

Bird Sound Identification



Kalen © 2002

in the Valles Caldera

Version Date: March 17, 2005
Materials recorded and produced by Stephen M. Fettig
Class presented by Stephen M. Fettig

Bird Sound Identification in the Valles Caldera

March 17, 2005

Acknowledgement:

The idea for teaching bird sound identification in New Mexico using sonograms comes from Jim Travis, Ph.D. He has inspired the recordings and sonograms presented here.

Cover:

Colored pencil drawing of a Warbling Vireo singing from a nest by Kalen Malueg.

Cover artwork copyright by © Kalen Malueg.

Copied under permission of the New Mexico Breeding Bird Atlas Project, Inc.

Text and sonograms:

Creative Commons (CC, some rights reserved by Stephen M. Fetting

Under the rules for Creative Commons licensing, limited permission is given to reproduce the text and sonograms presented here.



Attribution. Permission is given for others to copy, distribute, and display these materials, but only if the author is credited.



Share Alike. Permission is given for others to distribute derivatives of the material presented here, only if the new work is licensed identically to this material.



Noncommercial. Permission is given to copy, distribute, and display for noncommercial purposes only.

Example: Gus publishes his photograph with a noncommercial license and attribution required. Camille incorporates a piece of Gus's image into a collage poster and gives credit without needing to talk to Gus. Camille is not allowed to sell her collage poster without Gus's permission.

Too often the debate over creative control tends to the extremes. At one pole is a vision of total control — a world in which every last use of a work is regulated and in which "all rights reserved" (and then some) is the norm. At the other end is a vision of anarchy — a world in which creators enjoy a wide range of freedom but are left vulnerable to exploitation. Balance, compromise, and moderation — once the driving forces of a copyright system that valued innovation and protection equally — have become endangered species.

For more information or to watch one or more web movies about Creative Commons visit
<<http://creativecommons.org/>>.

Table of Contents

Parts of a Bird Song	1
Introduction to Song Types	2
Song Type Examples	
Mountain Chickadee	3
Dark-eyed Junco	4
Warbling Vireo	5
American Robin	6
Birds that Trill	
Dark-eyed Junco	7
Chipping Sparrow	8
Orange-crowned Warbler	9
Yellow-rumped Warbler	10
Birds with Robin-like Songs (group 1)	
American Robin	11
Hermit Thrush	12
Western Tanager	13
Black-headed Grosbeak	14
Birds with Robin-like Songs (group 2)	
Townsend's Solitaire	15
Western Bluebird	16
Mountain Bluebird	17
Musical Complex or Combination Songs	
House Wren	18
Green-tailed Towhee	19
Ruby-crowned Kinglet	20
Western Meadowlark	21
Eastern Meadowlark	22
Non-musical Complex or Combination Songs	
Hammond's Flycatcher	23
Dusky Flycatcher	24
Savannah Sparrow	25
Vesper Sparrow	26

Table of Contents

Parts of a Bird Song	1
Introduction to Song Types	2
Song Type Examples	
Mountain Chickadee	3
Dark-eyed Junco	4
Warbling Vireo	5
American Robin	6
Birds that Trill	
Dark-eyed Junco	7
Chipping Sparrow	8
Orange-crowned Warbler	9
Yellow-rumped Warbler	10
Birds with Robin-like Songs (group 1)	
American Robin	11
Hermit Thrush	12
Western Tanager	13
Black-headed Grosbeak	14
Birds with Robin-like Songs (group 2)	
Townsend's Solitaire	15
Western Bluebird	16
Mountain Bluebird	17
Musical Complex or Combination Songs	
House Wren	18
Green-tailed Towhee	19
Ruby-crowned Kinglet	20
Western Meadowlark	21
Eastern Meadowlark	22
Non-musical Complex or Combination Songs	
Hammond's Flycatcher	23
Dusky Flycatcher	24
Savannah Sparrow	25
Vesper Sparrow	26

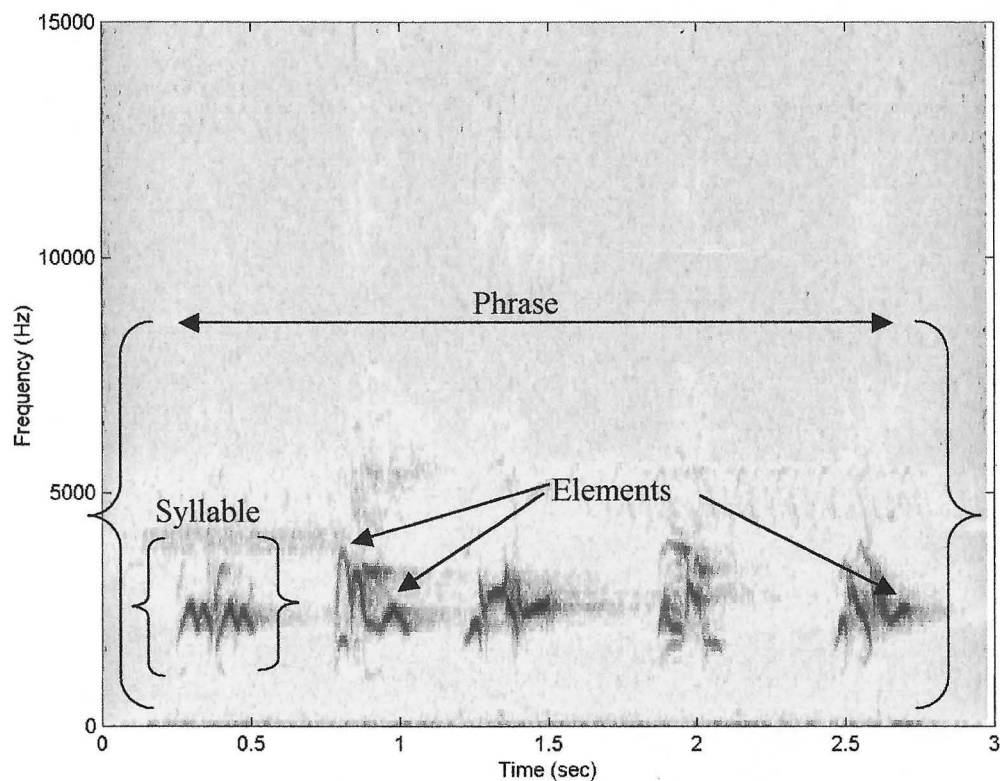
Parts of a Bird Song

Song: A song is often composed of several phrases separated by a pause.

Phrase: A phrase is a group of syllables that make up a recognizable part of a bird song. In the illustration below, five syllables make one phrase of an American Robin's song.

Syllable: A syllable is the segment of continuous sound between short pauses within a phrase.

Element: An element is a subunit within a syllable, such as the rising end of the fifth syllable in the American Robin's phase below.



Introduction to Song Types

Bird songs in the Valles Caldera can be divided into four basic types. These song types are best illustrated by the following examples.

Whistle: A sound having nearly one pitch and giving the impression of pure tone is a whistle. Whistles may be modified into up slurs or down slurs if the pitch changes. Low pitched whistles often give the impression of hoot-like sound. The song of the Mountain Chickadee (page 3) is a good example of a whistle. The song of the Eastern Meadowlark (page 22) gives good examples of whistles that change pitch.

Trill: A sound made up of a sequence of very similar sub-units (syllables) is a trill. If the syllables span a range of frequencies, the trill will often have a buzzy quality. If the syllables within a trill are short whistles, the trill can have a musical quality. The songs of the Dark-eyed Junco (page 4) and the Chipping Sparrow (page 8) are trills at different speeds. The Orange-crowned Warbler song is an example of a trill that changes pitch at the end. Note that Warbler songs are constructed mostly of trills, rather than warbles.

Warble: A sound that changes pitch rapidly in an up and down fashion is a warble. Furthermore, the elements within a warble often are not clearly separated into distinct syllables. The best example in our area is the Warbling Vireo (page 5). In urban settling, such as in Los Alamos, House Finch songs (not presented here) are common and are good examples of long warbles.

Complex Syllable: A sound that is difficult to describe because of its intricate pattern is a complex syllable. The subunits of a complex syllable are called elements. If we ignore that warbles are a kind of complex syllable, the American Robin (page 6) and other robin-like bird songs are composed of complex syllables.

Combinations: When whistles, trills, warbles or complex syllables are combined the collection is called a combination. Sparrows, such as a Savannah Sparrow (page 25) and Vesper Sparrow (page 26) are good examples of combinations of whistles and trills. The Green-tailed towhee is a combination of whistles and multiple trills. The Western Meadowlark song is a combination of whistles and complex syllables.

