



# Neotropical Flyways Project

## 2020-2021 Season

Over 1 billion migratory landbirds migrate annually between the Neotropics and North America. For many species, migration is the greatest source of mortality during their annual cycle, such that delayed arrivals or degradation at a single major stopover site can lead to significant declines, threatening the viability of populations across the Western Hemisphere.

To successfully migrate between their breeding and wintering grounds, Nearctic-Neotropical migrants depend on a series of stopover sites along the length of their migratory route, which provide critical resources such as the fuel for migratory flights, safe roosting sites, and refuges where birds can make emergency stops. Outside of North America, the funnel-shaped geography of Central America and the biogeography of northern Colombia, act as bottlenecks, concentrating millions of migratory landbirds into a tiny area (relative to their breeding grounds), magnifying the importance of Neotropical stopover sites. Further, birds migrating through this region face major barriers in the form of both the Caribbean Sea and the Gulf of Mexico, and it is likely that vital stopover regions exist where birds attain sufficient fuel to cross these barriers safely. Recent work on thrushes, vireos, and warblers on stopover in northern Colombia has shown that the energy reserves acquired there, may enable birds to not only cross the Caribbean Sea but also cover up to 40% of their total migration distance. **There is an urgent need to identify major Neotropical stopover regions and assess the needs of birds within them to guide strategic on-the-ground conservation.**

### Goals

1. Rapidly discover and map new stopover sites
2. Determine habitat quality and stopover behavior at these sites
3. Develop conservation strategies at key stopover sites
4. Train and build capacity among in-country biologists and managers to protect sites and continue long-term monitoring.

#### **Latest Successes:**

- Conservation actions implemented at three priority sites in Colombia aimed at enriching stopover habitat
- Priority stopover regions in northern Colombia identified for a community of 20 migratory landbirds
- Previously undescribed stopover regions identified for blackpoll warbler, yellow-billed cuckoo and cerulean warbler
- Occupancy surveys completed across Colombia, Panama, Costa Rica and Nicaragua
- Over 150,000 individuals of 75+ species recorded and uploaded to eBird
- 25 Latin American biologists/birdwatchers trained in the identification of migratory birds and survey techniques

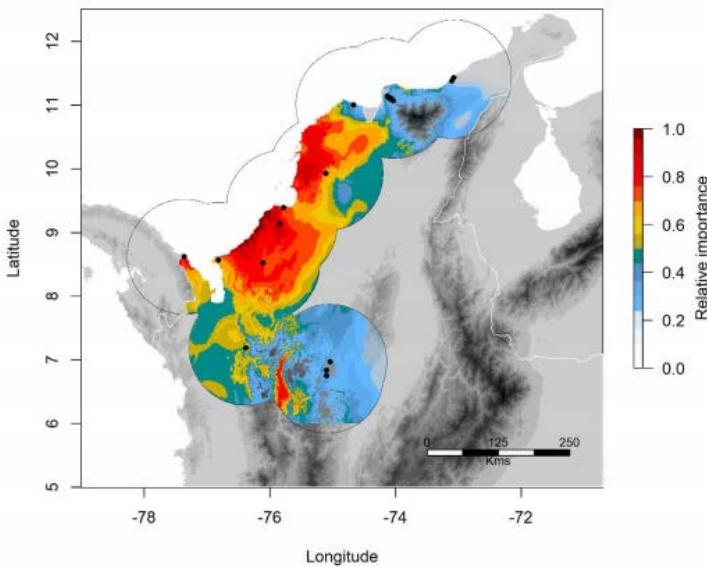


*Nicaragua survey team during a training week at El Jaguar Reserve.*

**Vision:** Healthy and sustainable populations of migratory birds throughout the Western Hemisphere that are enjoyed for generations to come.

**Mission:** Encourage and facilitate state fish and wildlife agency participation in conservation projects for shared priority birds in Mexico, Central America, South American and the Caribbean.

Priority areas declining species >25%



Relative importance of regions across northern Colombia for spring stopover of migratory landbirds in steep decline (decline >25% over last 40 years; 9 species).

Southern Wings offers a convenient and effective avenue to support full life-cycle conservation for migratory birds. Many migrants spend up to eight months of the year out of the country. We cannot ignore the threats these birds face when they are beyond our conservation. Missouri Department of Conservation is proud to say we've supported Southern Wings since its inception in 2009 by contributing to various conservation efforts and projects that work to ensure non-breeding habitat for migrant birds that breed in Missouri.

~ Missouri Department of Conservation Director Sara Parker Pauley

### SPECIES POSITIVELY IMPACTED

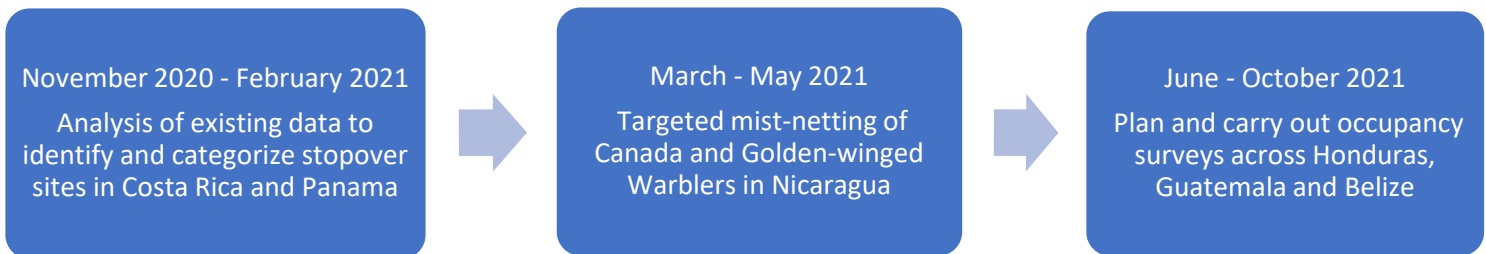


Photos: Nick Bayly

The Neotropical Flyways Project uses on-the-ground data collection to discover critical stopover habitats across five Central American countries and northern Colombia. Only by identifying the stopover sites & habitats where birds accumulate the energy reserves for migration can we identify their needs at all stages of their life cycle. This year occupancy surveys from Colombia (see upper left), Panama and Costa Rica were completed and analyzed, and occupancy surveys began in Nicaragua, which, despite being the biggest country in Central America, is also the least studied. Findings from Nicaragua so far this year, include evidence for short fall and spring stopovers by cerulean warblers in the highlands, an unexpected fall concentration of black-billed cuckoos and evidence for a strategic role of highland forests for migrating Canada warblers, as well as wintering species in steep decline e.g. golden-winged warbler, wood thrush, Wilson's warbler.

By working hand-in-hand with local communities, we ensure that data collection produces a high return for investments and directs conservation efforts into the most critical habitats. Local partners participate in a week-long training on identifying and monitoring migratory birds and receive subsequent advice on research and conservation projects over three years. Locally teaching conservation steps and the research process allows for projects to be self-sustaining and effective with minimal cost. In Colombia and Costa Rica, this model has led to conservation actions led by local teams, including establishing tree nurseries and engaging local landowners.

### Moving Forward, Funding Will Support:



November 2020 - February 2021  
Analysis of existing data to identify and categorize stopover sites in Costa Rica and Panama

March - May 2021  
Targeted mist-netting of Canada and Golden-winged Warblers in Nicaragua

June - October 2021  
Plan and carry out occupancy surveys across Honduras, Guatemala and Belize

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