

# Tennessee 4-H Youth Development

## ***Wetlands, the Rest Stops of the Migration Highway***

### ***The Importance of Wetland Ecosystems to Migratory Birds***

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#### **Skill Level**

Intermediate

#### **Learner Outcomes**

*The learner will be able to:*

- *Describe the role of wetlands in bird migrations.*
- *Describe the causes for loss of wetland habitat.*

#### **Educational Standard(s) Supported**

#### **Success Indicator**

*Learners will be successful if they:*

- *Discuss the importance of wetland habitats to ecosystems.*
- *Discuss the causes for loss of wetland habitat and what can be done to protect them.*

#### **Time Needed**

30 minutes – 1 hour

#### **Materials List**

Sidewalk Chalk (multiple colors)  
Masking Tape  
Printouts of land conversions

#### **Introduction to Content**

Wetlands offer many benefits to wildlife and humans alike. One of long list of benefits is providing a place for migratory birds to rest, find cover, and find food as they make their journey to and from breeding grounds. However, there has been loss of wetland habitat across the country. This activity will incorporate physical activity to

#### **Introduction to Methodology**

This activity uses a commonly known playground game (hopscotch) so students can role play. Students emulate birds as they make their migratory journey, finding wetland rest stops along the way.

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Prepared using research based practices in youth development and experiential learning.



## Terms and Concepts Introduction

Migration – the seasonal movement of animals from one place to another.

Wetland – wet, saturated land with adaptive plants.

## Setting the Stage and Opening Questions

There are more than 350 bird species that make the migration across North America from their southern summer grounds to northern breeding grounds. Some common bird species that make the migration include, the mallard duck (over 800 mile migration), the sandhill crane (up to 300 miles in a single day), and the hummingbird (nearly 4,000 mile migration).

Ask student to recall the last car trip they took. How many times did they have to pull over at a rest stop or to refuel? What would happen if there wasn't a place to refuel? Compare this to the needs of migratory birds, making the journey from southern winter grounds to breeding grounds in the north. Describe how wetland ecosystems offer the birds a rest stop, a place to rest and find cover and food, refueling for the journey ahead.

## Experience

The activity will utilize a hopscotch course to act as the migratory flyway. Use sidewalk chalk to draw out a large hopscotch game. Rainbow colors could be used to indicate warm weather on the lower end (south, red) moving through milder and cold climates in the top end (north, blue). Label the ends "South – Wintering Grounds" and "North – Breeding Grounds." Use green chalk or green tape to create wetland vegetation in each hopscotch box. Create multiple hopscotches for large groups.

Students line up at the top, where they will begin their journey south for the winter. Tell students each wetland square represents a rest stop between Canada and Mexico (through the US). Challenge students to migrate south, staying within the squares. All students should be successful in this first migration.

Now explain that landscape changes due to human activities (agriculture, development, mining, golf courses, etc.) has destroyed wetland habitat, making it inaccessible or unproductive for a bird rest stop. Place the land conversion squares on top of several wetland squares, making them unusable spaces during migration. Ask students to migrate north to their breeding grounds, explaining they can't touch the changed squares. Once they've completed the migration, ask students if it was harder to find a path. Repeat this by converting two more squares, making it impossible to make the journey. Explain that the wetland destruction habitat fragmentation has led to reduction in successful migrations and species abundance.

Now explain that wetland restoration and conservation efforts to connect habitat corridors is occurring across the country. Compile land conversion pages into single squares, creating a connected path of wetland squares. and ask students if they could make the trip. Then describe how climate change is creating challenges for migration and accelerating the timeline, making their breeding ground more accessible to predators earlier in the year and making food supplies scarce along the flyway. Ask students to rush through the course as if they had half the time as before. How did that make them feel? Did they have to exert more energy? How does this relate to the journey of migratory birds?

## Tips for Engagement

Ask students to research migratory birds that have a path through Tennessee. Students can write down their bird of choice on a sheet of paper and tape to their shirt for role play.

Ask students to share the birds they have researched and compile a list for the class.



## Share

Ask students to talk about where wetlands are in the local landscape. Ask if they have visited wetlands and about the wildlife they have seen in them. What other things use wetland habitats for food, shelter, water, and a place to raise young?

## Process

In Tennessee, historically there were approximately 1.9 million acres of wetlands. Now, down to just 787,000 acres, restoration is needed. If wetlands are restored at a rate of 10,000 acres per year, how many years will it take to restore wetland area to the historic total?

## Go Further

The National Fish & Wildlife Service hosts a website that displays the National Inventory of Wetlands. Use this resource to explore local wetlands in your area.

Students may research individual migratory bird species and write a paragraph on their life cycle. The Cornell Ornithological Society as well as Audobon hosts a vast database of bird information, including migration maps. Ask students to access the website, read about their bird of choice, use the map and color key to describe the bird's migratory patterns, and then share with the class.

## Life Skill(s)

## Sources

Adapted from Patrick J. Fitz Wetlands Educational Resources Center.

Tennessee Wetland Professionals:  
<https://www.aswm.org/aswm/58-wetland-programs/state-summaries/791-tennessee>

Audubon:  
<https://www.audubon.org/birds/flyways>

National Geographic:  
<https://www.nationalgeographic.com/magazine/2018/03/bird-migration-interactive-maps/>

## ***Supplemental Information***

### ***Educational Standards Met***

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6<sup>th</sup> Grade

7<sup>th</sup> Grade

8<sup>th</sup> Grade