



Assessing the value of Department of Defense lands in Alaska to a declining species, the Rusty Blackbird

Project #
07-337

Background:

The Rusty Blackbird (*Euphagus carolinus*) has suffered one of the steepest declines of any bird species in North America with populations reduced by 90–98% since 1966. Despite this steep decline, the species' breeding habitat requirements and nesting ecology have remained poorly studied. Boreal wetlands on military lands in Alaska provide important breeding areas Rusty Blackbirds. Wetlands on military installations in south-central and interior Alaska offer an excellent opportunity for the study of Rusty Blackbirds. This project provides important information for military land managers to assess and resolve conflicts between this species and military operations.

Objective:

The goals of the project were to evaluate the value of military installations in Alaska to breeding Rusty Blackbirds by determining habitats with high breeding occurrence, nest abundance, and reproductive success. Additionally, we wished to determine the incidence of disease, parasites, and contaminants within the population.

Summary of Approach:

Following established protocols, we conducted surveys for Rusty Blackbirds, searched for and monitored nests and captured birds for color-marking, and blood and feather sampling from early May until the end of July, 2007. We also collected habitat information at nest and non-nest sites after the completion of the breeding season. Locations of surveyed areas, nest sites and habitat information was integrated into a Geographic Information System (GIS) and data analysis was conducted to determine habitat occupancy, important factors in nesting locations and to calculate reproductive success.

Benefit:

This study provides important new information on the breeding ecology of a severely declining species. Through this better understanding we will be able to more precisely define the needs of Rusty Blackbirds breeding in Alaska. This information permits military land and operations managers to better assess potential impacts and address conflicts. From a conservation perspective, most of the information gathered in this study is new, providing vital information on the breeding ecology of the species and a point of comparison for future studies in other parts of the species' range.



Example of GIS coverage of Rusty Blackbird nest sites (red dots) on Elmendorf Air Force Base and Fort Richardson Alaska. The GIS coverages created during this study will be provided for the use of the military.

Accomplishments:

During May, June and July of 2007 we completed a very successful first field season, conducting surveys for Rusty Blackbirds on Elmendorf Air Force Base and Fort Richardson near Anchorage, and the Tanana Flats Training Area of Fort Wainwright near Fairbanks. We found and monitored 53 nests (Anchorage=21, Fairbanks=32) and sampled blood and feathers from 16 individual Rusty Blackbirds. We collected vegetation data from all nests and conducted analysis on habitat important for nesting. We found that all military sites provided important wetland habitats for Rusty Blackbirds in terms of high incidence of breeding, high rates of nest survival, and a low incidence of disease. Shallow water habitats provide birds with opportunities to forage for large aquatic invertebrates such as dragonfly larvae. Nest sites were generally found in dense patches of willows and black spruce close to water and such habitat provided high rates of nest survival. Finally, we have acquired a second year of funding through Legacy. Further years of study will help us determine the degree of inter-annual variability and permit us to address additional questions regarding the ecology of Rusty Blackbirds.

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