

## **NERRS SCIENCE COLLABORATIVE**

### **2020 COLLABORATIVE RESEARCH FUNDING OPPORTUNITY**

**Project Title:** Pacific Northwest Blue Carbon Working Group Phase 2: Land use and environmental effects on greenhouse gas emissions and carbon sequestration, informing blue carbon project feasibility assessments for tidal wetland management

**Project Type:** Collaborative Research

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**Lead Reserve:** Padilla Bay NERR

**Additional Reserves:** South Slough NERR

**Budget Request:** \$600,000

**Project Duration:** Three years: October 1, 2020 – September 30, 2023

### **Project Summary**

The Pacific Northwest (PNW) Blue Carbon Working Group has completed two NSC-funded blue carbon (BC) research projects representing critical “Phase 1” steps for providing data to regional end users in support of estuarine wetland restoration and conservation. We filled critical BC stocks data gaps, developed a regional database, examined feasibility of carbon finance in support of local coastal management, and revealed remaining BC data gaps. This “Phase 2” study will build on Phase 1 results with these objectives: 1) fill greenhouse gas (GHG) emissions and carbon (C) sequestration data gaps for major PNW tidal wetland classes and land uses; 2) examine BC-ecosystem driver relationships; 3) expand the regional BC database and provide new data to the Smithsonian’s Coastal Carbon Research Coordination Network (CCRCN) working group to help validate a national methane emissions model; 4) examine how net ecosystem C balance differs among wetland types and land uses; and 5) continue engaging end users to ensure this work meets their needs. Outputs include manuscript(s) summarizing C sequestration and GHG data, and an expanded regional database. Outcomes: end users, including PBNERR and SSNERR, gain valuable regional data to inform coastal restoration efforts, including evaluating C finance opportunities for tidal wetland restoration initiatives.