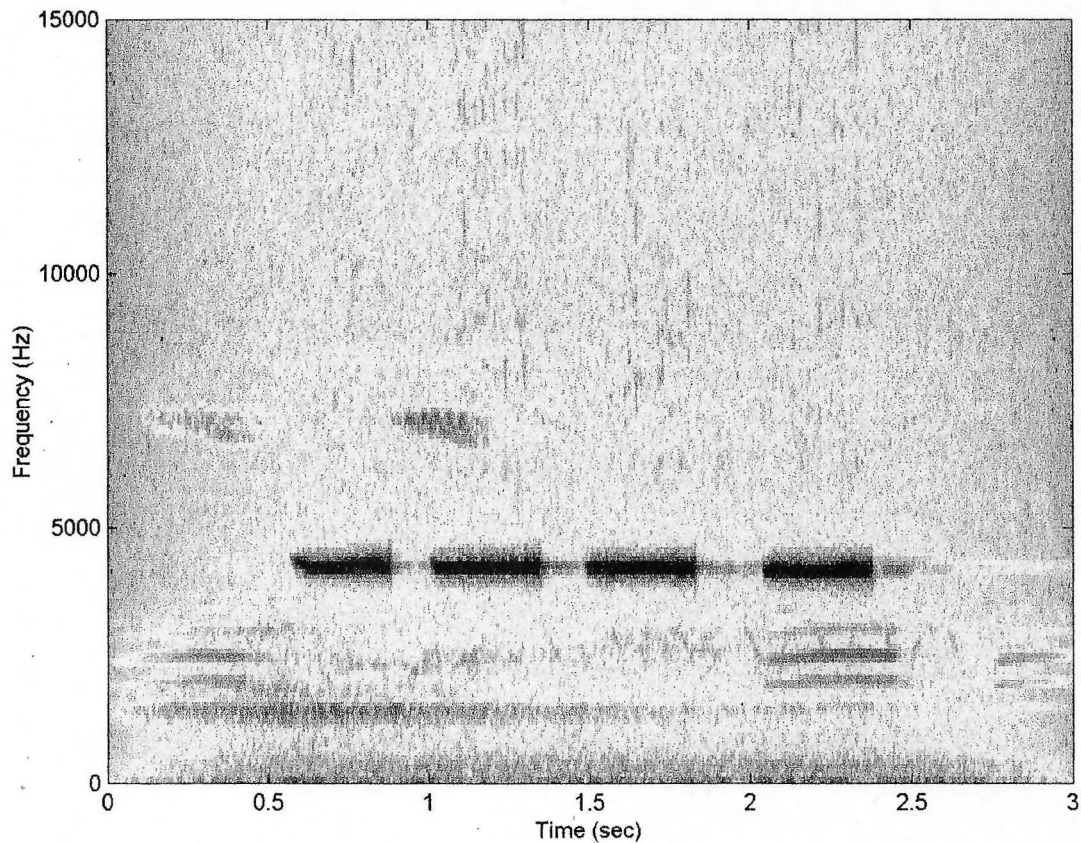
Mountain Chickadee

Habitat: Montane conifer and aspen forests up to approximately 9,000 feet, perhaps higher. Often also found in piñon-juniper woodlands.

Song: Three or four (sometimes more) whistled syllables. Often the first syllable is higher than the following syllables. Listen for variations.

Species with similar songs: The Black-capped Chickadee sings two clear whistles, the first higher pitched than the second.

Sonogram: Note the 3-second scale and that this is a relatively unusual song in that all the whistles are on the same pitch. (Recorded May 4, 2004 on the west side of Cerro Santa Rosa in the center of the Valles Caldera National Preserve)



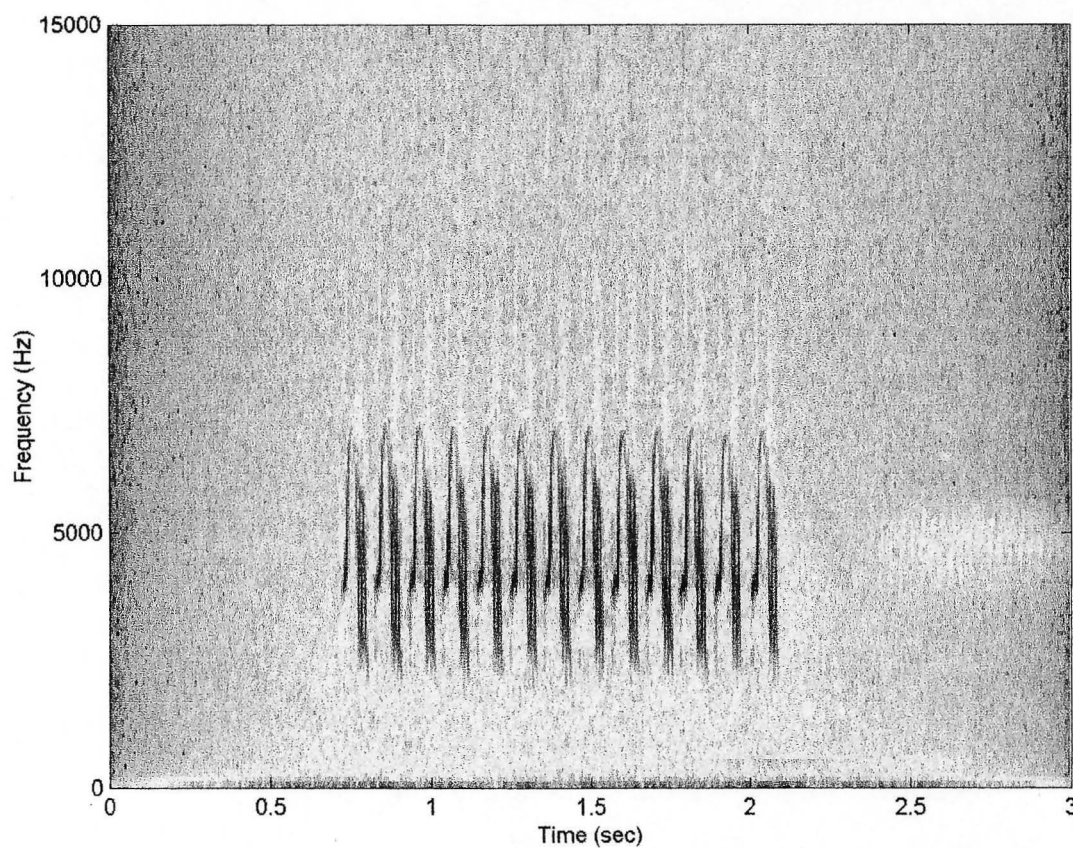
Dark-eyed Junco

Habitat: High elevation mixed conifer forest.

Song: A relatively slow trill that often can be counted. Listen for the musical or ringing quality and listen for variations in the musical quality and the speed.

Species with similar songs: The Chipping Sparrow song is less musical and too fast to count. The Orange-crowned Warbler is also less musical and too fast to count, but typically changes pitch at the end.

Sonogram: Note the 3-second scale and nearly identical syllables making up the trill.
(Recorded May 15, 2004 on west side of Cerro Santa Rosa near the center of the Valles Caldera National Preserve)



