

# SURVEY INSTRUCTIONS: INTRODUCTION

Counting and monitoring the breeding activity of forest birds can be difficult because they are often hard to detect in thick foliage, and some species are secretive during the breeding season. Nothing replaces good observation skills and patience; however, there are methods that make the job easier. The BFL protocol employs several methods that increase the probability of detecting a species if it is present and that simplify the determination of breeding status by honing in on important and easily recognized behaviors. These methods are derived from techniques used by professional field biologists and the coding systems developed by state Breeding Bird Atlas coordinators.

Birds make a variety of sounds—some vocal, some mechanical—that serve many purposes. The sound that is most important to the BFL protocol is “song.” Song is used mainly by males to attract females and defend territories. That’s why broadcasting a song within a bird’s territory elicits such a strong response—the territory holder is coming to drive off the intruder. However, birds “sing” in different ways, some of which typically are not thought of as songs. For example, woodpeckers drum to attract mates and defend territories; therefore, their “song” is actually a mechanical sound made by rhythmically hammering the bill against a hollow tree or other object. Hawks don’t sing but rely on other calls to defend their territories. It’s important to learn which sounds represent a given species territorial “song.” What’s important is the function of the sound, not how it is made. (See *Survey Instructions: Species Guidelines* section for more species-specific information about songs, calls, and drums).

Professional field biologists frequently broadcast audio recordings of songs, calls, and drums (woodpeckers) to elicit a response from local birds. Broadcasting of conspecific sounds, or vocalizations of their own species, often causes territorial males (and sometimes females) to respond by counter singing (singing back to the broadcast) or flying toward the source of the sound. The theory is that most males of the species you are targeting will respond if you are in or adjacent to their territory, thus making their presence known. Once a bird has been drawn into view, there are several behavioral cues that can be used to determine its breeding status. The codes or terms for these behaviors stem from the need for breeding bird “atlassers” to quickly and accurately determine a bird’s breeding status with some measure of certainty.

Breeding Bird Atlas terms have been developed for many breeding behaviors commonly exhibited by a wide range of bird species. In other words, the term “Carrying Food” is applicable for many taxonomic groups, including hawks, flycatchers, and warblers. This term implies that an adult bird was seen carrying food presumably toward a nest. Individual terms are often standardized for all breeding bird atlases, and each of these is typically categorized into one of three breeding categories—Possible, Probable, or Confirmed. For example, hearing a singing adult is classified as possible breeding, observing courtship behavior is classified as probable breeding, and a nest with young is classified as confirmed breeding. BFL uses about 20 breeding terms to identify the breeding status of species at each study site.

Even with this Breeding Bird Atlas system, if you can’t hear or see your study species, there is no way to determine its presence or breeding status. Our knowledge of bird behavior, particularly when it comes to predators, can sometimes get us the response we need to see the bird and determine its breeding status. Males that are defending a territory will often respond to audio broadcasts of conspecific songs, calls, or drums. However, females and non-territorial males are much less responsive to conspecific sounds. An effective way to elicit a response from these individuals is to simulate a predator mobbing event.

Regardless of why birds mob, the behavior gives us an added opportunity to observe individuals to assess their breeding status. The BFL survey protocol uses a 10-minute Behavior Watch Period that incorporates an audio broadcast of chickadee mobbing calls with a calling Eastern Screech-Owl for the eastern version and a Northern Pygmy-Owl for the western version. Broadcasting of mobbing calls greatly increases the probability of detecting breeding birds at or near your study site.

## WHAT IS MOBBING?

**M**obbing is an “antipredator” behavior that occurs when birds locate an avian predator in their midst. For example, a mixed species flock of forest birds such as chickadees, nuthatches, and titmice might mob a roosting Great Horned Owl or Red-tailed Hawk. Mobbing consists of loud vocalizations and sometimes diving flight directed toward the predator. As mobbing calls are given, more and more individuals are attracted to the predator’s location and the mobbing flock grows in number. There are at least three hypotheses to explain why birds that are potential prey would mob a predator:

- **The “Move On” Hypothesis** suggests that mobbing alerts the predator that the mobbers (and other wildlife) are aware of its presence and thus the predator moves on to look for unsuspecting prey and the mobbers can resume normal activities.
- **The “Distraction” Hypothesis** suggests that mobbers protect their offspring by keeping the predator from concentrating on the search for their vulnerable young.
- **The “Alarm Call” Hypothesis** suggests that the mobbers alert others (mainly mates and relatives) to the presence of a predator.