

Case Study:  
**SWAINSON'S THRUSH**



**MIGRATION ECOLOGY**



PHOTO: NICK SAUNDERS 

# SWAINSON'S THRUSH

A Swainson's Thrush is a medium-sized songbird in the Thrush family. They have an omnivorous diet, foraging for insects on the forest floor and fruits and berries in the undergrowth.

## LATIN:

*Catharus ustulatus swainsoni*

## FRENCH:

Grive à dos olive

## SPANISH:

Zorzal de Swainson

Buffy eye-ring

Round head with short bill

Brown speckled chest

Olive-brown plumage

Click here to view photos, videos and audio

eBird

PHOTO: NICK SAUNDERS

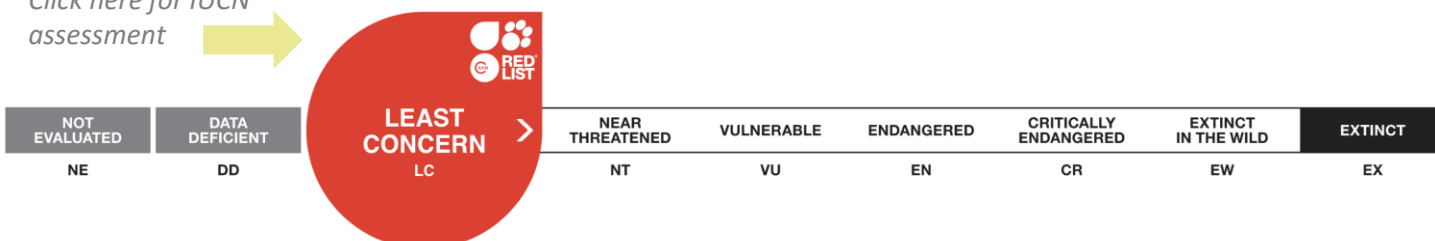
## CONSERVATION

Swainson's Thrush are currently designated as a species of 'Least Concern' by the International Union for Conservation of Nature. However, Swainson's Thrush and many other neotropical forest birds, are experiencing declining population trends due to a variety of factors across wintering, migrating, and breeding ranges.

### Key conservation concerns:

- Large-scale habitat loss in South America (clear-cutting; animal agriculture)
- Habitat conversion (changing diverse, mixed-species forests with monocultures (pine or coffee plantations))
- Collisions with windows and structures along migration

Click here for IUCN assessment



# SWAINSON'S THRUSH

## ANNUAL CYCLE

## BREEDING

[Click here to view Bird Migration Explorer](#)



Swainson's Thrushes nest in dense undergrowth of northern coniferous and deciduous forests. A clutch size of 3-4 speckled blue eggs are laid in a bulky nest cup made of moss, lichen, twigs, and leaves and lined with grass. Nestlings are fed a diet of energy-rich caterpillars, ants and beetles.