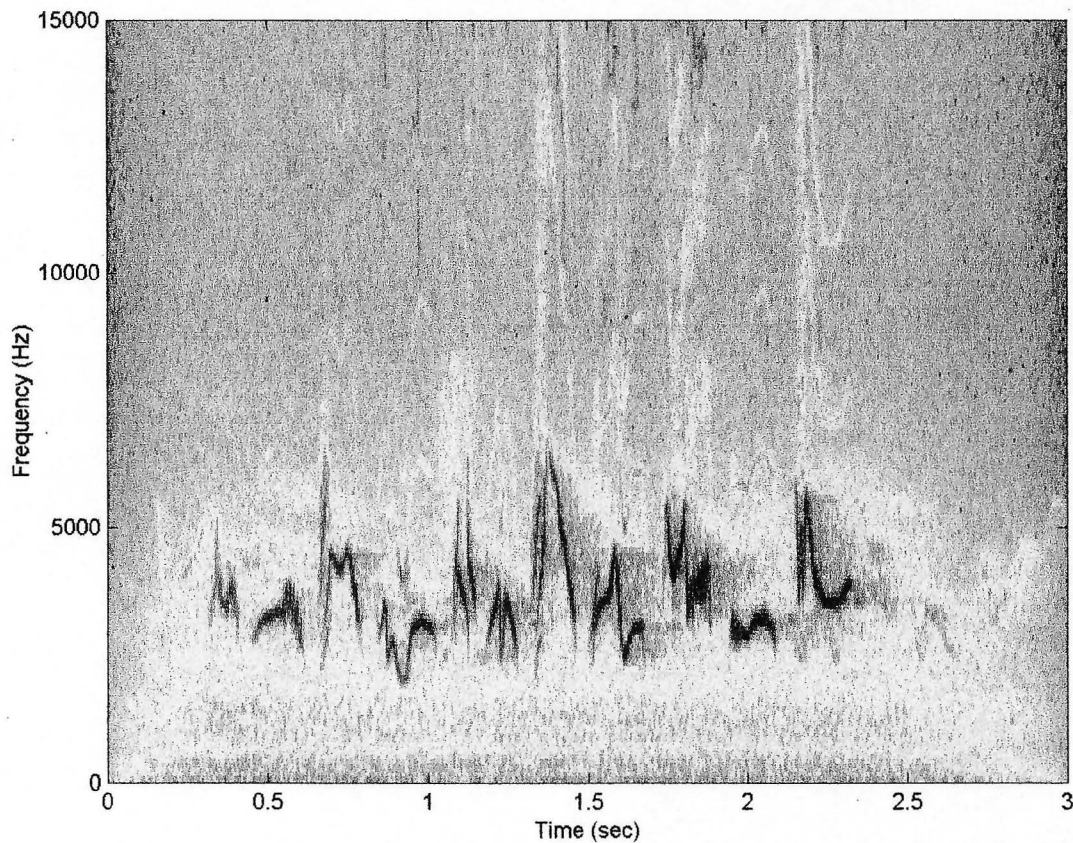
Warbling Vireo

Habitat: Stream courses with woody deciduous vegetation and aspen forest with mixed conifer forests.

Song: A warble lasting 1-1.5 seconds and often ending with an up-slurred element. This is a common sound in the aspen woods of the Valles Caldera and thus a good song to know.

Species with similar songs: In the Valle Grande, there are relatively few species that could be confused for a Warbling Vireo. An American Robin or a Western Tanager singing fast without pauses between phrases might be confusing. The syllables of the American Robin and the Western Tanager are shorter than the phrase of the Warbling Vireo.

Sonogram: Note the 3-second scale. (Recorded May 22, 2004 in Frijoles Canyon at Bandelier National Monument)



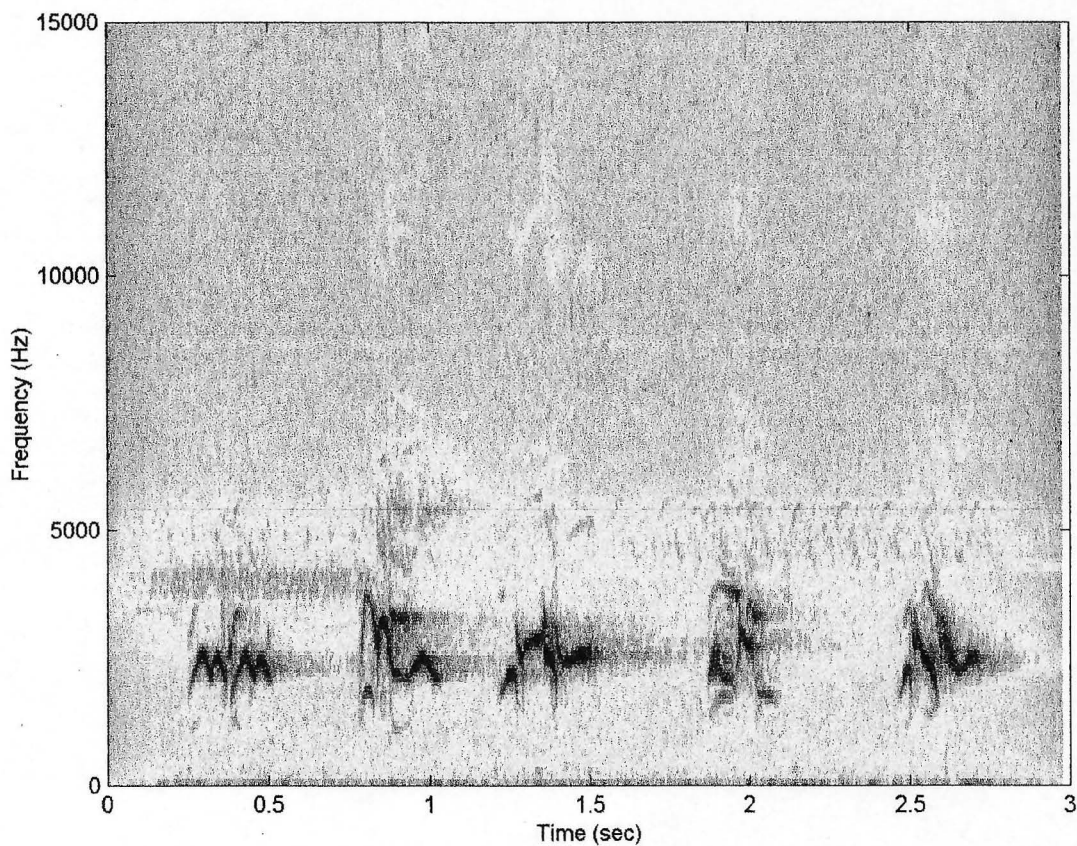
American Robin

Habitat: Mixed conifer forests, aspen woods, riparian forests, and residential areas.

Song: A series of short syllables that have a warble-like quality (up and down). Typically there are 4 to 6 syllables per phrase. Duplicate syllables of the same motif within one phrase are common. Also common are higher pitched syllables that are somewhat Hermit-thrush like.

Species with similar songs: Compare with Western Tanager and Black-headed Grosbeak.

Sonogram: Note the 3-second scale. (Recorded June 19, 2004 near the Rito de los Indios on the Valles Caldera National Preserve)



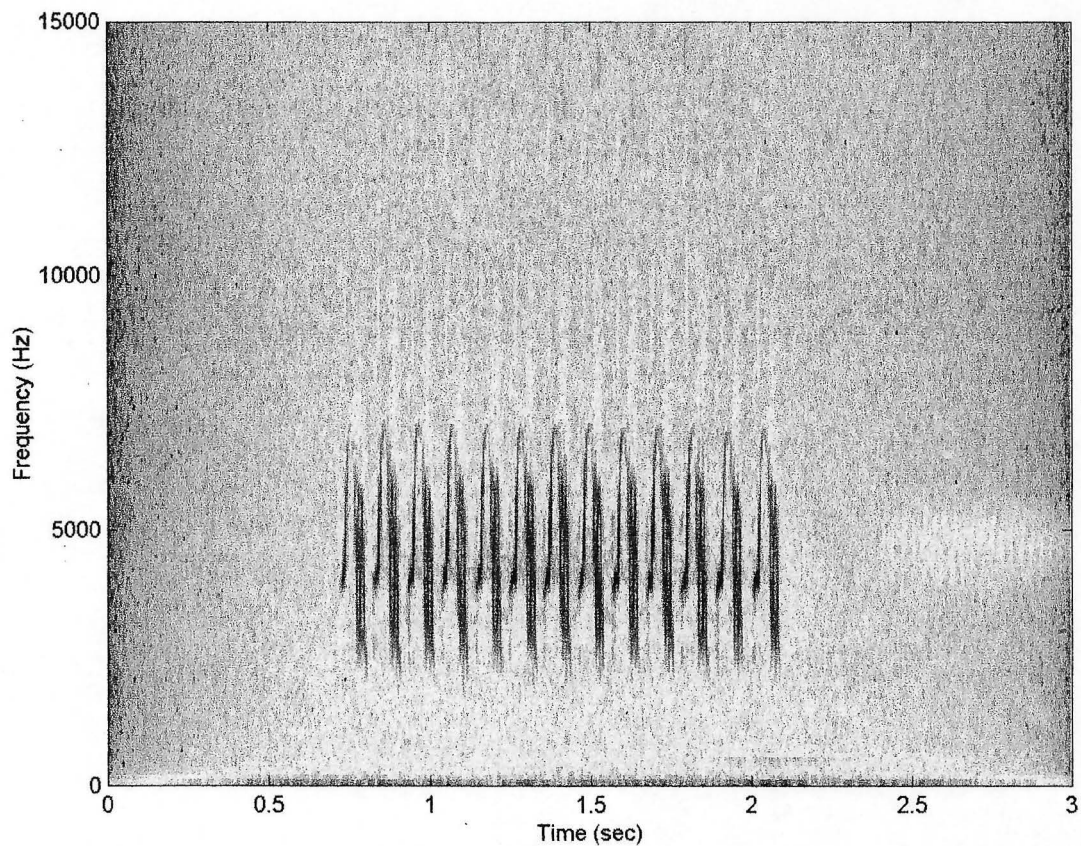
Dark-eyed Junco

Habitat: High elevation mixed conifer forest.

