

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Fauna Planning Level Surveys Shorebird Study, Tanana Flats Training Area, Fort Wainwright, Alaska

Type of Project: Research

Project Discipline: Natural

Funding Agency: Department of Defense

Other Partners/Cooperators: Colorado State University

Effective Dates: 9/24/2014 - 9/30/2017

Funding Amount: \$464,137

Investigators and Agency Representative:

Agency:

Investigator: Cal Bagley, Center for Environmental Management of Military Lands, Colorado State University, Fort Collins, CO; (970)491-3324; Calvin.Bagley@ColoState.EDU

Project Abstract: Interior Alaska, specifically the remote Tanana lowlands and Yukon Tanana uplands, have several species of shorebirds that are 'species of concern' as listed by the U.S. Fish and Wildlife Service and Alaska Audubon Watchlist highlighting vulnerable populations. These birds include lesser yellowlegs (*Tringa flavipes*), solitary sandpiper (*Tringa solitaria*), and whimbrel (*Numenius phaeopus*), all of which have been shown to nest in boreal forest wetlands. The effects of climate change may be especially pronounced on this habitat type due wetland drying and increased fire frequency, influencing the special suite of birds that nest here. Relatively little is known about the distribution of shorebirds in the Tanana Flats and Yukon Training Areas, not just these species of concern but others such as Wilson's snipe (*Gallinago delicata*) spotted sandpiper (*Actitis macularius*), and upland sandpiper (*Bartramia longicauda*). Consequently, efforts to better understand the distribution of shorebirds in the Tanana lowlands and Yukon Tanana uplands will not only increase our understanding of how these birds will fare under several climate change scenarios but also aid the military in predicting how shorebird occurrence may interact with training activities.

CEMML will conduct a study to determine which species of shorebirds are present on military lands and in which habitats they occur. This information will be important in analyzing potential impacts from improvements to the Joint Pacific Alaska Range Complex (JPARC) such as the Tanana Flats Training Area Roadway Access project. This research focuses on the following objectives:

Objective 1 Shorebird Surveys

Conduct shorebird surveys to determine the range of species inhabiting military lands as well as their distribution. Surveys will be conducted in a manner so as to estimate probability of detection consistent with current science, most likely in a repeat sampling framework. Surveys will target the breeding distribution of shorebirds.

Objective 2 Shorebird Occupancy Modeling

Conduct an analysis of the habitats that shorebirds occupy and model their distribution across Tanana Flats Training Area. The data collected from shorebird surveys will be used to identify the most suitable habitat per species.

Outcomes with completion dates: 9/30/2017

Keywords: shorebirds, surveys, habitat use, Tanana Flats Training Area, Fort Wainwright, Alaska, Colorado State University, Center for Environmental Management of Military Lands