

University of Maryland, 2113 Animal Science Building

College Park, Maryland 20742-2317

Telephone: 301-405-6085, FAX: 301-314-9412

e-mail: ssadams@umd.edu

**NRAC FULL PROPOSAL REVIEW FORM**

Project Code/Title: 23-04: Impact of waterbirds on fecal coliform levels at floating gear oyster aquaculture operations.

Date Due: December 9, 2022.

1. **Science, Technology, and/or Extension Program Design (technical merit of all aspects of the project, 30%):** Is the methodology described in the plan appropriate to meet the objectives for a research or extension project? Will this work advance understanding of the science and the contemporary problems that the industry faces? If this is an Extension-demonstration or education project do the PI(s) provide an adequate plan to evaluate the success of the effort? Are the proper metrics provided? Can the PI(s) properly assess the short-term, medium-term, long-term outcomes projected?

The proposal is based on robust, well designed science. The objectives and hypotheses are clear and explicit, although the language of the hypotheses specifically derived from the corresponding objective could in some cases be tighter (binary vs. continuous statements, extent vs. presence/absence). Language of hypothesis could also more explicitly state that the diseases of concern are human pathogens compared to diseases of shellfish themselves. The specific analyses to be used for each project component have been well thought out. The proposed work also appears to be positioned to be adaptable and responsive to changes in pathogen loads. There is a good level of replication and built-in controls and careful consideration to spatial coverage in terms of site selection and sampling protocols.

*Very Good 27*

1. **Industry Relevance and Probability of Success (30%):**

The ISSC requires operational plan to mitigate the impacts of birds and mammals, and yet no field study in the Northeast US exists that adequately documents how increased bird abundance during late-summer relates to changes in water quality and pathogen presence. Human illnesses can have devastating impacts on consumer confidence related to shellfish consumption and as such the ability to develop BMPs related to waterbird contamination for floating shellfish aquaculture is a high priority, particularly in the summer months when bird densities around aquaculture operations can be significant. Information is likely to be effectively shared with industry due to the inclusion of representation from the ECSGA as part of the project team (Rheault),

 *Excellent 28*

1. **Integration with Extension (20%):** Does this work identify the key stakeholders? Stakeholders include those individuals (industries and agencies) not directly involved in the project. Is the extension plan appropriately designed to reach the targeted stakeholders? How will the results of this work address the needs of key stakeholders? Will this project extend our knowledge to all stakeholders? Are the expected outputs, outcomes, and impacts clearly described? Is the budget appropriate for effective integration?

Perhaps the biggest weakness in this proposal from this reviewer’s perspective is that the lack of explicit information on the farms that will participate in the project. The sites are not identified in the proposal, there is no industry representation as part of the project team, and no letters of support or commitment from individual farms are included in the proposal. This feels a bit like a deal-breaker in terms of having confidence that farms are going to be willing to participate in the project which is a critical element. That being said, the proposed work is much needed for reasons described earlier in this review.

 *Fair 14*

***4.* Capacity (10%):**

The project is centered around a well-rounded team of applied research scientists, academicians, and extension agent; but again it does not appear that there is aquaculture industry representation as part of the project team, which is a significant weakness. Available facilities are excellent and include access to state of the art analytical capabilities. In terms of the budget, much of work will be conducted by a post doc and time requested for some of the project team is minimal (co-PI Gomez-Chiarri is minimal (0.2%?)) or absent (i.e., no time seems to be requested for PI McWilliams – may not be required/eligible?).

 *Fair 7*

***5.* Accountability (10%):** Does the investigator and her/his team have a successful track record of previous NRAC funding being adopted by the industry? Have they leveraged NRAC funding for additional resources to solve bigger problems that can be funded by NRAC alone? Is there evidence that the investigator(s) has (have) an established record indicating a high probability of success on the proposed work? Does the PI(s) have an established record of completing projects on-time meeting the objectives laid out in previous projects? Can this project integrate or be leveraged with funding from other work of the investigator(s)? Does the investigator(s) have a track record that suggests this project will be a good investment for NRAC resources?

There is no evidence of NRAC funding for anyone except co-PI Gomez-Chiarri, i.e., none evident for PI. Indeed no NRAC funding has previously been awarded to these team members for work relevant to the proposed research. That said The PI has relevant experience related to waterbird interactions with aquaculture as evidenced from funding support (C&P) from RI dept Env Mgt. This proposed work would seem to be able to be integrated with work under that grant and the proposed work would be a good use of NRAC funds in terms of addressing an important need for industry of developing BMPs for waterbird impacts on waterborne pathogens.

 *Good 8*

***6.* Total score: 84**

 **Rating Good**

**Final Recommendation: Encourage Resubmission next year**