Song: A relatively slow trill that often can be counted. Listen for the musical or ringing quality and listen for variations in the musical quality and the speed.

Species with similar songs: The Chipping Sparrow song is less musical and too fast to count. The Orange-crowned Warbler is also less musical and too fast to count, but typically changes pitch at the end.

Sonogram: Note the 3-second scale and nearly identical syllables making up the trill.
(Recorded May 15, 2004 on west side of Cerro Santa Rosa near the center of the Valles Caldera National Preserve)



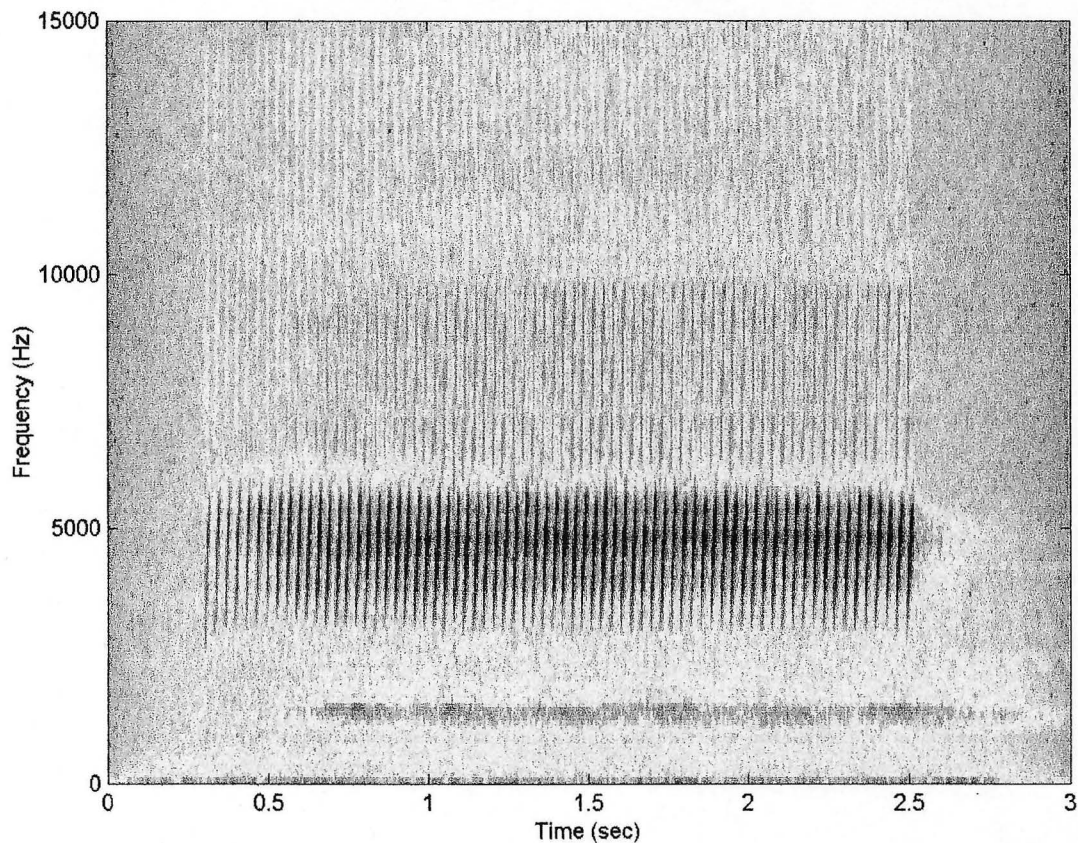
Chipping Sparrow

Habitat: Open montane forests at moderate elevation throughout New Mexico.

Song: A relatively fast trill with syllables that most people cannot count. Listen for the insect-like quality and listen for variations in the overtones.

Species with similar songs: The two most similar sounding species are the Dark-eyed Junco and the Orange-crowned Warbler. The Dark-eyed Junco is slower and more musical while the Orange-crowned Warbler often changes pitch at the end.

Sonogram: Note the 3-second scale and nearly identical syllables making up the trill.
(Recorded May 15, 2004 west side of Cerro Santa Rosa near the center of the Valles Caldera National Preserve)



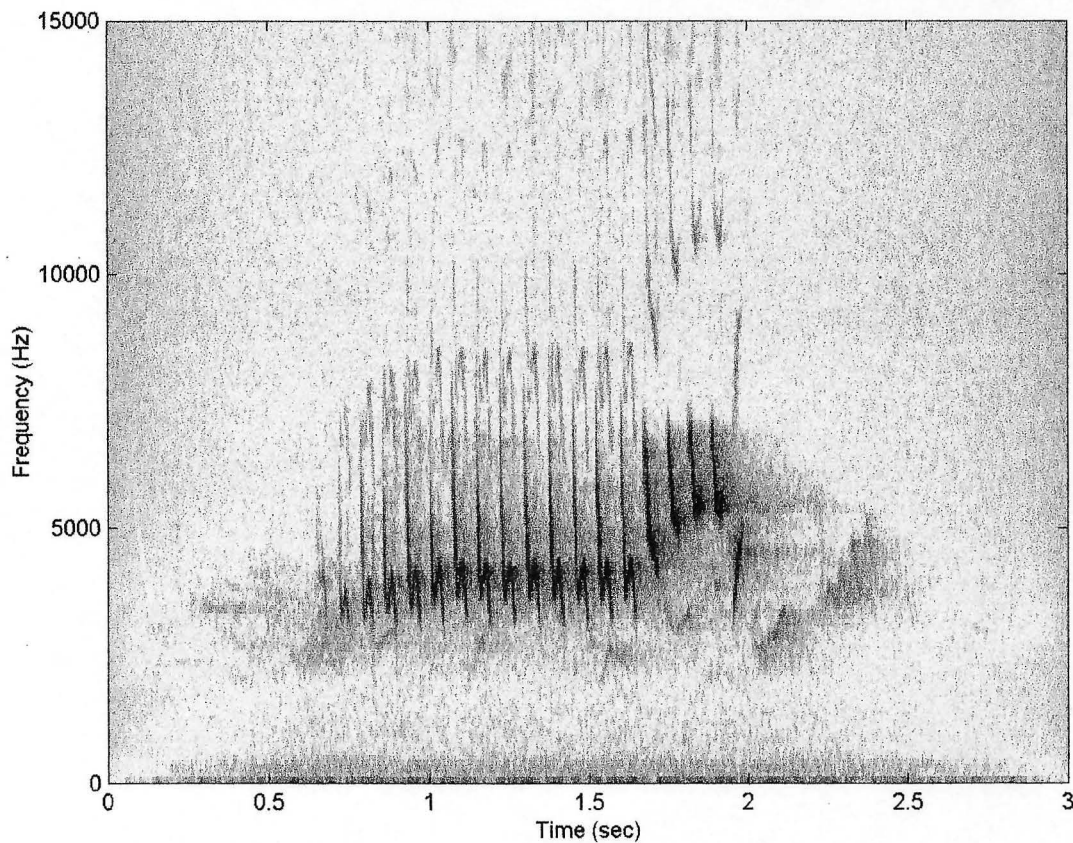
Orange-crowned Warbler

Habitat: On the Valles Caldera National Preserve, this species is most often found in relatively thick mixed conifer forests at higher elevations.

Song: A relatively fast trill that often rises or falls in pitch at the end. Ending on a falling pitch is more common. The bird can often sound as if it is running out of breath. The song of this species is often weaker and carries less far than that of the Chipping Sparrow.

Species with similar songs: The Chipping Sparrow song is a trill that typically does not change pitch at the end. The Dark-eyed Junco song is a slower and more musical trill that is slow enough for some people to count.

