

# HOW TO LISTEN TO BIRD SONG

When it comes to birding with our ears, almost everyone—including us—is at a much lower level than when birding with our eyes. A big part of this problem is there's never been any consistent system for studying or learning songs.

This spring we encourage you to try again, but this time with a system that can help you describe and remember what you're hearing. By using a few simple, objective terms, you can understand the structure and quality of a song, and identify what's unique about it.

This system is based on a simple idea: if you can accurately and objectively describe a sound, you can identify it. As a bonus, when you describe a song, you pay closer attention to its details, and it becomes easier to recognize.

One reason why birders can identify birds by sight is that we have a whole vocabulary for it: words like "eyeline," "streaking," "wingbars," "upperparts." But how to describe a song? We might describe it as "sweet" or "rough" or "dark," but these words mean different things to different people. Or we might focus on the melody, like we would with music. The problem there is that many birds don't have a consistent melody—try memorizing the constantly changing song of a Northern Mockingbird, for example.

So instead, here are three simple questions that will separate many bird songs:  
**sound quality, pitch trend, and number of sections.**

## When You Listen to a Song, Ask These 3 Simple Questions

### Question 1: What is the Sound Quality of the Song?

There are a few simple terms to describe sound quality in a song: Buzzy, Clear, and Trilled. To help us visualize sounds, we use a very useful tool called a **spectrogram**. These show you time from left to right and pitch from low to high.

(See <http://earbirding.com/blog/specs> for more about how to read spectrograms of bird songs.)



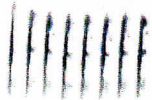
Buzzy

**Buzzy:** Like a bee.



Clear

**Clear:** Something you could whistle. Cardinals have a Clear song.

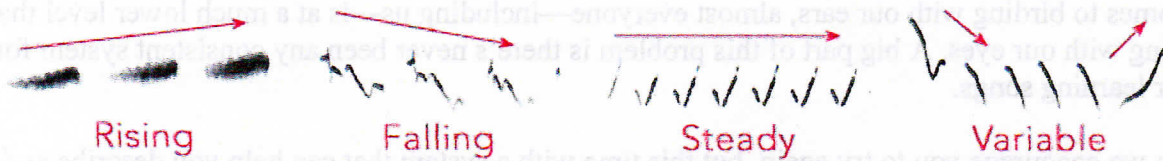


Trilled

**Trilled:** A lot of sounds in a row that are too fast to count (technically, more than 11 sounds per second). Screech-owls sing a trill, which some birders imitate when pishing for birds.

One small twist: sometimes a bird can sing more than one quality in a song. For example, a series of Clear elements followed by a Buzz: we'd call that **Partly Buzzy**.

## Question 2: What Is the Pitch Trend of the Song?



Is the overall pitch of the song **Rising**, **Falling**, **Steady**, or does it move up and down (**Variable**)? Note that here we're looking for the overall trend of the song, so if there's a slight fall in pitch but otherwise the song is mostly rising, then it would still be considered a Rising song.

## Question 3: How Many Sections Does the Song Have?

Songs can be broken down into parts called **Sections**. A Section begins whenever there is a dramatic change in pitch or speed. Counting the number of Sections in a song can be one of the most effective ways to identify it.

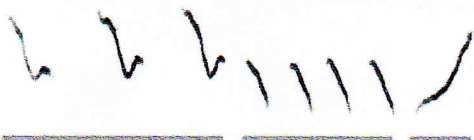
Here are a few spectrograms that show a one-, two- and three-Section song. The gray bars at the bottom of each spectrogram show you where sections start and stop.



One Section



Two Sections



Three Sections

In addition to Sections, we can also talk about **Elements** (the single sounds in song) and **Phrases**, which are groups of repeated Elements.

That's it! Applying these questions will help you hear details in songs that will make you a much more effective listener and a much better ear birder!

# RESOURCES FOR LEARNING BIRDSONGS

## **Cornell University's *All About Birds***

General information about all North American species. You can play the songs and often also the calls.  
<http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/>

## **Cornell University's *All About Bird Song***

Become bird song savvy with this interactive guide to the world of song. Up-close videos of singing birds followed by the Bird Song Hero sound visualization game will unite your senses to remember and appreciate the voices of over 30 common birds.

<https://academy.allaboutbirds.org/all-about-bird-song/>

## **Cornell University's Macaulay Library**

Offers multiple recordings of birdsongs and sometimes videos of the birds singing. A downloaded plug-in adds the spectrograms of some of the songs. Requires a Cornell Lab User Account (FREE).

<http://macaulaylibrary.org/index.do>

## **Cornell Guide to Bird Sounds: Master Set for North America**

The most comprehensive guide available for the sounds of 737 species of birds that regularly breed in North America. The Master Set is available on USB Flash Drive.

<http://macaulaylibrary.org/guide/audio/master-set-for-north-america>

## **Cornell's Raven Lite**

A free software program from Cornell intended for students, educators, and hobbyists that lets users record, save, and visualize sounds as spectrograms and waveforms. It can be used for learning about sounds, as an aid in birdsong recognition, and in musical instruction.

