida Aquaculture Plan* with quantifiable, measurable objectives and results will be considered. Projects should include a project-to-farming community technology transfer activity (e.g., workshop or hands-on demonstration) to ensure project results are directly communicated to Florida's aquaculture community. The *October 2016 Florida Aquaculture Plan* can be viewed online at: <http://www.FreshFromFlorida.com/Divisions-Offices/Aquaculture>.

**Submission**

Statements of Interest from prior years will not be considered unless resubmitted. Late or incomplete Statements of Interest that do not address *October 2016 Florida Aquaculture Plan* listed research and economic development priorities will not be accepted. Statements of Interest must be received by 5:00 p.m. local time on Friday, December 16, 2016. Statements of Interest must be sent to:

Serina Rocco  
Aquaculture Statements of Interest  
Division of Aquaculture  
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## **Research and Development Priorities**

Statements of Interest are requested to conduct short-term projects that address the following applied research and economic development priorities as identified in the *October 2016 Florida Aquaculture Plan*. Questions concerning these priorities should be directed to Aquaculture Review Council members (see page 7).

### **A. Species**

1. Determine ornamental fish and invertebrate species reproduction and grow-out characteristics of priority species identified by the Florida Tropical Fish Farms Association.
2. Determine reproductive, production and/or marketing characteristics and potential for new and existing aquaculture species to diversify the bivalve molluscan shellfish industry.
3. Develop techniques for increasing the level of domestication of cultured bivalve molluscan shellfish species (e.g., polyploidy, hybridization, broodstock selection and/or crossbreeding).
4. Examine the commercial feasibility of producing and marketing emerging marine and freshwater food fish or crustacean species in outdoor ponds, raceways, tanks or indoor tank or raceway systems to include an economic analysis of production costs and potential market returns.
5. Examine the commercial feasibility of producing and marketing live marine and freshwater sportfish or bait species in outdoor ponds, raceways, tanks or indoor tank or raceways systems to include an economic analysis of production and marketing costs and potential returns.
6. Develop a breeding program for hard clams, especially native (*Mercenaria campechiensis*) species for high summer survival and the sustainability of clam aquaculture.
7. Develop public Florida oyster broodstock lines (diploids and polyploids) for the emergent oyster culture industry.
8. Explore and determine new areas of public waters for alligator egg collection.
9. Determine techniques for optimal growth and propagation of commercially important aquatic plant species (*Microsorium pteropus* (Java fern), etc.)

### **B. Production Cycle Improvements**

1. Evaluate and recommend water conservation practices.
2. Investigate and compare costs of alternative energy sources (e.g., electric, propane, solar) to heat small and large scale grow-out systems.
3. Develop or compare methods to estimate shrimp or fish numbers or biomass in ponds.
4. Masculinize (improve color and/or finnage) ornamental fish through approved chemical or environmental treatments.
5. Achieve the labeling of a chemical pond treatment to eliminate predacious zooplankton.
6. Increase on-farm productivity and efficiencies by identifying and testing technology to reduce production costs.
7. Develop methods to evaluate bivalve molluscan shellfish production technologies relative to environmental effects, cost effectiveness and efficiency.
8. Develop cost effective remote technologies for bivalve molluscan shellfish growing area surveillance and security.
9. Compare various techniques/methods to prevent and control bio-fouling of bivalve molluscan shellfish farming gear and products.
10. Evaluate nursery design (i.e., water flow rate and direction, screen types and sizes, and substrates), environmental (i.e., chemical and physical) and biological (i.e., phytoplankton species) characteristics to maximize sunray venus clam nursery production of 88 micron to 4 millimeter seed.
11. Scale-up for commercial application emerging technologies to mitigate off-flavor compounds in food fish recirculating production systems.
12. Investigate Integrated Aquaculture Systems (IAS) and Integrated Multi-Trophic Aquaculture (IMTA) to improve recirculating aquaculture system economics.
13. Develop water quality specific mineral supplement recommendations for low-salinity marine shrimp grow-out.

### **C. Animal and Plant Health**

1. Develop procedures or protocols for disinfecting live feeds.
2. Identify and develop diagnostic tools, potential treatment and prevention options, and biosecurity measures for emerging diseases of aquaculture species; or improve on diagnostic tools, treatment and prevention, and biosecurity for existing known diseases.
3. Investigate methods to control microbial communities in aquaculture hatcheries and larval rearing systems.
4. Identify the cause of and develop a hatchling alligator treatment or handling method to reduce or eliminate excessive umbilical scarring.
5. Develop a protocol to nest, incubate and hatch alligators to increase hatch rates and reduce umbilical scarring.
6. Develop a protocol for rearing alligators to increase growth rates and reduce scarring from bites (density levels, frequency of feeding, water level and optimum grow out house temperature).
7. Develop disease surveillance and health management strategies for cultured oysters.
8. Develop and establish an aquatic health and monitoring program for seed production of molluscan shellfish.
9. Investigate methods to control aquatic amphipods and snails (i.e. *Physella*, *Marisa*, etc) that feed on plants.