Sonogram: Note the 3-second scale. Also note that this individual consistently ends its song with a rising pitch change. (Recorded June 19, 2004 west of the Rito de los Indios in the northern part of the Valles Caldera National Preserve)



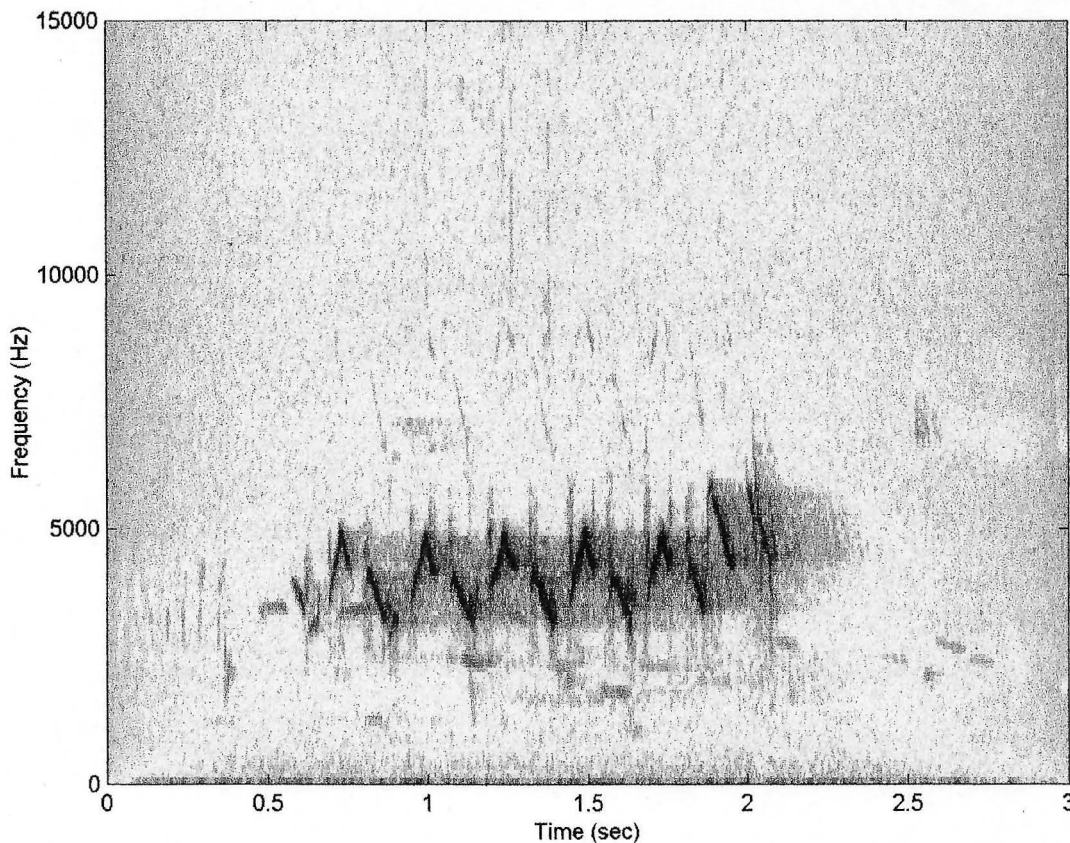
Yellow-rumped Warbler

Habitat: High elevation mixed conifer forest, most often with an aspen component.

Song: Typically a slow two-parted trill, where the two parts are not equal in length. Most often the second trill is shorter than the first. Listen for variations in the ending to the second trill.

Species with similar songs: Virginia's Warblers and Grace's Warblers (neither presented here) also have two-parted trills. Virginia's Warblers some times have a three-parted trill. The songs of these species tend to have faster trills than for Yellow-rumped Warblers. The Virginia's Warblers second trill is typically lower than the first trill. The song of the Grace's Warbler often ends with a higher trill nearly equal in length to the first trill.

Sonogram: Note the 3-second scale. (Recorded in 2003 north of the Valle San Antonio on the Valles Caldera National Preserve)



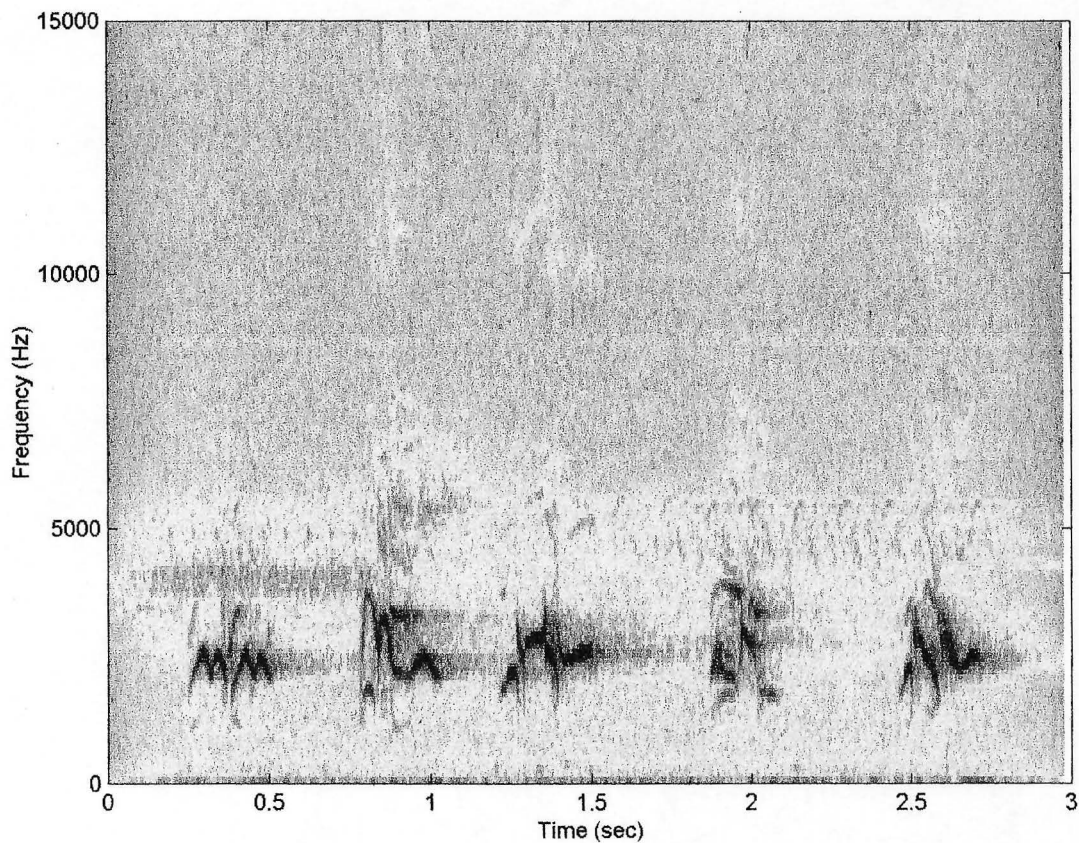
American Robin

Habitat: Mixed conifer forests, aspen woods, riparian forests, and residential areas.

Song: A series of short syllables that have a warble-like quality (up and down). Typically there are 4 to 6 syllables per phrase. Duplicate syllables of the same motif within one phrase are common. Also common are higher pitched syllables that are somewhat Hermit-thrush like.

Species with similar songs: Compare with Western Tanager and Black-headed Grosbeak.

Sonogram: Note the 3-second scale. (Recorded June 19, 2004 near the Rito de los Indios on the Valles Caldera National Preserve)



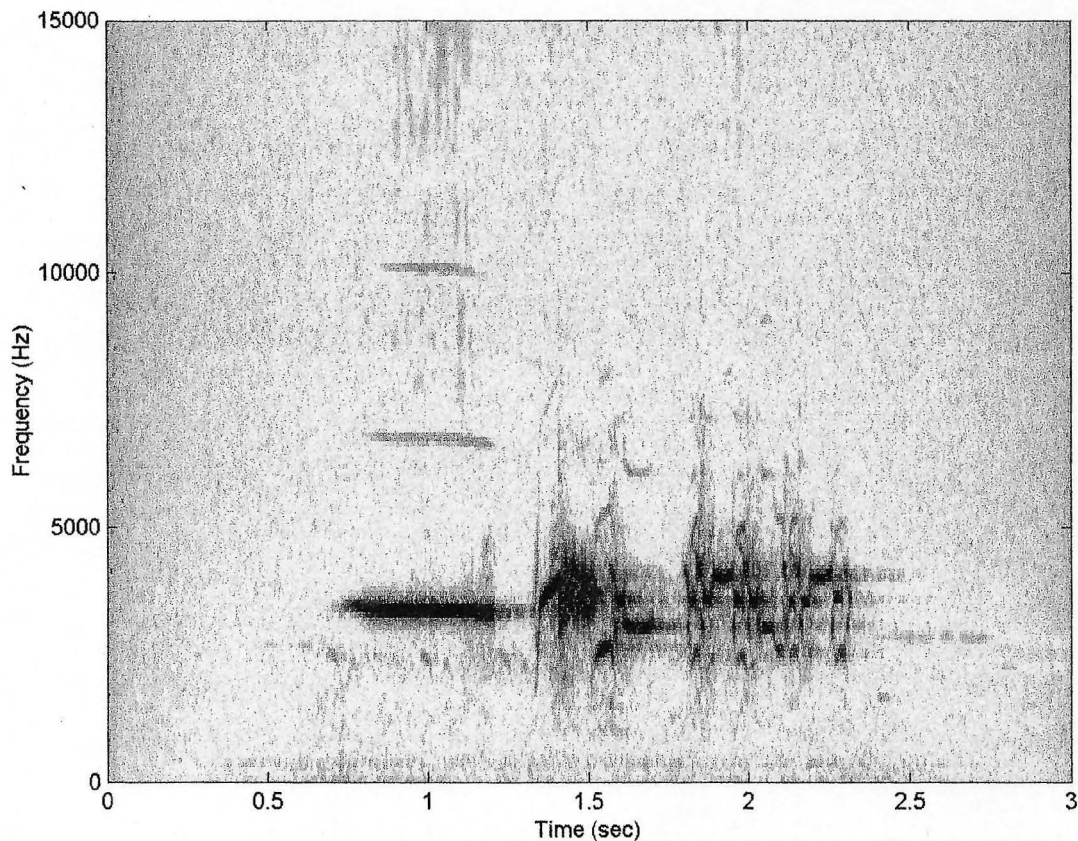
Hermit Thrush

Habitat: High elevation conifer and deciduous forest.

