

*Criteria for Evaluation:*

**1. Scientific merit**

**a. Clearly-stated objectives and hypotheses.**

The proposal does not clearly address either the objectives and hypotheses but, rather, these are found in several sections (Project Description, Ecological/Biological Objectives). These should have been addressed in a separate Objectives section for clarity and an understanding of the significance of the research.

**b. Sound approach.**

There are several weaknesses in the proposal which need to be addressed:

1. There needs to be a third group that serves as a control. I would suggest a group that is maintained at the water temperature profile of the MRFF. This group would provide insight into the physiological parameters being tested at the elevated temperatures.
2. Diet: The proposal states that a diet of *Tubifex* and freeze-dried krill will be used to mimic a natural diet. While I think the goal of duplicating a natural diet benefits the study, there needs to be documentation that the proposed technique and diet accomplish that. I have personal experience with conversion to different diets such as proposed and expect that the transition period will be longer than the 10 days as proposed.
3. Recovery from stress: Plasma cortisol should be measured in addition to glucose as a measure of return to normal condition following the stressor. Again, there is a need for the third group to serve as a control.

Throughout the proposal there is a lack of references to peer-reviewed literature to validate selection of techniques and relevance of expected results. Inclusion of citations would enhance the proposal.

**c. Adaptive management approach.**

The proposal does not justify its selection as being a research project, pilot project, or full-scale restoration project as requested. It obviously fits into a research project but should have been stated as such. Inclusion of related research and publications would be beneficial in this regard.

**2. Adequacy.**

Further documentation should have been provided for selection of methods of smolt quality. There are a number of smolt quality assessment measures including histological examination of gill tissues for chloride cells which change in number and staining intensity during the parr-smolt transformation. Also literature citations for the saltwater challenge tests proposed and what the expected

outcomes should have been referenced. This is also the case of the protein electrophoresis method for immune function.

There has been several newer cellular techniques developed that evaluate leucocyte performance such as phagocytic index. This should have been considered and may add to the section on immunodefenses.

**3. Technical feasibility.**

This proposal is for a laboratory study that should not be subject to the uncertainties of field research and should be able to be completed within the time period given.

**4. Qualifications.**

The qualifications of Dr. Foott are adequately demonstrated. The capabilities of the Cal- Nev wet lab would enhance the proposal.

***Overall Evaluation:***

**Fair**