

THE PRIBILOF ISLAND BLUE KING CRAB PROJECT: PAINTING A PICTURE WITH MODELING AND PARTICIPATORY SCIENCE.

Matt Sedlacek*, Program on the Environment, University of Washington

Site Supervisor: Kirstin Holsman, National Oceanic & Atmospheric Administration

Faculty Advisor: Phillip Levin, School of Environmental & Forest Sciences, University of Washington; The Nature Conservancy

Blue king crab were once an important biological and cultural species harvested by native Alaskans or “The Unangan” who comprise roughly 86% of the population of St. Paul. The Pribilof Island blue king crab (PIBKC) stock, closed in 1998 and was declared overfished in 2002. Despite no direct fishing, the stock has not improved over the last 15 years and remains the only overfished stock in Alaska. My internship with the PIBKC project sought to apply qualitative network models (QNMs) to the failed recovery of PIBKC. QNMs mathematically formalize conceptual models of systems and link changes in blue king crab populations to key ecological and environmental variables. The PIBKC project used individual stakeholders QNMs to construct a final collective model which allowed us to make qualitative predictions about the response of the stock to management actions and environmental changes. Additionally, my research seeks to shed light on the application of QNMs within a participatory science (workshop) setting, bringing fresh perspectives to management processes. The results of my research show that participants responded positively when contributing toward group dynamics and felt a stronger personal connection to the issue. Through research and meaningful first-hand experience, I found that participatory science helps bring otherwise reluctant stakeholders to the discussion by giving them not only a voice, but a personal stake in the project. The integration of participatory science in the PIBKC discussion can give the native communities a stronger voice and greater participation in what happens to their social and cultural resources.