

**Black oystercatcher breeding territories: biotic and abiotic habitat characteristics.**

Brooke A. McFarland, University of Alaska Fairbanks, School of Fisheries and Ocean Sciences,  
ftbam@uaf.edu

Brenda Konar, University of Alaska Fairbanks, School of Fisheries and Ocean Sciences,  
bkonar@guru.uaf.edu

Michael I. Goldstein, USDA Forest Service, Alaska Region, mgoldstein@fs.fed.us

Black oystercatchers (*Haematopus bachmani*) are large shorebirds that typically nest immediately above the intertidal zone in a composite breeding and foraging territory. Over 60% of these birds breed in Alaska, where they are considered a Management Indicator Species in the Chugach National Forest; a species of high concern, and a Species at Risk. Predictive models of preferred breeding habitat are critical to allow for more targeted survey efforts and to mitigate disturbance to these birds. In south-central Alaska all known breeding sites (n=148) in western Prince William Sound and Kenai Fjords National Park were paired by substrate and exposure with random sites (n=148) and analyzed for remotely-sensed data parameters. In both locations models included chlorophyll a concentrations, sea-surface temperature, aspect, slope, distance to freshwater, isolation and modified effective fetch. In Kenai Fjords National Park distance to blue mussel bands, eelgrass and kelp bed locations were also available and included in candidate models. A subset of breeding (n = 33) and paired random sites (n = 31) were chosen to sample for intertidal community composition and local-scale habitat characteristics (aspect, slope, distances to a freshwater source and to woody vegetation, intertidal width and rugosity (surface complexity)). A priori models were evaluated and ranked by Akaike's An Information Criterion (AICc) corrected for small sample size, and the area under the curve (AUC) from receiver operating characteristic (ROC) curves was calculated to identify the performance of each model. Top-performing models were evaluated for additional sites in Kenai Fjords National Park (n=14) as well as for sites outside of the study region, in south-east Alaska (n=20). Analysis of similarity (ANOSIM) tests were performed on the intertidal community composition at field sites, however no significant differences were found between breeding sites and random available sites. All top-performing models contained a measure of the isolation of the site from the mainland, indicating that pressure from predation is a factor in selection of breeding territories.

Student Presentation