## SPRING MIGRATION

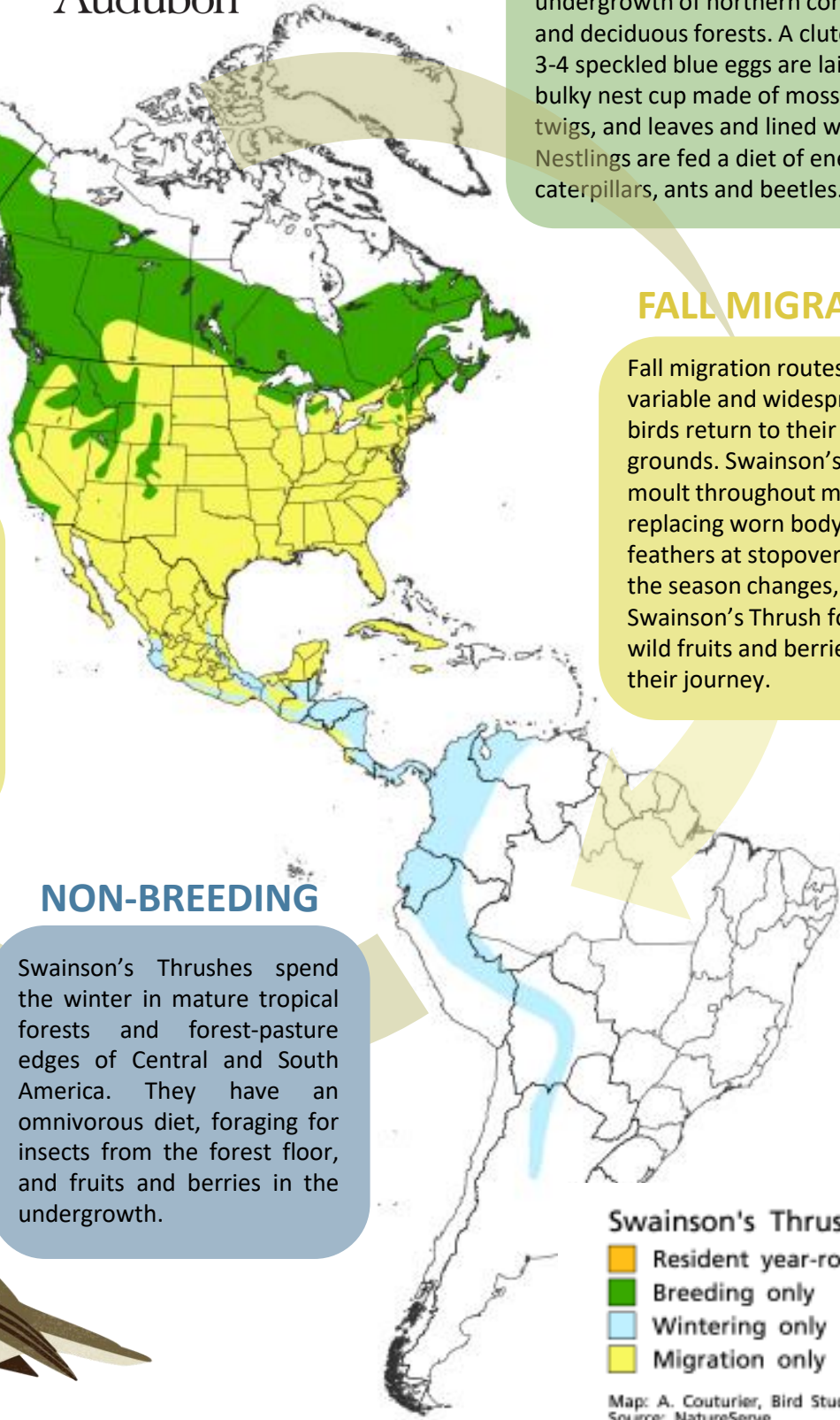
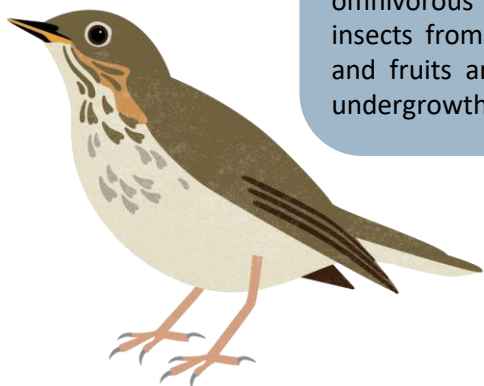
Swainson's Thrushes are neotropical migrants, travelling long distances between their non-breeding and breeding habitats. They fly at night, stopping to rest and feed in woodlots and parks during the day.

## FALL MIGRATION

Fall migration routes are variable and widespread as birds return to their wintering grounds. Swainson's Thrushes moult throughout migration, replacing worn body and flight feathers at stopover sites. As the season changes, Swainson's Thrush forage for wild fruits and berries to fuel their journey.

## NON-BREEDING

Swainson's Thrushes spend the winter in mature tropical forests and forest-pasture edges of Central and South America. They have an omnivorous diet, foraging for insects from the forest floor, and fruits and berries in the undergrowth.



- Swainson's Thrush**
- Resident year-round
  - Breeding only
  - Wintering only
  - Migration only

Map: A. Couturier, Bird Studies Canada  
Source: NatureServe

## Swainson's Thrush Wintering & Migration Ecology Project

Scientists are investigating the full life cycle ecology of Swainson's Thrush to understand factors leading to population declines, and to help recover or conserve populations.