### **D. Nutrition**

1. Develop or improve live feed species and production protocols for marine and freshwater aquaculture species.
2. Evaluate alternative feed ingredients and dietary formulations to reduce feed costs and increase growth and reproduction of Florida aquaculture species.

### **E. Environment**

1. Conduct a science-based risk analysis (assessment and management) of non-native species that informs responsible cultivation.
2. Quantify disturbed and undisturbed habitat biotic and abiotic resistance to non-native species introduction.
3. Conduct a risk analysis of the tilapia species in Florida aquaculture to assist state agencies in decision-making regarding potential changes in tilapia management.
4. Improve the understanding of bivalve molluscan shellfish farm environmental interactions concerning carrying capacity, water quality, benthic soils and bathymetry.
5. Produce a how-to manual for the construction, maintenance and operation of an alligator anaerobic lagoon waste treatment system.
6. Compile existing Florida seawater quality data to establish a baseline for all identified and quantified essential components (temperature, salinity, water chemistry, food supply, and including positive/negative impacting bacteria and pathogens) necessary for efficient and effective hatchery/nursery production of shellfish in Atlantic and Gulf Florida Waters. Design testing procedures for regular ongoing monitoring of these components that would identify significant changes that may affect production on any level from spawn to 4mm size.

### **F. Food Safety**

1. Develop and obtain FDA approval of a brevetoxin enzyme-linked immunosorbent assay (ELISA) test for shellfish (oyster, clam or mussel) meats.
2. Assess /develop harvest management and/or monitoring tools in compliance with NSSP harvest/handling requirements to assure product quality of cultured oysters.
3. Develop and distribute an aquaculture food commodity producer's guide of Food Safety requirements.

## **G. Marketing**

1. Create and distribute information (publication, social media/marketing campaign, etc) that describes Florida aquaculture: Culture methods, species grown, and potential environmental effects.
2. Determine whether the consumer is discriminating between wild-harvested or farm-raised and domestic or imported aquatic species.
3. Conduct a Florida aquaculture promotion/public education campaign for a segment of the population most likely to consume Florida grown products.
4. Test Florida aquaculture product branding using social media to quantify the value-added benefit.
5. Test Florida aquaculture product branding approaches (regional vs. generic vs. product quality characteristics).
6. Create and conduct an aquarium fish and plant promotional campaign to increase sales and product values.
7. Promote Florida tropical fish and aquatic plants through participation in aquarium or pet industry trade shows.
8. Complete a market analysis (value, volume, demand and product specifications) and/or financial characteristics for Florida cultured oysters.
9. Describe and define options and markets for the re-use or recycle of materials used in aquaculture farming, processing and shipping including compostable plastic.
10. Improve shellfish and/or foodfish processors and public understanding of food safety and quality issues across the entire processing system from production practices to consumption.
11. Develop an aquaculture-based model for agricultural tourism, and evaluate potential economic, educational, and/or marketing impacts.
12. Identify domestic markets for grade 2 and 3 green, salted alligator skins.
13. Identify designers/manufacturers in Florida and the US and educate them on marketing off grade hides.

## **H. Economic Analysis**

1. Conduct a Florida aquaculture versus foreign competitor strengths, weaknesses, opportunities, and threats (SWOT) analysis that will yield actionable recommendations to improve national and global competitiveness.
2. Conduct a Florida aquaculture development analysis to: 1) define aquaculture resource needs: water, soils, temperature; 2) describe and map geopolitical regions of the state that welcome aquaculture activities, agriculture zoning, potential municipal partnerships that will accept effluents, and farming segments that will accept effluents for crop irrigation; and 3) combine and provide this information as a GIS tool to state and county economic development officials.

## **I. Education**

1. Conduct a statewide aquaculture and business development and/or technology transfer workshop.
2. Develop and support school education programs leading to certification(s) of competency in aquaculture.
3. Create and launch an educational campaign to inform the public on the importance of responsible pet ownership, environmental stewardship and increase awareness of the consequences of releasing nonnative species and pets.

## **Timeframe**

Projects must be completed within the State of Florida fiscal year: July 1, 2018 to June 30, 2019.

An option for applicants that envision a multi-year effort is to propose a Phase I and Phase II project (i.e., a two-year duration project). Applicants must clearly describe and delineate Phase I and Phase II objectives in their Statement of Interest. Review and approval of funding for Phase I of a project is not a guarantee of

approval and funding for Phase II. Phase II projects will be reviewed in the same manner as all other project submittals in the year in which it is submitted.

### **Statement of Interest Evaluation**

The Aquaculture Review Council will evaluate the Statements of Interest. The Council is composed of a cross-section of aquatic farmers and a commercial fisherman. The Council acts as an advisory body to the Commissioner of Agriculture. The Council will examine statements for:

- Applicability to Florida aquaculture, practicality for immediate implementation to benefit Florida aquaculturists, and improvement to the financial bottom-line that Florida farmers can expect to achieve through adoption of project findings whether direct, on the farm, or indirect via the identified economic development efforts.
- Potential for on-farm implementation and significant improvements to farm productivity and profitability.
- Farmer outreach and education or technology transfer via hands-on workshop and/or production or technical demonstration.
- Farmer involvement during the project.
- Project management and budget.
- Matching funds/cost share: cash, matching funds, funds from other granting sources, personnel time, expendables, and equipment. Facilities and contributions from private sector farms may be identified as a cost share.

