



SAVING THE SEA LIONS ONE CLICK AT A TIME: USING ARTIFICIAL INTELLIGENCE TO TRACK STELLER SEA LION POPULATIONS

Session: B, Breakout Room #2

Kate Connelly*, @KateConnelly125, Program on the Environment, University of Washington

Site Supervisor: Burlyn Birkemeier and Katie Sweeney, National Oceanic and Atmospheric Administration, Marine Mammal Laboratory

Faculty Advisor: Chris Anderson, School of Aquatic and Fisheries Sciences

Steller sea lion populations in Alaska have been variable over the past few decades and currently, the Western population is on the endangered species list. This means the National Oceanic Atmospheric Administration (NOAA) is responsible for producing a population assessment each year. This is conducted by counting each sea lion from thousands of aerial images, which can take up to 9 months to complete. Therefore, NOAA is working to implement artificial intelligence software to increase the speed of this process. This project aimed to determine if it is beneficial for NOAA to implement an artificial intelligence software into their work system, specifically into the Steller sea lion research group. During my internship with NOAA, I was responsible for checking the accuracy of the detections made by the AI software. I performed quality control assessments on thousands of detections. I then processed the information and determined the software's accuracy, 80%, a number that will continue to increase. Concluding that it would be beneficial when conducting reports for Steller sea lions and other marine mammals and allowing more time to work on conservation efforts or other projects. Artificial intelligence is still very new in the environmental field and there are only a few projects using it to assist in their work. But I do believe that there is a future for AI in this field and NOAA should spend the time and resources on implementation.