Song: A series of complex syllables that sounds flute-like. Successive phrases are at different pitches. Note the long introductory whistled syllable with overtones.

Species with similar songs: In our area, no other bird is similar, although some syllables of an American Robin's song may be Hermit Thrush-like. In other parts of North America, the Swainson's Thrush and the Veery have similar flute-like songs. The Swainson's Thrush song has an upward spiral quality to the sound, while the Veery sounds like it's spiraling down.

Sonogram: Note the 3-second scale and. (Recorded June 2, 2004 on the west side of Cerro Santa Rosa near the center of the Valles Caldera National Preserve)



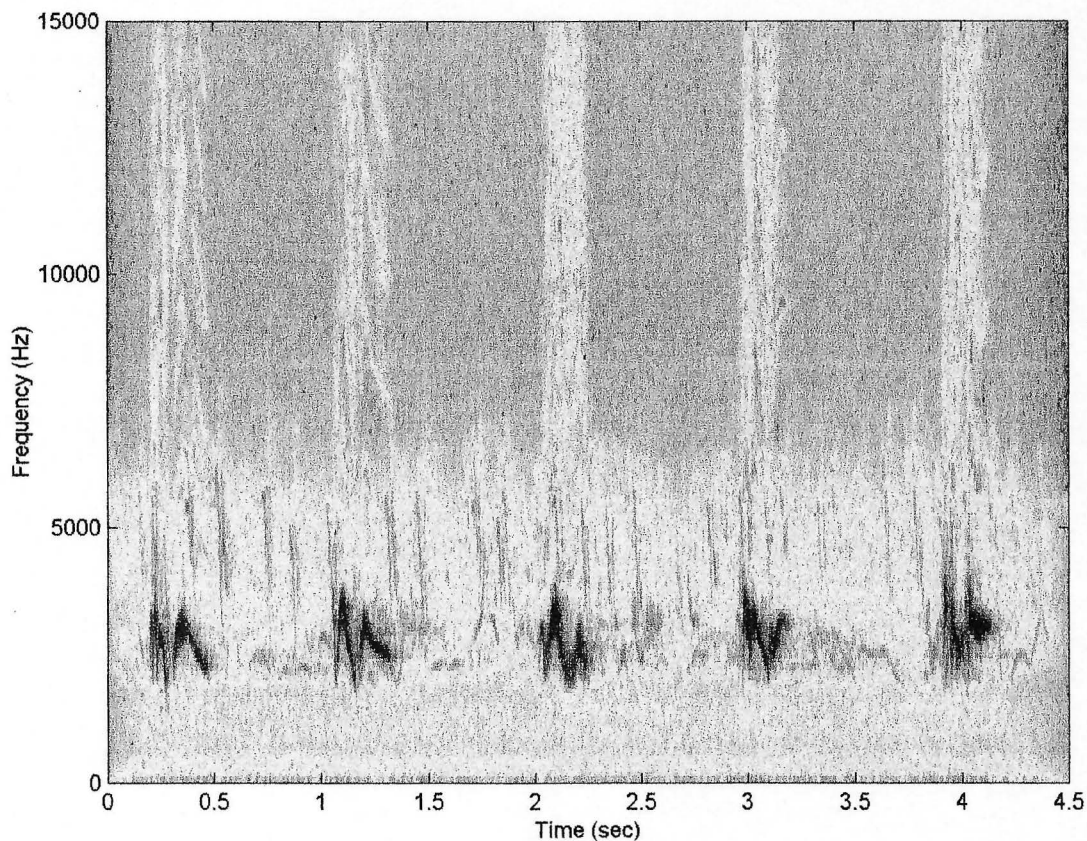
Western Tanager

Habitat: Mixed conifer forest and riparian woodlands.

Song: Phrases with 4 to 6 syllables, each with a somewhat burry or buzzy quality. Some syllables sound similar to the *pit-er-ick* call, which is diagnostic for this species. It's important to listen for the lack of robin-like calls and Thrush-like syllables.

Species with similar songs: Compare with American Robin (page 11) and Black-headed Grosbeak (page 14).

Sonogram: Note the 4.5-second scale (different then most other sonograms in this class).
(Recorded May 26, 2003 in Frijoles Canyon at Bandelier National Monument)



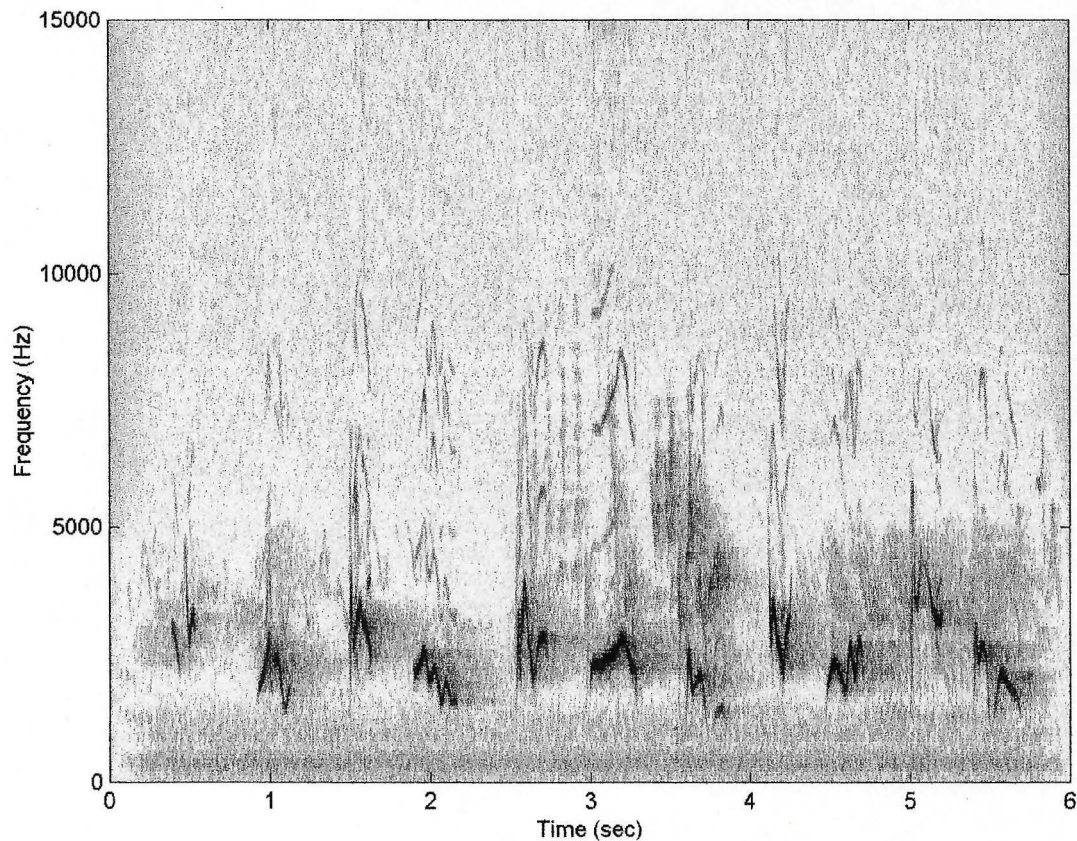
Black-headed Grosbeak

Habitat: Mostly riparian forests and woodlands and aspen groves.

Song: Phrases typically have more than 7 syllables, but phrase length is variable. Syllables have less of a buzzy quality and thus often sound sweeter than an American Robin.

Species with similar songs: The greater number of syllables per phrase should distinguish this species from American Robin and Western Tanager.

