



Photo credit: Bird Conservancy of the Rockies



DO YOU LOVE BIRDS? BIRD
CONSERVANCY OF THE ROCKIES
INVITES YOU



SWALLOWS AND MARTINS

SO WHAT?

These two tools of collecting bird information can not only help swallows and martins declining populations but also other species of birds. These two tools will allow us to identify exactly where these birds tend to roost and areas where they used to roost. We can then target these areas to enforce conservation measures and guild land use policies and management to help these birds' population trend.

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OUR MISSION AT BIRD
CONSERVANCY OF THE
ROCKIES IS THE
CONSERVATION OF BIRDS AND
THEIR HABITATS THROUGH AN
INTEGRATED APPROACH OF
SCIENCE, EDUCATION AND
LAND STEWARDSHIP

FASCINATING KNOWLEDGE

Swallows and martins are migratory birds under the family taxa Hirundinidae or songbird family. Swallows and martins have a strict diet of insects, making them aerial insectivorous like many other taxa of birds. Population trends of aerial insectivores have declined since the 1970's.

Causes for decline populations

- Climate change
- Urbanization/habitat loss
- Decreased population/diversity of insects due to increased agriculture.
- Accumulate of insecticide

NEW MEASURES FOR CONSERVATION

Population trends of aerial insectivores have been identified with the help of recent technological advancements like weather surveillance radar. Weather Radar helps show migration patterns and roosting sites for birds. Communal roost dispersal at dawn creates a ring-shaped structure that can be seen on Weather Radar images. This structure is easily shown on weather surveillance radar because no weather phenomenon can create a structure naturally like the one created from birds dispersing from their roosting site.

Communal roosts: is a bird behavior where a group of thousands to hundred of thousands birds gather in the same area to rest and feed. Most communal roost arrive to the roosting sites right after sunset and leave 40 minutes before dawn.



Photo credit: istockphoto

Identifying specific bird species within these roosts, however, is still an open challenge. Moreover, weather radars lack the ability to sample the airspace close to the ground. This is where Citizen science data comes in. Citizen science data can help us overcome some of these drawbacks. Because datasets from platforms like eBird contain species identifications paired with georeferenced and timestamps, they can be combined with data from the weather radars to address the taxonomic limitation of the weather radars. Because citizen observations are done on the ground, these datasets can also fill the sampling gap from the radars.



eBird: is an online database of bird observations with real-time data about bird distribution and abundance. eBird has a checklist where you can fill out the species of the bird, the number of individuals seen, time, and location of the observation.



(A) Adult Tree Swallows. (B) Adult Purple Martins. (C) Cliff Swallows. (D) Barn Swallows.



Photo credit: (Cheng et al., 2020)

Weather Radar showing communal roost dispersal