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Analysis of Avian North American Migratory Flyway Use:
Enabling Effective Conservation of species in Greatest Conservation Need

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UNAVCO

Migration abundance of North American **bird species** is mapped to identify which **types of land cover** and **protected lands** are used for migration; the resulting data can support **conservation** efforts for species of **greatest conservation need**.

BACKGROUND

A **State Wildlife Action Plan** is a comprehensive assessment of a state's wildlife-related issues. These plans lay out actions necessary **to conserve wildlife and their habitat** within each state and prevent endangered species listings. Analyzed together, these lists can offer a framework for **effective conservation** and a better understanding of the **regional distribution** of Species of Greatest Conservation Need (SGCN).

WHY

In areas where the studied avian **species** are **most** abundant **during migration**:
- what are the **land cover types** used
- what **land is protected** by land managers?

WHO

Data are **open to the public** and intended to be accessed by national, regional, and state wildlife **researchers**, **conservationists**, and **concerned citizens** to identify habitats in need of conservation and methods for **future wildlife conservation.**

WHAT

The Species of Greatest Conservation Need **(SGCN)** is a comprehensive tool developed with data from the USGS Integrated Taxonomic Information System **(ITIS)**, the World Register of Marine Species **(WoRMS)**, and scientific information from state territories to help develop State Wildlife Action Plans **(SWAP)**.

The plans are developed by **federal**, **state** and **private partners** and with **public participation** to share a vision for sustaining fish and wildlife species.

HOW

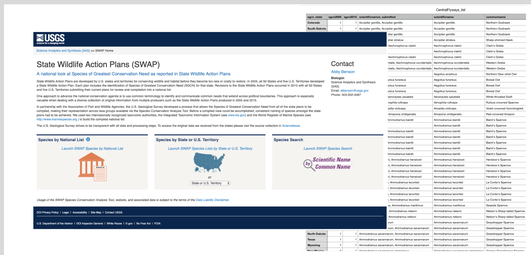


Figure 1. Analyze State Wildlife Action Plans to create Species of Greatest Conservation Need lists categorized by North American state flyways.

Bald Eagle. *Lewis's Woodpecker.* *Lark Bunting.*

Sandhill Crane. *Long Billed Curlew.* *Snowy Plover.*

Figure 2. "Special Concern Species" were selected according to migration, SGCN status, and available data. Illustrations: Cornell Ornithology, 2019.

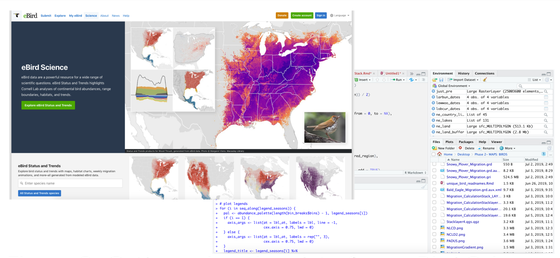


Figure 3. Gather migration data from eBird Science about "Special Concern Species". Create code in R Studio to calculate migration abundance.

RESULTS

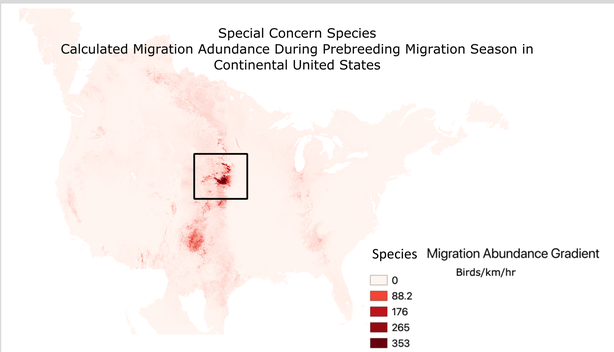


Figure 4. Map migrations of select "Special Concern Species" using eBird Science data and R Studio.

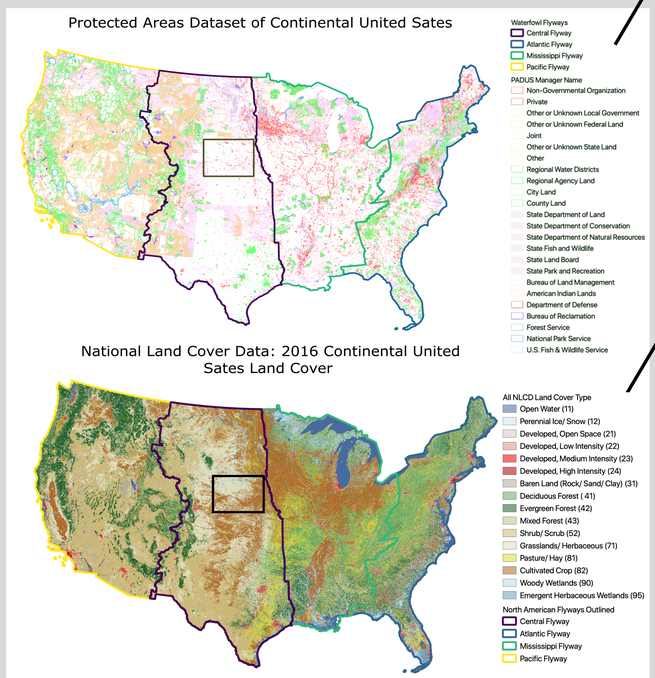
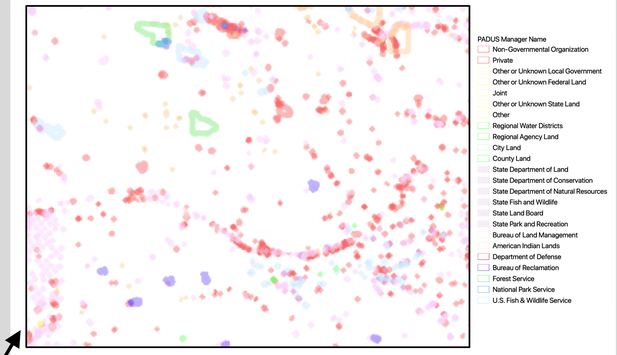
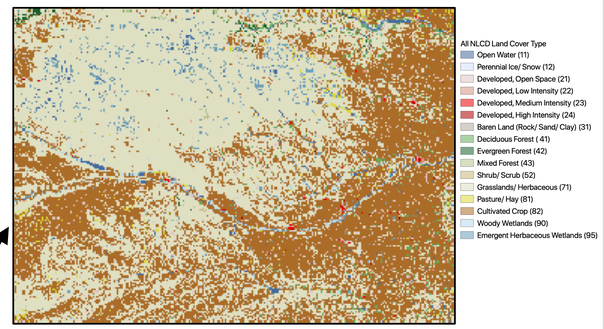


Figure 5. Analyze Protected Areas Database, and the Multi-Resolution Land Characteristics consortium to observe land characteristics used by the SGCN.



Protected Areas Dataset of Continental United States: Area of heaviest migration traffic with land manager type indicated.



National Land Cover Data: 2016 Continental United States Land Cover: Area of heaviest migration traffic with land cover type indicated.

Figure 6. Analyze Protected Areas Database, and the Multi-Resolution Land Characteristics consortium to observe land characteristics used by the SGCN and create a map of resources.

REFERENCES/ SGCN LISTS

https://www.sciencebase.gov/catalog/item/5d28ce7de4b0941bde651467

ACKNOWLEDGEMENTS

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