



### Grade Level:

1 - 6

**Setting:** Outside – pref. on grass, or large indoor space with room to run.

**Time Involved:** 20 – 30 min. activity, 5 – 10 min. setup

**Key Vocabulary:** Bird Migration, Flyways, Wetland, Habitat, Invasive species

**Utah Grade Connections**

**Science Core**

**Social Studies**

# Bear River Refuge

## MIGRATION MATTERS

### Summary

Student participants increase their understanding of migration and migratory birds by playing Migration Matters. This game demonstrates the main needs (habitat, food/water, etc.) for migratory birds, and several of the pitfalls and dangers of NOT having any of those needs readily available along the migratory flyway.

### Objectives - “Students will...”

- understand the concept of Migration / Migratory birds and be able to name at least two migratory species
- identify three reasons/barriers that explain why “Migration isn’t easy” (example: loss of food, habitat)
- describe how invasive species impact migratory birds

### Materials

- colored pipe-cleaners in rings to represent “food”
- 5-6 laminated representations of wetland habitats
- 35 Bird Name tags (1 bird per student; 5 spp / 7 ea)
- 2 long ropes to delineate start/end of migration

### Background

Providing food, water, and habitat for migratory birds is a major portion of the US FWS & Bear River MBR’s mission. Migratory birds are historically the reason the refuge exists, and teaching the students about the many species of migratory birds that either nest or stop-off at the refuge is an important goal.

The refuge hosts over 200 migratory species including large numbers of Wilson’s phalaropes, Tundra swans and most waterfowl, and also has upwards of 70 species nesting on refuge land such as White-faced ibis, American Avocet and Grasshopper sparrows. Without large migratory stopover wetland and grassland habitats, many of these species would not have many alternatives for foraging or nesting habitat suitable to their needs, and the energy-consumption of migration, molting, and breeding could be detrimental without readily accessible food and shelter.

### Set-Up / Warm-up

Set up the “game board” in a large outdoor space – preferably on grass if possible. A large indoor space will work if weather does not allow outdoor time. A good alternative (if time permits) is to have the students / participants help set up the game area as it peaks their curiosity and keeps time interactive.

Start by placing your rope on the ground in two areas representing beginning and ending spots for migration. For example – one area will be roped off as “the Tundra” or the starting area where a large amount of migratory birds breed. About 30m away, will be the second area representing the southernmost portion of the migratory pathway such as Mexico or South America. Extra spaces and rope can be used dependant on the number of participants.

Then, place the large Bear River MBR habitat card on the ground in the center of the area, between the two roped off migratory destinations. Once this is completed, around the area and between the two final destinations...places several (4-5) smaller wetland cards that represent smaller wetland habitat that birds can use as stopover habitat. Next, spread out all of the colored pipe-cleaners that represent “food” for the migratory birds around these habitat cards. Place the “food” rings close to the wetland habitat cards – and more near the Bear River card to illustrate that more food is available near good habitat and how important. Then, give each student a bird name tag to hang around their neck.

Before the game starts...explain to the students that they are each a migratory bird about to take a long trip along a flyway. Explain/discuss: (Migration: Bird migration is the regular seasonal journey undertaken by many species of birds. Flyway: discuss and show map of 3 North American flyways. Which one are we in? Bear River MBR actually is in parts of both the Central and Pacific Flyway.) Then – have the student “birds” flock together by bird species.

## Activity

The activity itself is simple, but can have several incarnations repeated to prove the point that “Migration isn’t easy.”

1. All participants start at the northern portion of their trek. Each will have a bird name tag on so they can flock with birds of their same species, learn the bird names and how to identify, and their bird’s song/call. See listing of calls at bottom of lesson. Once you have given each student a bird tag and taught them their birds’ call, you’re ready to tell them the rules.
2. The rules are simple. Each bird needs to get to the other end of migration. They make a beak with their fingers, and while making lots of bird sounds, the students run to pick up one colored “food” ring with their “beak” and then go to the nearest wetland card (Bear River poster included) for shelter/water/habitat. They will rest here for a short moment – quietly to avoid predators – and then when the leader says go, continue on safely to the end of migration. That is the easy version – all birds got food and habitat and made it safely through migration.

Next, ask the participants to put all their food back and return to their new “southern” roosts. While they are doing this...quietly remove a few of the wetland habitat cards AND a few of the “food” rings and start the “return migration” by repeating steps 1-3. This time...there may not be enough food for everyone, and a few of the stopover wetlands may be too crowded. If a student “bird” did not get food or did not get to a wetland...they need to sit out in a side area designated the “bird cemetery.” This demonstrates that just the removal of a few small necessities can have large impacts. Discuss this with the participants.

Again, ask the students to return their “food” rings to the playing field. While they are doing this – remove a few more wetland cards and prepare to start the southern migration one more time. BUT, this time, instruct the participants that invasive plant species (explain what these are, how they got here, etc. Invasive plant species are European or Asian, non-native plant species that were planted usually for landscaping and have escaped into the wild – and now outcompete or choke out other native plants that the birds need as they may not be adapted to eat the invasive.) have taken over some of the land where in the past good feeding grounds existed, and that they can only “eat” or pick up “food” rings of one or two colors, as the other colors represent the inedible or low-in-nutrition invasive plant. Start Migration and repeat steps 1-3! This time, many more students or “birds” will not be able to find food nor suitable habitat...and unfortunately, may not make it through this season’s migration. Notice how many more birds are in the “bird cemetery” than made it through migration. Discuss this and some causes of food and habitat loss such as oil spills, proliferation of agricultural fields, suburban sprawl, etc.

## Wrap Up

Have the students identify some of the dangers that face migratory birds, as well as reiterate the basic needs (food/water/habitat) for migratory birds. Ask the participants if they can identify any migratory birds that were mentioned during the game, and have the students explain why invasive plant species are an extra risk to migratory birds. Finish up by having students help pick up all the “food” rings and wetland cards if time permits, and to watch and listen for migratory birds on the walk back to the education center.

\*\* BIRD CALLS\*\*

Canada Goose: Honk, “Wa-AH”

Wilson’s Phalarope: nasal “wok wok”

Snowy egret: small burp-ish “blaa”

Northern pintail: high regular duck “quack”

Red-tailed hawk: high, screeching and descending “weeeeeeeeeeeeeessshhh”