### SCIENCE GOALS:

- Identify wintering sites and specific habitat needs in South America.
- Determine departure and arrival times between its wintering and breeding locations.
- Identify important stopover locations and length of stay during migration.

### METHODS:



Fine 'mist nets' are set up in the tropical forests of the Andes Mountains in Colombia during the non-breeding (winter) stage of the birds' cycle. Birds caught are measured banded, and tagged. The nanotag is attached like a backpack, with loops around the legs, and sits in the centre of the bird's back. The bird is released, and the tag will emit a unique signal, which can be detected by the radio antennas across the landscape.

Nanotags have been released on nearly 300 Swainson's Thrushes during 2014, 2015, and 2016. Detections of these tags indicate the date and location of an individual bird as it moves.



# STUDENT ACTIVITY



Swainson's Thrush 'SWTH 6548' was tagged on March 10, 2016 in Nilo, Colombia. As it moved, the tagged bird was detected by radio telemetry stations at locations provided in the table below.

Explore its movements on the provided base map using the following guidelines.

1. Label the bird species in the top right corner of the map page.
2. Use the detection data in the table below to plot the locations on the map.
3. Connect the dots and label the track with the tag identification number.
4. Draw arrowheads on the track to point in the direction of bird movement.
5. Label the date on the first detection location and the last detection location.
6. Circle the location where the bird stopped for the longest time. Label its length of stay.
7. Using the scale on the map and a ruler, measure and label the total flight track distance.
8. Choose two detections and calculate the flight speed between locations (distance/time as km/hr). Label this on the map sites.
9. Build a legend in the bottom left corner of the map. Use a different colour to label each stage: Breeding, Migration, and Wintering.
10. Fill in the Breeding range and the Wintering range of the map, using the legend colours. Trace the flight track with the color for Migration.
11. Circle the country names in which this bird was detected.
12. Draw a big star on your location. Which range for this species are you located (breeding, migration or non-breeding)?

## PROJECT DATA

DATE	LATITUDE	LONGITUDE	ALPHA-NUMERIC	NEAREST REFERENCE	LENGTH OF STAY
April 5, 2016	4.3 N	74.5 W	J-17	Bogota, Colombia	40d 1h 52m
April 20, 2016	9.0 N	79.4 W	I-16	Colon, Panama	0d 0h 5m
April 21, 2016	9.4 N	79.9 W	I-16	Panama City, Panama	0d 0h 5m
May 15, 2016	29.4 N	94.8 W	G-12	Galveston, Texas	0d 0h 10m
May 23, 2016	39.0 N	84.3 W	H-10	Cincinnati, Ohio	0d 0h 2m
May 25, 2016	42.2 N	79.8 W	I-9	Erie, Pennsylvania	0d 0h 8m
May 26, 2016	44.1 N	76.4 W	I-9	Kingston, Ontario	0d 0h 1m
May 28, 2016	45.4 N	73.9 W	I-8	Montreal, Quebec	0d 0h 2m
May 29, 2016	46.9 N	71.2 W	I-8	Quebec City, Quebec	0d 0h 4m
June 2, 2016	50.2 N	63.8 W	J-7	Mingan Archipelago National Park Reserve, Quebec	0d 0h 23m



Check your migration track here:

<https://motus.org/data/demo/educationSWTH.html>

See multi-track animation here:

<https://motus.org/data/demo/thrushesSpring2016.html>



# DISCUSSION

Use the guided discussion boxes below to analyze the project results from this Case Study. Present and discuss as a class, or compare results with other Case Study species.

## POPULATIONS

**1** *What is the population trend and status for Swainson's Thrush?*

## MIGRATION ECOLOGY

**2** *What habitat and food resources make a good stopover site for this species?*

## THREAT ASSESSMENT

**3** *Identify a threat that might impact survival or success at each stage below.*

## CONSERVATION

**4** *How can human-related threats be reduced or mitigated?*

*Breeding:*

*Migration:*

*Non-breeding:*





