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**NRAC FULL PROPOSAL REVIEW FORM**

Project Code/Title: [**23-06 - Bricknell**](https://www.nrac.org/_files/ugd/5d062c_e0bee812a4aa4a3e8d6a1645b4e2d78a.pdf) - The Microbiome of Sea Lice

Date Due: December 9, 2022

Please provide the information requested below. Length and detail of responses may vary according to the nature of the proposal. We value your honest appraisal and the format allows you to be as expansive as you deem necessary (feel free to use a separate sheet if necessary). Your comments and scoring will be shared with the principal investigator but with complete anonymity.

1. **Science, Technology, and/or Extension Program Design (technical merit of all aspects of the project, 30%):** Does this proposal use top quality science and/or technology, or demonstrate extension scholarship? Is (are) the PI(s) familiar with relevant previous and contemporary investigations? Are the objectives and hypotheses explicit and clear? Is the experimental plan clear and the statistical design appropriate? 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?

*Comments: The proposal is a primarily basic research project into the basic biology of sea lice, how they affect salmon and lumpfish. the methodology is very straightforward, and we'll advance the understanding of the science related to problems associated with sea lice. It is a basic building block of determining the major causes of sea lice infectivity. The project is a difficult project to conduct extension programs, as it is designed as a basic science project. They have an adequate plan to evaluate the success of the effort and assess outcomes of the project. the*

*Rating: Maximum score = 30*

Excellent (numerical value = 30) \_\_\_\_\_\_\_

Very Good (numerical value = 27) \_\_\_\_\_\_\_

Good (numerical value = 24) \_\_\_x\_\_\_\_

Fair (numerical value = 21) \_\_\_\_\_\_\_

Poor (numerical value = 18) \_\_\_\_\_\_\_

1. **Industry Relevance and Probability of Success (30%):** Are the benefits and potential impacts related to industry utility such as increased farm-gate value or grower profitability? Will the project likely provide usable results that can be adopted by the industry in a timely manner? Alternatively, if it is a development effort toward a new technology, will this project’s results increase the team’s capacity to compete for external funds to support the next iteration of research and outreach needed to take the results to application? Will this project create an opportunity for information to be turned over to the industry for refinement and adoption that will eventually become self-sustaining?

*Comments: The benefits and potential impacts related to the industry are difficult to determine due to the basic nature of the research. The project will provide useful results on developing further management for a major economic problem to the salmon industry. The project will develop information for the industry and to one of, if not its most major problem.*

*Rating: Maximum score = 30*

Excellent (numerical value = 30) \_\_\_\_\_\_\_

Very Good (numerical value = 27) \_\_\_x\_\_\_

Good (numerical value = 24) \_\_\_\_\_\_\_

Fair (numerical value = 21) \_\_\_\_\_\_\_

Poor (numerical value = 18) \_\_\_\_\_\_\_

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?

*Comments: The research team is working with key stakeholders and includes those industries in the project. The extension plan is designed to reach individual stakeholders. There are two workshops that are designed to be extension workshops. The workshops are primarily associated with disseminating the research project information. The other work is associated with scientific meetings. I cannot determine if there is any Extension representation within the research project.*

*Rating: Maximum score = 20*

Excellent (numerical value = 20) \_\_\_\_\_\_\_

Very Good (numerical value = 18) \_\_\_\_\_\_\_

Good (numerical value = 16) \_\_\_x\_\_\_\_

Fair (numerical value = 14) \_\_\_\_\_\_\_

Poor (numerical value = 12) \_\_\_\_\_\_\_

**4. Capacity (10%):** Is (are) the principal investigator(s) and specified members of the research (extension) team qualified to conduct the research (program)? Is there industry representation as part of the team? Have the investigators clearly articulated they have adequate facilities and equipment to complete the project. Is the overall budget appropriate given the scope of the project? Is there a reasonable chance the project will be completed on-time?

*Comments: The investigators and the research team are highly qualified to conduct the research. There is industry representation on the advisory portion of the team and industry is closely associated with the research project. There appear to be excellent facilities and equipment to complete the project. The budget appears to be extremely adequate or the scope of the project, but there appears to be some areas where some reduction could be attempted. There is a reasonable chance, but the outline project can be completed on time*

*Rating: Maximum score = 10*

Excellent (numerical value = 10) \_\_\_x\_\_\_\_

Very Good (numerical value = 9) \_\_\_\_\_\_\_

Good (numerical value = 8) \_\_\_\_\_\_\_

Fair (numerical value = 7) \_\_\_\_\_\_\_

Poor (numerical value = 6) \_\_\_\_\_\_\_

**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?

*Comments: The team has a successful track record within rack funding and other funding associated with aquaculture of salmonids. They have an established track record of completing projects handle leveraging funds.*

*Rating: Maximum score = 10*

Excellent (numerical value = 10) \_\_\_\_\_\_\_

Very Good (numerical value = 9) \_\_\_x\_\_\_\_

Good (numerical value = 8) \_\_\_\_\_\_\_

Fair (numerical value = 7) \_\_\_\_\_\_\_

Poor (numerical value = 6) \_\_\_\_\_\_\_

Non-Applicable – First Time Applicant \_\_\_\_\_\_\_

**6*.* Total score: \_\_\_86\_\_\_\_**

**Rating Excellent \_\_\_\_\_\_**

**Very Good \_\_\_\_\_\_**

**Good \_\_\_x\_\_\_**

**Fair \_\_\_\_\_\_**

**Poor \_\_\_\_\_\_**

**Final Recommendation: Must fund \_\_\_\_\_\_\_\_**

**Fund if resources are available \_\_\_x\_\_\_\_\_**

**Encourage Resubmission next year \_\_\_\_\_\_\_\_**

**Do Not Fund \_\_\_\_\_\_\_\_**

**7. Strengths:** What are the major strengths of this proposal? If you provided a rating of excellent for any of the categories above but did not comment, would you please share why you rated a particular category as “excellent”?

*The project is primarily a basic research project geared toward a major problem within the salmonid industry. basic research such as this project is the background for successful applied research and alleviating or ameliorating the problem. Team is excellent.*

**8. Weaknesses:** Identify the weaknesses of this proposal. Are there any flaws (design, methodological, etc.) that might seriously compromise the scientific integrity, value and/or validity of the work? If you rated an evaluation area as fair or poor, how might that area of the proposal be improved?

*It's not a true weakness because it is basic research, but the Extension portion of the project gives a low priority and needs to be fleshed out.*