Applicants that produce a statement that is reviewed favorably by the Council will be asked to author a fully detailed proposal for a second review by the Council. During the full project proposal evaluation, applicants may be asked to attend the Council meeting to present their proposed project.

### **Funding and Administration**

Project funding is subject to the State of Florida's budget process. Full proposals will be evaluated by the Council and those proposals that are favorably reviewed will be recommended to the Commissioner of Agriculture for inclusion in the Florida Department of Agriculture and Consumer Services' annual budget request. Investigators and/or their organizations are encouraged to create legislative support for the package of proposals that are included in the department's budget request.

Project funds, if appropriated, will be administered by the Florida Department of Agriculture and Consumer Services through a contractual services agreement and may include on-site progress visits. Note that Florida Statute mandates public-private partnerships, when appropriate, and a return of a percentage of the profit/revenue generated by projects for funding future projects (597.003(1)(f), F.S.).

The Council encourages the identification of matching or cost share contributions to complete a project. Applicants that can identify a match or cost share are encouraged to do so and provide a description of that contribution in the budget description.

### **Statement of Interest Format and Contents**

Statements of Interest should be no more than three pages in length, plus cover page and budget chart (if included) written in at least 11-point font, and should contain the following elements:

- Date, Project Title, and Contact Information - Include the name(s) of the investigator(s) or applicant(s), the organizational affiliation, address, phone number and email.
- Abstract – Briefly summarize the project in 150 words or less.

- Need for the Research – Explicitly connect the proposed work to the *October 2016 Florida Aquaculture Plan* applied research and development priorities that are listed in this announcement on pages 2 through 4. Describe one or more specific objectives. Published literature references in the statement are not required but will be required for a full-proposal.
- Methods - Succinctly outline activities to accomplish the objective(s), e.g., experimental design, data collection methods, analysis, and farmer outreach.
- Deliverables – Quarterly progress reports and a final report are required; simply acknowledge that they will be provided. The progress reports must describe progress toward the objectives and include any preliminary results. The final report should include discussion and analysis of results, summary of farmer outreach effort (number of attendees, participant satisfaction analysis), and recommendations for future work.
- Work Schedule - Provide a brief description of the tasks associated with the project objectives.
- Budget - Briefly summarize a proposed budget. Funds provided by the department to support Aquaculture Review Council recommended projects cannot be used for capital outlay expenses, tuition, or travel. University administrative overhead is limited to a single 5% charge (10% for the University of Florida). Overhead cannot be charged on top of overhead billed by a subcontractor to the contracted party. A Budget Chart may be included as a final page, outlining the budget.

**Note:** Florida Statute mandates public-private partnerships, when appropriate, and a return of a percentage of the funds generated by projects for funding future research projects.

## Aquaculture Review Council Members

### Alligators

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### Aquaculture Industry Member At-Large

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### Tropical Fish

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### State Agricultural Advisory Council

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If you have questions about the research and development priorities contained in this announcement, please contact the appropriate Council member. If you have questions about funding, Statement of Interest format, the application and evaluation process, or prior projects and funding, please contact the Serina Rocco at (850) 617-7600 or [Serina.Rocco@FreshFromFlorida.com](mailto:Serina.Rocco@FreshFromFlorida.com).

Florida Aquaculture Project  
Statement of Interest – 2018-19

**Cover Page**

Title of Proposed Project:

Principal Investigator(s) (name and title):

Name, Address, Telephone, Fax, and Email of Submitting Organization:

Cooperating Investigators (name, title and organization)

Project Abstract (150 words or less):

Total Project Cost: \_\_\_\_\_  
State of Florida Cost: \_\_\_\_\_

Florida Aquaculture Project – 2018-19

**Budget Chart**

	# people	Months of effort	State of Florida funds	Matching / Cost Share
<b>1. Salaries</b>				
Project Manager				
Principal Investigator				
Technician				
Clerical				
Total Salaries				

<b>2. Other Personnel Services (OPS)</b>				
Consultants				
Other (specify)				
Total OPS				

<b>3. Fringe Benefits*</b>				

<b>4. Capital Outlay (OCO)</b>				

<b>5. Expenses</b>				
Supplies				
Office (copier, phone, postage, etc.)				
Other (specify)				

Total Direct Costs (add 1 through 5)	
Total Indirect Costs*	
Total Matching Funds <sup>#</sup>	
Total Amount of Request	

\* Describe formula: \_\_\_\_\_

<sup>#</sup> Source of matching funds: \_\_\_\_\_

***Indirect costs are limited to 5% of total direct cost, excluding any matching funds. University of Florida applicants may utilize a 10% indirect cost rate, excluding matching funds. Travel and/or Per Diem are not allowed expenditures***

***Note: Florida Statute mandates public-private partnerships, when appropriate, and a return of a percentage of the funds generated by projects for funding future projects.***