Sonogram: Note the 6-second scale (different from most other sonograms used in this class).
(Recorded June 11, 2004 near Camp May, Los Alamos County)



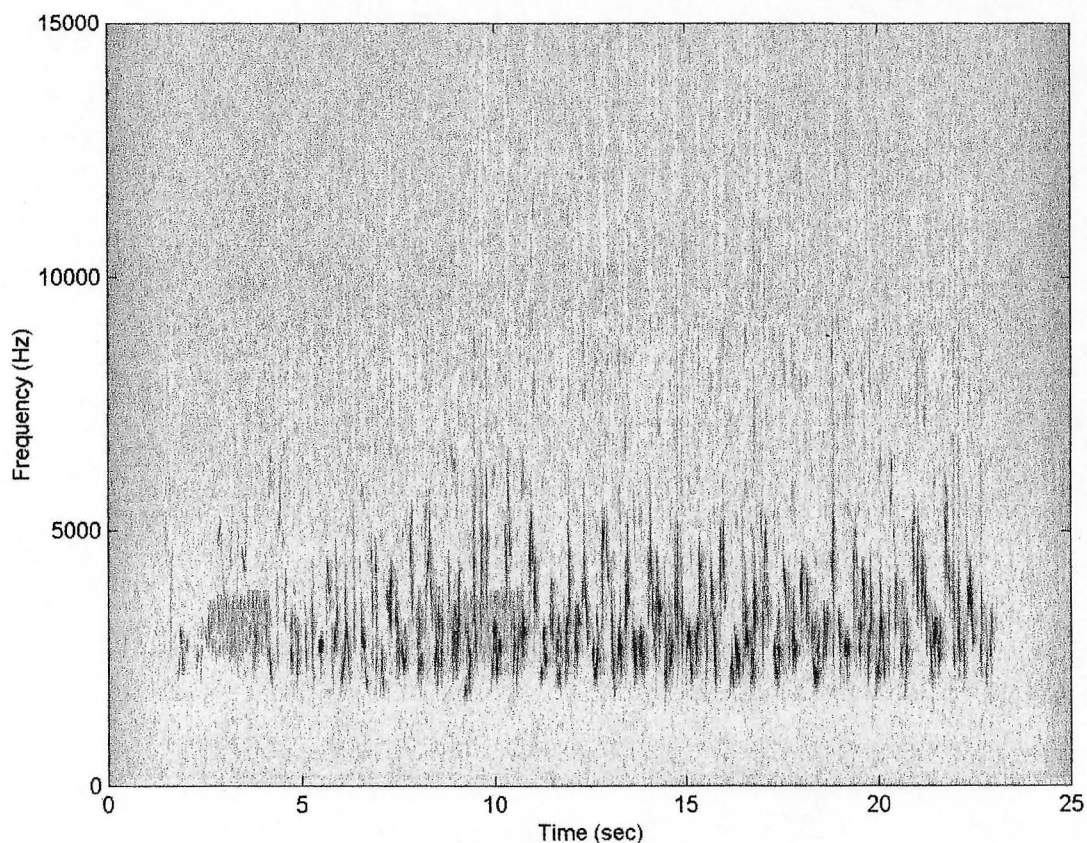
Townsend's Solitaire

Habitat: High elevation mixed conifer forest.

Song: A long and musical warbling that starts softly and crescendos. Also listen for a short whistled call that sounds like a squeaky metal door.

Species with similar songs: The length of this song makes it hard to confuse with other species. Compare with a Black-headed Grosbeak (page 14).

Sonogram: Note the 25-second scale (different than for most other species in this class).
(Recorded June 13, 2004 near Hunter's Point north of the Valle San Antonio on the Valles Caldera National Preserve)



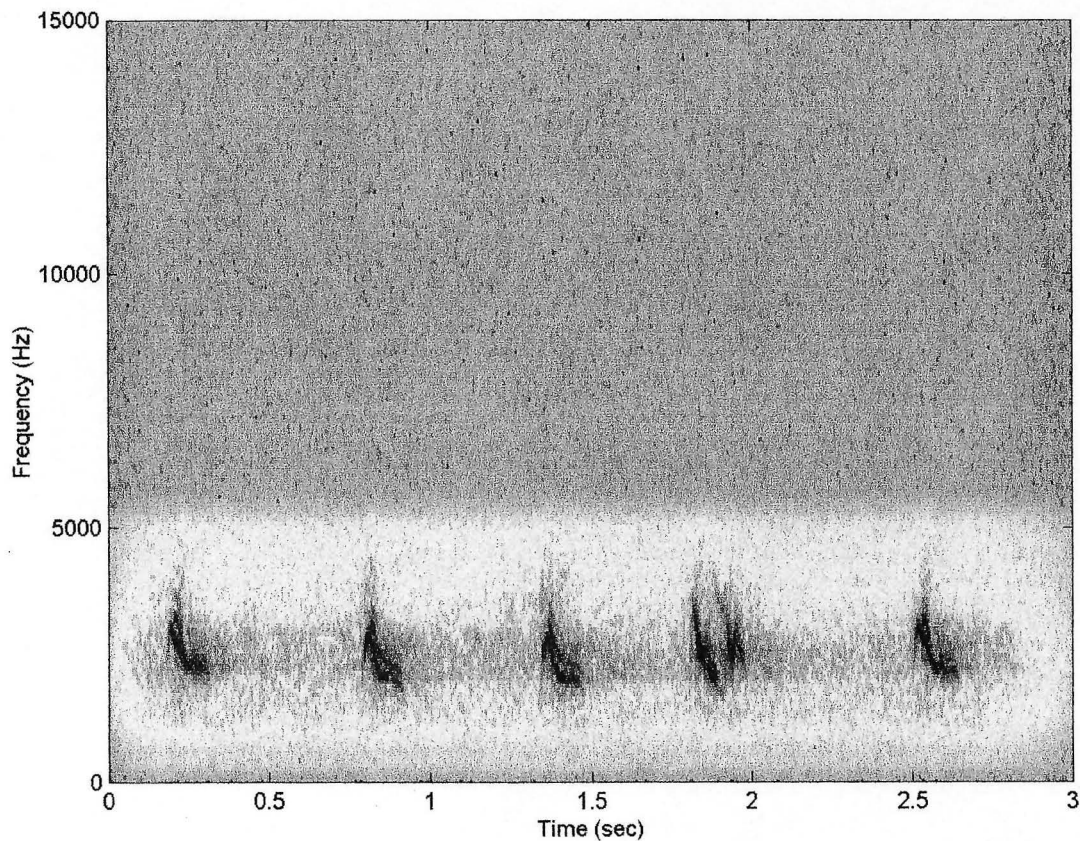
Western Bluebird

Habitat: Open woodlands with snags for nesting cavities and patches of grassland for feeding.

Song: Syllables are soft warbles or slurred whistles. Syllables with pair elements tend to be relative more common with Western Bluebirds than with Mountain Bluebirds.

Species with similar songs: The syllables of Mountain Bluebirds have a more blurred quality with fewer syllables having paired elements.

Sonogram: Note the 3-second scale. (Recorded June 14, 1998 on Escobas Mesa at Bandelier National Monument.



