



Mapping Migration

Swainson's Hawk

The Swainson's Hawk has one of the longest migrations of any American raptor, traveling from Canada to Argentina. During their migration they can congregate in extremely large numbers, with flocks sometimes numbering in the thousands. While in their wintering grounds in South America, they feed on grasshoppers and other large insects. In 1995 and 1996, pesticide use in Argentina resulted in the deaths of nearly 6,000 Swainson's Hawks. Since then, pesticide use has been more strictly controlled and Swainson's Hawk populations have somewhat recovered.

Hudson is a Swainson's Hawk that has been with Hawks Aloft since 1990.

She has a fractured left wing and vision impairment in her right eye, likely the result of being hit by a car. Her limited vision and flying ability prevents her from being able to survive in the wild, so instead she serves as an ambassador for her species, spreading awareness about the impacts of humans on birds of prey.

Background Information

Animal migrations have mystified people for thousands of years. Through the use of bird banding, radio tracking, and international cooperation, modern-day scientists have been to piece together some of the locations where animals spend their winters and the routes they take to get there.

MAPPING MIGRATION

Learning Objective:

To learn the locations of important stopping grounds for some migratory bird species.

Grade Levels:

3 – 6

Time Required:

45-60 min

Subject(s):

Geography/ Science

Materials:

- Atlases (or computer with internet)
- Colored pens/pencils
- String (optional)

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MAPPING MIGRATION TEACHER GUIDE

In this activity, students will learn about several different species of birds that migrate in North America. They will plot the routes of the birds and think about the hazards that the birds might face during their migration.

Materials:

Atlas (or computer with internet)
Colored pens/pencils
String (optional)

Procedure:

1. Begin by asking the students if they can define migration. Then ask them to think about why animals migrate. What kinds of animals migrate?
2. Divide the students into pairs or small groups. Each group can plot just 1 migration route or all 4, depending on time and group level. If each group plots only 1 route, try to make sure that all 4 routes are plotted by at least 1 group.
3. Explain that the students will be given cards that describe the journeys of four different raptor (bird of prey) species throughout their migrations. The students will play the role of scientists who must track the migration route and then try to predict what hazards the birds might face.
4. Pass out the appropriate cards to the groups and instruct them to use the atlases (or internet) to find the places that the birds travel and mark them on their maps.
5. If they are doing more than one migration route, they might want to do them in different colors.
6. After they have plotted the route(s), ask the students to brainstorm about what hazards the birds might face along the way and ways that we can help birds during their migrations. Examples of hazards include: loss of habitat, power lines, airplanes, pesticides. Examples of ways we can help include: preserving and restoring habitats especially wetlands, avoiding the use of pesticides, building underground power lines, flying planes at higher altitudes to avoid birds.
7. **Optional:** Challenge your students even more by asking them to determine how many kilometers (or miles) the birds traveled on their migration routes. Depending on your students, you might want to instruct them on how to do this or let them figure it out themselves. One way is to cut a piece of string that is equal in length to the migration line they drew on the map. Then, measure the length of the string and use the scale bar on the map to estimate the distance. This requires understanding of proportions.

Extensions:

- **Have Hawks Aloft, Inc come to your classroom with two live raptors, including a Swainson's Hawk or Peregrine Falcon, to talk more about migration!**

Red-tailed Hawk

1. Begins its migration from its breeding ground in central Saskatchewan, Canada.
2. Almost hits a power-line near Rapid City, South Dakota.
3. Is nearly swept up in a tornado in central Kansas.
4. Joins up with more Red-tailed Hawks in Central Mexico.
5. Rests for a few days in El Salvador.
6. Eats a yummy rat dinner in central Panama.
7. Is stalked by an ocelot in western Columbia.
8. Made it! Reaches its wintering grounds in northern Peru.

Peregrine Falcon

1. Begins its migration from its breeding grounds in northeastern Greenland.
2. Flies through a snow storm along the east coast of Baffin Island, Canada.
3. Lands on a ship mast near the south coast of Nova Scotia, Canada.
4. Nearly misses an airplane above Cape Hatteras, North Carolina.
5. Lands on a high rise building in Miami, Florida.
6. Stops in Puerto Rico to wait for a storm to pass.
7. Chases and catches a parrot in eastern Venezuela.
8. Made it! Reaches its wintering grounds in central Brazil.

Swainson's Hawk

1. Begins its migration from Winnipeg in southern Canada.
2. Stops in a farmer's field in Montana to feed on grasshoppers.
3. Finds its usual resting spot has been turned into a parking lot near the Colorado-Wyoming border.
4. Is seen by school children in Albuquerque, New Mexico.
5. Flies into a bad rain storm in Vera Cruz, Mexico.
6. Meets up with other Swainson's Hawks near the Panama Canal.
7. Made it! Reaches its wintering grounds in the grasslands of Argentina.

Osprey

1. Begins its migration from its breeding grounds in north-west Oregon.
2. Gets its dinner stolen by an eagle near San Diego, California.
3. Nearly collides with an airplane in Central Mexico.
4. Flies over the tropical rainforest in Costa Rica.
5. Stops to rest on the west coast of Columbia.
6. Flies into the cool winds over the Andes Mountains in Ecuador.
7. Sleeps for the night in central Peru.
8. Made it! Reaches its wintering grounds in western Bolivia.



Hawks Aloft, Inc.
Conservation, Avian Research & Education

Name _____

Date _____

MAPPING MIGRATION STUDENT HANDOUT

800 mi

1000 km



1. What is migration?
2. Why do animals migrate?
3. What kind of hazards do you think birds face when they migrate?
4. What can you do to help birds during their migration?
5. Optional: Calculate the distance travelled by at least one of the raptors during their migration.