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April 14th, 2026

To: Dr. José Guzmán

Program Officers: José Guzmán, PhD, Megan Ewing, Sarah Tanja, Andy Nutzhorn

Funding Organization: International Society of Crustacean Ecophysiology

Program Title: *Applied Comparative Ecophysiology of Hemigrapsus oregonensis and Carcinus maenas: Linking Mechanisms to Management in a Changing Coastal Environment*

Subject: Letter of Intent to Submit a Proposal – *Applied Comparative Ecophysiology of Hemigrapsus oregonensis and Carcinus maenas*

Dear José Guzmán, PhD,

I am writing to formally express my intent to submit a proposal in response to the RFP titled “*Applied Comparative Ecophysiology of Hemigrapsus oregonensis and Carcinus maenas: Linking Mechanisms to Management in a Changing Coastal Environment.*”

Our proposed project, tentatively titled "**Salinity tolerance physiological responses for *Carcinus maenus* and *Hemigraspsus oregonensis***", will address the following thematic areas of the RFP:

- Invasive species and competitive tolerance
 - How do physiological tolerances of *H. oregonensis* compare to invasive competitors *C.maenas* under projected salinity climate scenarios within Puget Sound?
- Climate change and crab fisheries
 - How do environmental stressors affect the physiological performance of *Carcinus maenus* and *Hemigraspsus oregonensis* which can inform survival, and reproductive output of shellfish fisheries?

This project will investigate the physiological responses of *Hemigrapsus oregonensis* and *Carcinus maenas* to varying salinity conditions (~38ppt - 22ppt), with both subject to wide salinity ranges in their natural and invasive habitats. Understanding how each species may respond to prolonged salinity conditions outside of their biological preferred range may reveal which species will be more successful under changing environments as well as which species may dominate in various geographical locations across Washington state.

The anticipated Principal Investigators will be Maritza Rodriguez, Ari Paulik, Phoebe Berghout, and Ryan Luvera. Our research approach emphasizes ecologically meaningful physiological endpoints with direct application to coastal resource management and climate adaptation.

We appreciate this opportunity to contribute to applied coastal science and would be happy to provide any additional information if needed prior to full proposal submission.

Sincerely,

Maritza Rodriguez, Ari Paulik, Phoebe Berghout, and Ryan Luvera