

## LESSON 7: BIRD BIODIVERSITY DATA COLLECTION (DAY 2)

### OVERVIEW:

*In this lesson, students go outside to collect data for the second time to answer their research questions for their bird biodiversity study. In their field notes, students are asked to think about what factors might impact the bird biodiversity on their site in order to make connections to the event cards from the biodiversity game in Lesson 6.*

### Ways of Knowing Urban Ecology:



*Students will...*

#### Understand

1. Recognize the biophysical field conditions which may impact the presence of birds. (*ecosystem state and structure*)

#### Talk

- Justify claims made about the impact of biophysical and social field conditions with observable evidence.

#### Do

- Conduct methodical observations of birds according to a protocol.
- Methodically identify biophysical and social field conditions that may impact the local bird populations.

#### Act

*No specific goals connected with acting on urban ecology in this lesson.*

### SAFETY GUIDELINES:

While no specific safety hazards are associated with this lesson, there is always a safety concern when taking groups of students outside. Please consult the “Field Site Safety” for specific information regarding safety in the field.

### PREPARATION:

#### Time:

1 class period

### Materials:

#### **Activity 7.1**

- Binoculars
- Field guides
- Copies of data and field note sheets
- Clipboards or hard-backed books (to use as a writing surface)
- Pencils and pens

## INSTRUCTIONAL SEQUENCE

### **Activity 7.1: Collecting Bird Biodiversity Data**

Introducing the lesson:

1. Before heading outside or as soon as students arrive at the field site, ask students to recall the research question they developed, and for each group to share theirs with the rest of the class.
2. Ask your students to recall what they found the last time they had collected bird data. Tell students this time while they are outside they should also think about connecting what they

are observing with what they had learned in the previous lesson where they played the biodiversity game, such as species evenness and what impact a significant environmental event may have on the ecological populations.

3. In addition to collecting their data, student should also make note of factors which might impact biodiversity as related to the biodiversity game, such as:
  - Is there any evidence of the presence of domestic or feral cats? (*biophysical*)
  - Do trees present any sign of being unhealthy (e.g., emerald ash borer, pine beetle)? (*biophysical*)
  - Are there bird boxes or bird feeders? (*social*)
  - Are there any signs of habitat destruction? (*social*)
4. Introduce the Field Journal Question for Day 2 of Bird Data Collection in order to frame the data collection process: What evidence did you see of factors that might impact the bird biodiversity on your site, particularly thinking about the factors you learned about from the biodiversity game?
5. There may be other biophysical and social factors involved as well that may provide students with a different data set than the previous data collection session. These factors should not be overlooked and include:
  - Collecting data at a different time of day, especially if your class meets on a block schedule (*biophysical*)
  - Different weather conditions (*biophysical*)
  - Increased or decreased human activity, such as the presence or absence of a gym class (*social*)

**Data Collection (Day 2)**

1. Have students work in their groups to collect bird biodiversity data to answer their particular research question.

**Concluding the Lesson**

1. After students have collected their data, bring them back inside to share some of their findings from their second day of collecting bird data. Ask students if the data they collected today was similar or different from their previous visit to their field site.

***Instructional Strategy***

Set up a five column table on the board as illustrated below. This will help students quickly and easily identify differences between the data collection days.

Characteristic	Biophysical or Social?	Data Collection Day 1	Data Collection Day 2

2. Ask students about the field notes they collected around the reflection question of the day: What evidence did you see of factors that might impact the bird biodiversity on your site,

particularly thinking about factors from the game? Encourage students to make connections to what they observed when they played the game.

3. Inform students they will be going outside one more day to collect bird biodiversity data before they analyze their results.