Songbird Research at the National Zoo

Cueing In On Migration: Timing of Spring Migration in a Long-distance Neotropical Migrant

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speaker notes in italics

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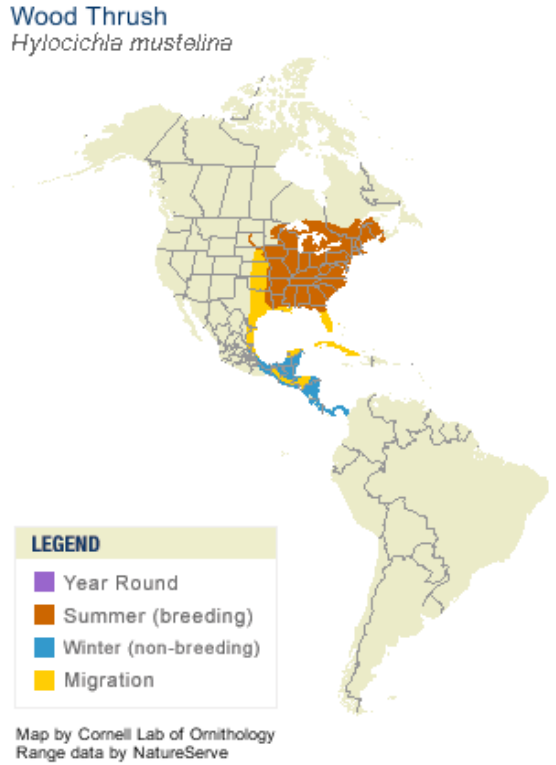
Wood Thrush

Hylocichla mustelina

https://youtu.be/mcR6XrnD7Yc



- Populations have declined by 62% percent (North American Breeding Bird Survey) since the 1960s
- Partners in Flight estimates a global breeding population of 11M
- Tri-National Concern species
- Declining forest N. American songbird

WOOD THRUSH

The Nature Conservancy

migratoryblueways.org

Safeguarding the migratory pathways of birds and marine life throughout the Gulf of Mexico is critical to the livelihood of the species that traverse them. The Migratory Species Conservation Project aims to identify the most highly-utilized paths—or flyways—for the benefit of birds and marine life throughout the Gulf and develop the science needed to help preserve oceans around the world.

MIGRATORY SPECIES CONSERVATION PROJECT

The Wood Thrush's scientific name *Hylocichla mustelina* translates roughly as "weasel-colored woodland thrush."

Summer breeding region

Wood thrushes breed throughout mature deciduous & mixed forests of the eastern United States.

To prepare for migration, the species switches its diet from worms and snails to fruit.

NORTHERN SPRING MIGRATION ROUTE

SOUTHERN FALL MIGRATION ROUTE

Croc egg full clip.wmv

WOOD THRUSH
Hylocichla mustelina
Zorzal maculado (Spanish)

During their migration, these birds cross the entire Gulf of Mexico in just a single night.

GREATEST THREAT

The loss of thick, old growth vegetation and trees, which serves as the species' feeding and breeding grounds.

The birds winter in dense, 'closed' forests that feature thick overhead canopies.

Temperate winter habitat

NESTING FACTS
Clutch Size: 3–4 eggs
Number of Broods: 1-2 broods
Incubation Period: 12-15 days

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Zoos have valuable resources to offer researchers!

- Species biology (e.g. nutrition, reproductive physiology)
- Develop best practices in husbandry before a species reaches critical levels
- Education
- Centers for networking

- Dec 2015: NZP Bird House staff began a collaboration with researchers from the Smithsonian Migratory Bird Center.
- Over the next 1 ½ years, we provided critical care and husbandry advice to the researcher

This is our story……

Wood Thrush Team at SNZP

Bird House staff

Nutrition/Commissary

Veterinarians

Registrars

Volunteer Keeper Aides

Researchers

Jan-Mar 2015:

- Presentation by Researcher to Bird House (BH) staff about the project
- Several meetings with PI, curator, nutrition, vets
- Recruitment of BH staff for daily husbandry
- Permit logistics
- Project logistics
- Cage size selection
- Questions to AZA colleagues re husbandry
- IACUC writing, SOP development, review
- Diet formulation

April/May 2015: room set up and preparation to receive birds

- Assembly of shelving
- IACUC approval
- BH staff meet with PI re logistics of room set up
- Assembly of cages and room preparation
- Stocking of supplies

June 2015: room set up and preparation to receive birds

- IACUC inspection
- Logistical coordination, meetings
- Diet finalization
- Arrival of birds!

June – August 2015:

- More birds arrive! Total of 31 by early Aug
- Daily bird checks by BH staff begin AM/PM
- BH internal discussions re logistics
- Adjustments made to BH schedule to accommodate bird checks
- Meetings with PI
- Cage modifications
- Vol keeper aide recruitment

Aug ‘15 – May ‘16

- Daily bird checks by BH staff
- Monthly meetings with PI, Curator and nutrition begin
- Vol keeper aide recruitment; training
- Routine IACUC inspections
- Room modifications as needed
- Nutrition modifications along the way based on research needs
- Veterinary and husbandry intervention as needed

June & July 2016

- BH interns assist with meshing in room cages in preparation for release of birds back into the wild
- Diet adjustments with birds returning to more natural diet
- Clean up of room begins
- July 14th: 6 birds enter quarantine as NZP collection animals
- Remaining birds released

August & September 2016

- BH staff, vols and interns help clean up the area

Summary of Hours, Salary & Benefits, Food, Supplies

Staff and Keeper Aid Hours

Bird House =	602
Vets=	94
Nutrition =	184
volunteers=	681

Total ACS Support = 880

Total keeper aide = 681

Grand Total Project = 1,541 hours

Financial Support of Project [Salary & Benefits]

Bird House =	$19,466 Salary and Benefit
Supplies =	$380
vets=	$4949 Salary and Benefit
Nutrition =	$10,215 Salary and Benefit
Nutrition =	$14,000 Food

Total ACS Support = $49,050
Total FONZ keeper aide =$11,594

Grand Total Project Value = $60,644

Study Results: Wood thrush on a food restricted diet showed an overall decrease in nocturnal activity levels during migration and a prolonged migratory period (unpublished data)

Relevance: late arrival on breeding grounds leads to delayed breeding and reduced number of offspring

Non-breeding grounds are critical to migratory songbirds

What did the Animal Care Staff learn?

Wood thrush are amazing birds!

Husbandry not hard

They eat everything (and can get very fat)

They sing in exhibits

Males are easier to catch

Males can be aggressive to each other so a pair is best

They are a pretty cool species to exhibit!

Participation in a research study

Keepers got to help release birds back to the wild

What did the Researchers learn?

Animal Care Staff are critical to the success of this kind of project

e.g. cage setup, perching placement, enrichment ideas, sources for caging materials, attention to detail, importance of communication

C2S2

C2S2 Portfolio Species

C2S2 Wood Thrush Species Champion: Sara Hallager

See me about adding wood thrush to your collection!

Merging In situ with Ex situ. A One Plan Approach to Species Management

Smithsonian
National Zoological Park

C2S2

International Wood Thrush
Conservation Alliance

OPA
One Plan Approach to Conservation Planning

The One Plan approach to species conservation is the development of management strategies and conservation actions by all responsible parties for all populations of a species, whether inside or outside their natural range