<http://www.birds.cornell.edu/brp/raven/RavenOverview.html>

## **Stokes Field Guide to Birdsongs**

Don and Lillian Stokes; separate Eastern and Western CD sets. A narrator names the bird before the call plays.

<http://www.stokesbirdsathome.com/shop/sh06list/sh0601.html>

## **BirdJam: The App v2**

This application for iPhone, iPad, and iPod Touch (NO Android version) takes advantage of your existing bird song collections, adding top-quality photos, Cornell range maps, and dozens of useful playlists. Just load your Stokes Audio Bird Song or other supported (list in iTunes) CDs and the App v2 does all the rest. THIS IS AN EXCELLENT CHOICE. Sold only in the iTunes App Store. \$4.99.

<https://itunes.apple.com/us/app/birdjam-the-app-v2/id780900320?mt=8>

## **What Bird? And iBird**

Offers audios of North American birdsongs and comparisons of birds with similar songs. It also helps you identify a bird by the quality and pattern of its call. This company also sells iBird Pro, a great digital field guide for iPhone, iPod Touch, Tablets, and Android Phones—all great ways to take your bird calls with you into the field easily. <http://www.whatbird.com/> <http://ibird.com/#>

## **The Patuxent Bird Identification Info Center**

Has audio files for all species of North American birds.

<http://www.mbr-pwrc.usgs.gov/Infocenter/infocenter.html>

## **Peterson Field Guide Series**

***Birding by Ear Series*** by Dick Walton and Robert Lawson. (*Birding by Ear*, *More Birding by Ear* cover eastern and central birds; there is also a version for western birds). Although the list of birds is not comprehensive; the emphasis is on characteristic qualities that can be used to distinguish similar songs. This series is very helpful in that it points out the similarities and differences in bird songs much like visual field guides point to diagnostic field marks. **HIGHLY RECOMMENDED.**

<http://www.amazon.com/Birding-Ear-Eastern-Central-Peterson/dp/0618225900>

## **Thayer Birding Software's Guide to the Birds of North America**

A guide to most of the birds of North America to install on your computer. It includes the ability to play their songs and calls and view and print spectrograms. It also features a description of each species, multiple pictures, range maps, and more. You can create quizzes of your own design and import your own pictures and birdsongs.

<http://www.thayerbirding.com/Home/tabid/581/Default.aspx>

## **Who Cooks for Poor Sam Peabody?**

John Feith; covers 189 eastern and central species on a single CD and the narrator names the species AFTER the sound plays so that it can be used for randomized self-quizzes.

<http://caculo.com/birdsongs.htm>

## **Xeno-canto**

This is a website dedicated to sharing bird sounds from all over the world. You may listen, download, and explore the bird sound recordings in the collection and even share your own bird recordings.

<http://www.xeno-canto.org/>

## **The Golden Field Guide to the Birds of North America**

This handy, inexpensive field guide covers all the birds of North America in one volume small enough to fit into a pocket. Unique among NA field guides, the Golden Guide includes a sonogram for most species vocalizations. A few minutes study of the introduction will enable the user to use these diagrams to help identify birds and learn their songs.

<http://www.birdwatching.com/bookstore/goldenreview.html>

## **Smithsonian Field Guide to the Birds of North America**

This bird field guide came out in 2008; it includes a CD with 587 songs of 138 different North American species. You can also listen to some of the calls online.

<http://www.amazon.com/Smithsonian-Field-Guide-Birds-America/dp/0061120405>

## **Birdsong Mnemonics and Phonetics**

Compiled by Georgann Schmalz; an extensive list of Mnemonics and Phonetics to help us remember birdsong.

<http://www.fernbank.edu/Birding/mnemonics.htm>

## **Hearbirds.com**

Offers an interactive, self-study course available online or on CD-ROM. The course presents recordings of North American bird species. With each sound there is a chart, called a sound spectrogram—a sound "picture" reinforces what you hear. <http://www.hearbirds.com>

## **Larkwire**

Larkwire is a complete, game-based learning system for mastering bird sounds—designed for both beginners and advanced birders. Larkwire can be purchased through iTunes for iPhone, iPad, or iPod Touch or as a web-based "app" that works on any computer. [DEMO & FREE TRIAL ON WEBSITE](#)

<http://www.larkwire.com/birdsong/howto>

## **The Backyard Birdsong Guides**

Donald Kroodsma; separate guides for Eastern/Central and Western North America; simple to use (book with attached player) and relatively inexpensive (about \$16.50 each); does not include all birds of North America.

<http://www.amazon.com/Backyard-Birdsong-Guide-Eastern-Central/dp/0811863425>

## **250 North American Birds in Song**

Les Beletsky; simple to use (book with attached player).

