



Identifying Management Actions on DoD Bases to Reverse the Declines in Neotropical Birds

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Background:

The Department of Defense (DoD) manages approximately 29 million acres of land on more than 420 military installations. Many installations are a part of neotropical bird breeding ground habitats, stopover habitats for migration, and are largely diverse areas. The Monitoring Avian Productivity and Survivorship (MAPS) Program uses long-term monitoring of select species to identify population trends and potential management actions. Neotropical migratory bird populations are declining. It is important to understand the survival rate and productivity of these species in order to preserve their habitats and their existence.



Photo by USACE

Managed Wetlands Provide Habitat for Birds and Other Wildlife

Objective:

This project, funded by the Legacy Resource Management Program, used eight years of research to complete the identification and organization of management plans on 13 DoD installations to protect and manage declining target species populations. Data collection, models and analysis of information, and formulations of management plans were used to achieve the project's goal. The long-term goal was to maintain stable populations or increase populations of target neotropical migratory landbirds.

Summary of Approach:

Information from eight years of MAPS data from 78 stations on 13 DoD installations in Virginia, North Carolina, Maryland, Indiana, Kentucky, Missouri, Kansas, Texas, were used to assess spatial variation in the population trends of target species. Modeling of this information was used to identify the causes of low productivity and/or low survivorship of target species. Analytical model improvements enabled the inclusion of GIS-based spatial habitat and weather data. Ultimately the spatial and other information gathered aided in the creation of landscape level habitat data in analytical

models. These models distinguished what habitats were promoting survival and productivity and which habitats were not. Management actions included the creation and/or restoration of high quality habitats for declining bird species. Generalized management plans and multi-use strategies were created from models in order to reverse declining populations. Further years of study will provide feedback on success rates of management actions.

Benefit:

This project's research provided information regarding populations declines and proposed management tools to bring about productivity in neotropical migratory and residential landbird species on military installations. This information provided methods to understanding factors that influence bird populations such as habitat types, amount of forest cover, and degree of habitat fragmentation. The results of this study were ultimately used to create an adaptive ecosystem management strategy that allows habitat preservation to coexist with the use of land for military training.

Accomplishments:

The results of this research project greatly improved the analytical framework for avian investigations at the landscape-level. This information can be translated to other land managers from entire physiographic strata to large scale sub-continent regions. The proactive management plans to reverse declining populations made possible by this study will help military installation activities and natural resource conservation actions to operate side by side. Continual effective monitoring of adult population trends, demographic factors, and land use changes throughout installations will allow adjustments of management actions and conservation strategies better suited for the habitats. Analytical models will determine the effectiveness of these actions and strategies in the promotion of avian productivity and survivorship.

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