

Bird-Friendly Coffee: Resources for Teachers & Coffee Drinkers



What is Bird-Friendly Coffee?

The Smithsonian National Zoo and Conservation Biology Institute is the organization leading the charge to establish “bird-friendly” as a coffee certification worth our attention and our coffee mugs. The Smithsonian Migratory Bird Center (SMBC) has lots of information on [what it means](#) for a coffee plantation - and thus the coffee we drink - to be “bird-friendly”; what [species of migratory birds](#) are supported by the bird-friendly coffee plantations; as well as published and ongoing [ecological research](#) supporting the need for shade-grown coffee farms to provide better habitats for our world’s migratory birds.

Bird Research and Shade-Grown Coffee

[This video](#) from the Lab of Ornithology at Cornell University shares some of the research being done to better understand our migratory birds. Our migratory birds are the world's birds. They spend time in different habitats throughout the year - migrating south to Central and South American countries where they overwinter on or near coffee plantations and then migrating back north to live in primary forests all over the United States. This video can be used to show your students how scientists are gathering data to help study and protect migratory bird species and to engage them in the “why.” For more research on Agroforestry check out these [published studies!](#)



What Can I Do?

Put your money where your mouth is. [This article](#) from the Audubon Society explains why we should be choosing bird-friendly coffee and how sun-coffee vs. shade-coffee habitats influence the health of ecosystems around the world and could make or break the survival of insects and migratory bird species. Drinking bird-friendly coffee is promoting species biodiversity.

Coffee in the Classroom: A Phenomenal Image



These 4 photographs, taken by Agroforestry researcher Robert Rice of the Smithsonian Migratory Bird Center, has been excerpted from this publication: [Conserving Biodiversity Through Certification of Tropical Agroforestry Crops at Local and Landscape Scale](#). Photo a & b are from shade-grown coffee farm; photo c & d are from unshaded sun-coffee farms.

What do you notice? What do you wonder?

Show students the 4 images without context. First, ask students to jot down what they notice (make observations) about what they see (perhaps they can come up with 5-10 things.) Then have students ask questions about what they are observing.

Compare and Contrast

Have students analyze the images more deeply by explicitly comparing and contrasting the different conditions. What are at least 4 similarities and differences among the landscapes?

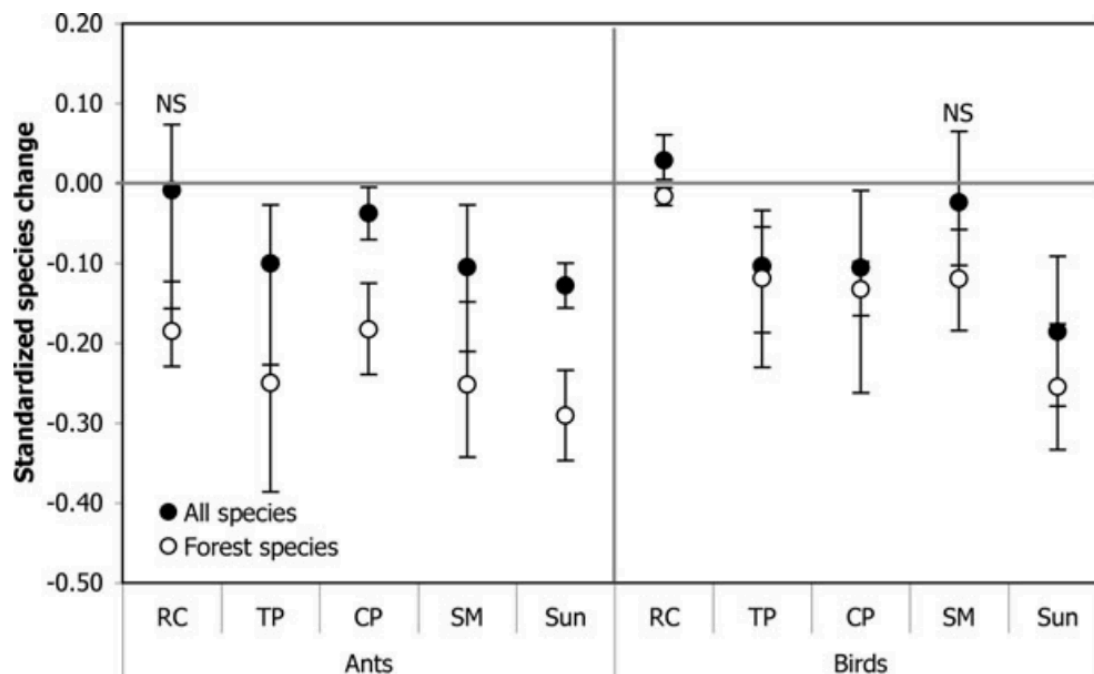
Connections to Biodiversity

After students have come up with a few analyses on their own, provide them with additional questions for discussion among themselves or on their own:

1. Which habitat do you think would support the most life? Why?
2. Which habitat do you think would support the most insects? Why?
3. Think about organisms that eat insects. Which habitat do you think those organisms would be drawn to live, eat, and spend time in?
4. The images on the left (a and b) are showing habitats from a shade-grown coffee farm and the images on the right (c and d) are showing images of an unshaded sun-coffee farm. As a conservation biologist, which habitat would you suggest we grow more of the worlds coffee in? Explain your reasoning.
5. What additional data do you need to support your claim?

Coffee in the Classroom: Data Play

The data featured below has been excerpted from a review article in the *Quantitative Reviews of Coffee Biodiversity* in the journal [Conservation Biology](#). The caption has been removed but basic information about the graph is provided here. In brief, the graph shows the standardized change in species richness of ants and birds from 5 different coffee-growing techniques as compared to the species richness in primary forest. The 5 different coffee-growing techniques are RC (rustic coffee), TP (traditional polyculture coffee), CP (commercial polyculture coffee), SM (shade monoculture coffee) and Sun (unshaded, sun-grown coffee).



Have students employ the [I2 strategy](#) for analyzing data from BSCS. This strategy involves heavy annotations all over the graph so give your students ample room or sticky notes.

- **Identify:** What do you see? Students annotate what they see in the figure/data set. They can mark and describe at least three observations (Ex: all but one of the data points is a negative change; ants species richness change for rustic coffee was around 0, ant species richness for sun coffee was around -0.30)
- **Interpret:** What does the data mean or what “could” the data mean? Students annotate the trends they see occurring or compare/contrast data points to explain similarities and differences. (Ex: more species of ants live on rustic coffee farms than in sun grown coffee farms.)
- **Caption:** Students use all of their observations and interpretations to write their own caption for the figure. This is written in complete sentences, in their own words, using what they see in the data and how they interpret it.

Have small groups share and discuss their findings, adjust their courses of thinking, and then come back together as a whole group to discuss what this data means and how it may **connect back to the phenomenal images** of the two types of coffee farming techniques.