[http://www.amazon.com/Bird-Songs-North-American-Birds/dp/1932855416/ref=sr\\_1\\_1?ie=UTF8&s=books&qid=1238428075&sr=1-1](http://www.amazon.com/Bird-Songs-North-American-Birds/dp/1932855416/ref=sr_1_1?ie=UTF8&s=books&qid=1238428075&sr=1-1)

## **SongFinder**

An advanced digital device aimed at bird enthusiasts who suffer from high frequency hearing loss and who are unable to hear high-pitched bird songs in their natural surroundings. Unlike conventional amplifying-type hearing aids, the Songfinder works by lowering the frequency of high-pitched songs into a range where the user has normal or near-normal hearing. Furthermore, the SongFinder is a two-channel "binaural" device that allows the user to determine the directions and distances of singing birds. <http://hearbirdsagain.com/>

# UNWAX YOUR EARS: BIRDING BY EAR

## FOUR STEPS TO SUCCESS

Using these four steps, you will soon be "seeing" birds even when they're hidden in foliage, behind you, or singing at night.

- 1. STUDY.** Nothing, absolutely nothing, is better than watching a bird sing. It always seems like the more effort you put into finding a bird and watching those beautiful notes pour out of its little throat, the better you will learn that song. The next best method is watching a video of the bird singing; YouTube can help here. Get an audio field guide to bird songs. There are many excellent ones available and many ways to use them. Just as you need a book with pictures to learn what birds look like, you need recordings to learn what they sing like. Start with the songs of common local species that you are likely to hear often (such as the first four birds listed on this worksheet).
- 2. TRICKS AND MEMORY JOGGERS:**
  - **DESCROBE.** As you listen to a bird's song, describe its quality to yourself using words such as Musical, Whistle, Trill, Buzzy, Chirp, Chatter, Scream, Quack, Squawk, Squeak, Honk, Rattle, and Hoot. Describe the pattern of the song: Rising, Flat, Falling, or Sing-song. Writing these descriptions will help you recognize the bird when you hear it again.
  - **ASSOCIATE.** Associate a phrase of English with each bird's song. The words should remind you of the rhythm, speed, or pitch of the song. It's best to fit your own words to a bird's song, but feel free to use memorable phrases from others. Once you put words to a bird's song, the melody stays with you forever.
  - **DIAGRAM.** Make a drawing of the pattern of the bird's song. Or use diagrams called sonograms or spectrograms available in some field guides and online.
- 3. PRACTICE.** Birding in a group with good ear birders really helps, and it also helps to help someone else learn. 15 minutes of practice/day for 30 days is less than the time spent in commercials in the average 1-hour TV program, and it gives really good results!
- 4. TEST.** Play bird ID games online or using multimedia bird guides. As you hear songs in the field, try to identify the singing bird before finding it with binoculars.

**Learning birdsongs takes patience, perseverance, and persistence, but it enriches your experience with nature and is well worth the effort.**

Bird	Description of Song	English Phrase of Song	Sketch of Song
Northern Mockingbird	Varied, peep 1-5 3-5		
Northern Cardinal	Ascending Whistle		
Carolina Chickadee	Whistle & buzz		
Black-crested Titmouse	Whistle 3 times	peter, Peter, peter	
House Finch	Whistle, Tumble		
House Sparrow			
White-winged Dove	Cooing, descending	Too Cool for School	
Mourning Dove		So Sad, Sad, Sad...	
Ladder-backed Woodpecker		Laughing Sound	
Golden-fronted Woodpecker			
Western Scrub-Jay	Scratchy Rasp		
Blue Jay	Loud Scratch, Yodel		
Eastern Phoebe	Says name		
White-eyed Vireo	Buzzy	Quick Get me a beer chick	
Bewick's Wren	???		
Carolina Wren		TRA Kettle Germany, Germany	

# UNWAX YOUR EARS: BIRDING BY EAR

 <p>Northern Mockingbird</p> <p>13</p>	 <p>Northern Cardinal</p> <p>7</p>	 <p>Carolina Chickadee</p> <p><del>12</del> 12</p>	 <p>Black-crested Titmouse</p> <p>5</p>
 <p>House Finch</p> <p><del>10</del> 10</p>	 <p>House Sparrow</p> <p><del>1</del> 1</p>	 <p>White-winged Dove</p> <p>11</p>	 <p>Mourning Dove</p> <p>2</p>
 <p>Red-backed Woodpecker</p> <p>16</p>	 <p>Golden-fronted Woodpecker</p> <p>4</p>	 <p>Western Scrub-Jay</p> <p><del>3</del> 3</p>	 <p>Blue Jay</p> <p>8</p>
 <p>Eastern Phoebe</p> <p>6</p>	 <p>White-eyed Vireo</p> <p>14</p>	 <p>Bewick's Wren</p> <p><del>15</del> 15</p>	 <p>Carolina Wren</p> <p>9</p>

Listen for these birds in your yard and in other Hill Country locations.

You may be surprised how many different kinds of birdsongs there are to hear all around you.

Each bird species makes sounds that are unique. And we can identify the birds by those sounds just as readily as we can by their shape or color—with a little training and practice. Being tuned in to the songs of birds makes the world a more interesting and fun place to be. AND it makes us better birders.

**OPEN YOUR EARS TO BIRDSONG!**