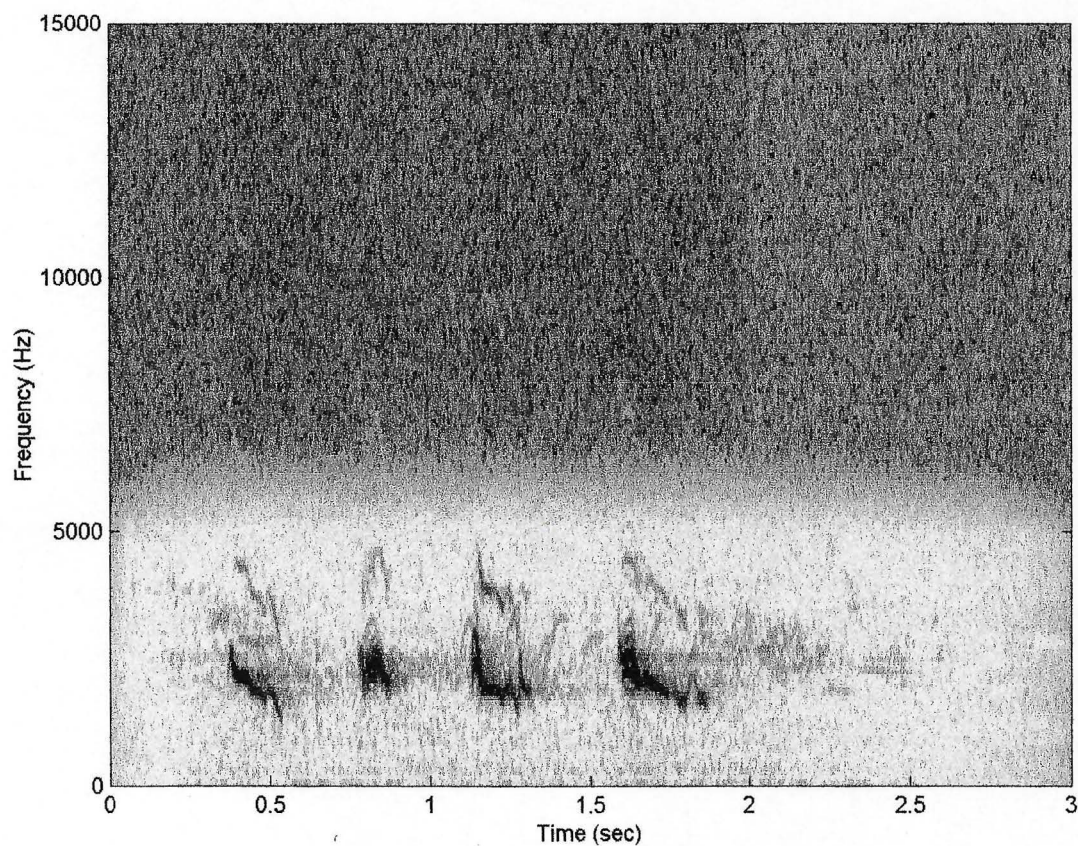
Mountain Bluebird

Habitat: Open woodlands with snags for nesting cavities and patches of grassland for feeding.

Song: Syllables are soft blurry warbles or slurred whistles. Syllables with paired elements tend to be relatively less common with Mountain Bluebirds than with Western Bluebirds.

Species with similar songs: The syllables of Western Bluebirds have a sharper, clearer quality with fewer syllables having paired elements than with the Mountain Bluebird.

Sonogram: Note the 3-second scale. (Recorded May 7, 2004 in the Valle Santa Rosa on the Valles Caldera National Preserve.



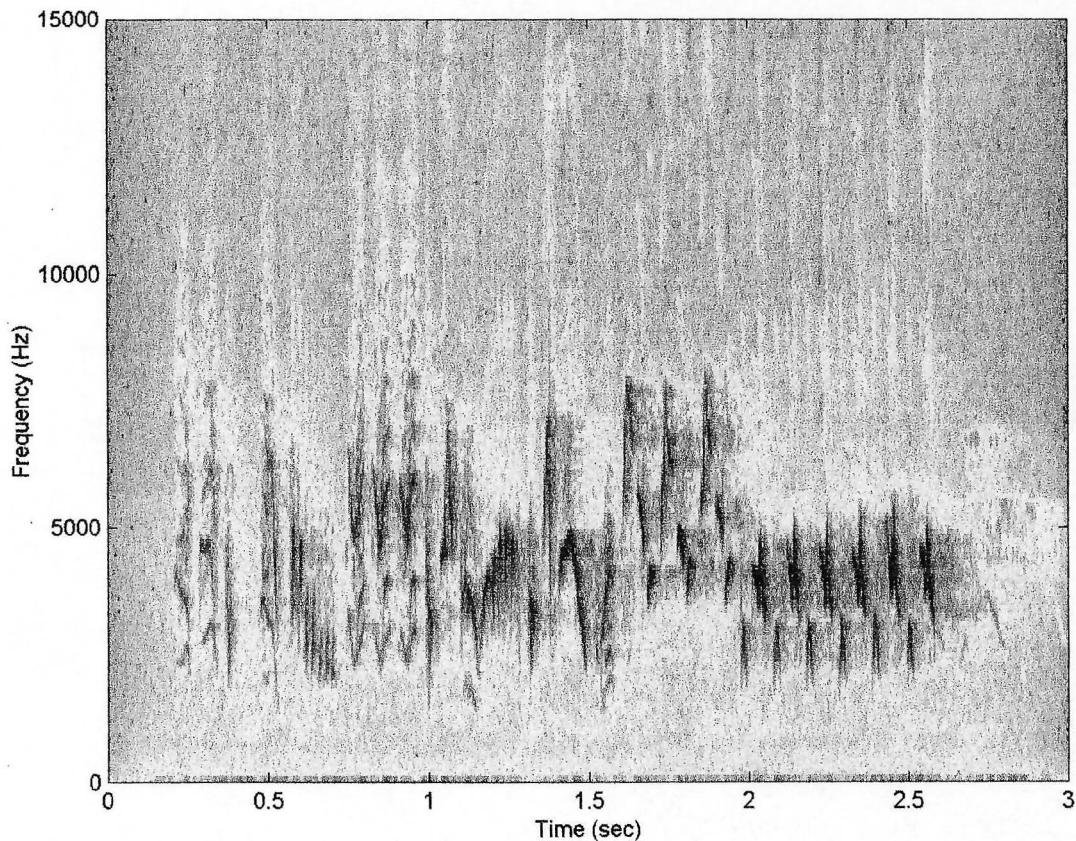
House Wren

Habitat: Nesting habitat is forests and woodlands with relatively open canopies and either shrubby ground cover or considerable large woody material on the ground.

Song: With an extremely varied complex structure that sounds stuttering or gurgling, the House Wren song is relatively long and variable in length.

Species with similar songs: The complex structure and gurgling or bubbling sound make this species song unlike most others in our area.

Sonogram: Note the 3-second scale. (Recorded June 13, 2004 near Hunter's Point, north of the Valley San Antonio on the Valles Caldera National Preserve)



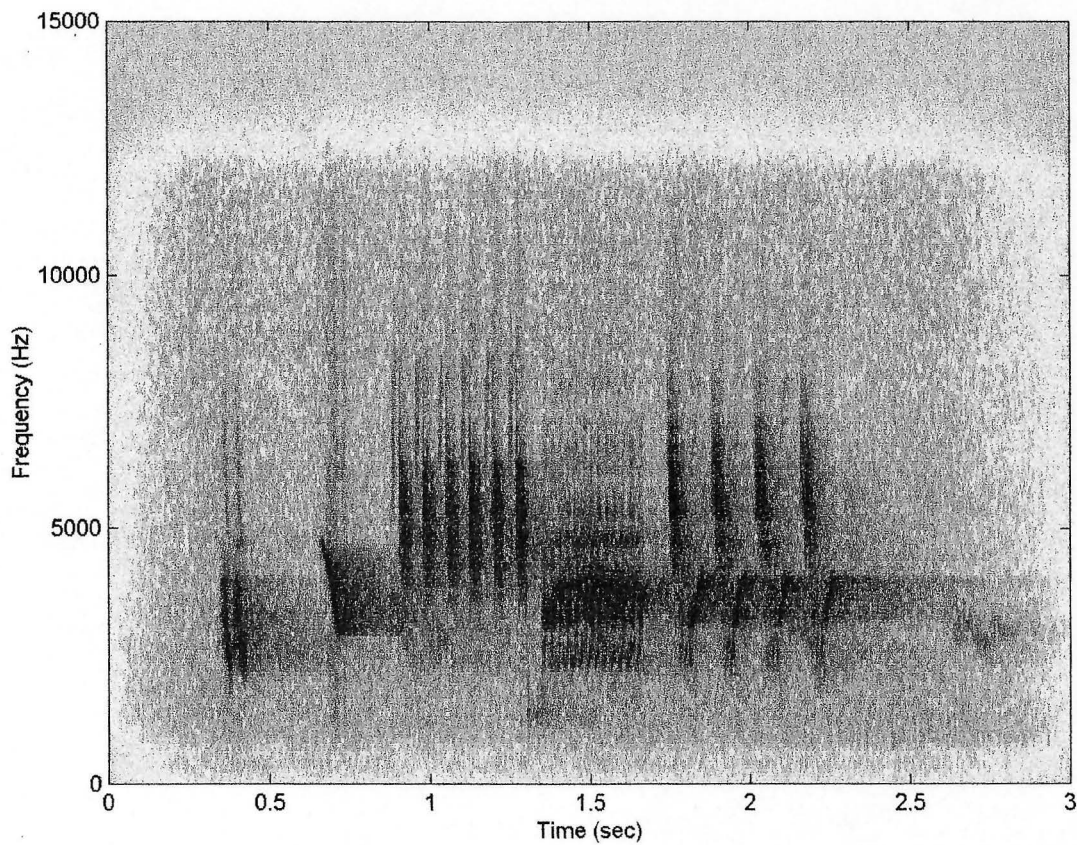
Green-tailed Towhee

Habitat: Mid- and high-elevation shrublands.

Song: Phrases typically begin with two complex syllables and continue with trills.

Species with similar songs: The Spotted Towhee (not addressed here) typically starts with two or more whistles and continues with one trill.

Sonogram: Note the 3-second scale. (Recorded on Escobas Mesa at Bandelier National Monument)



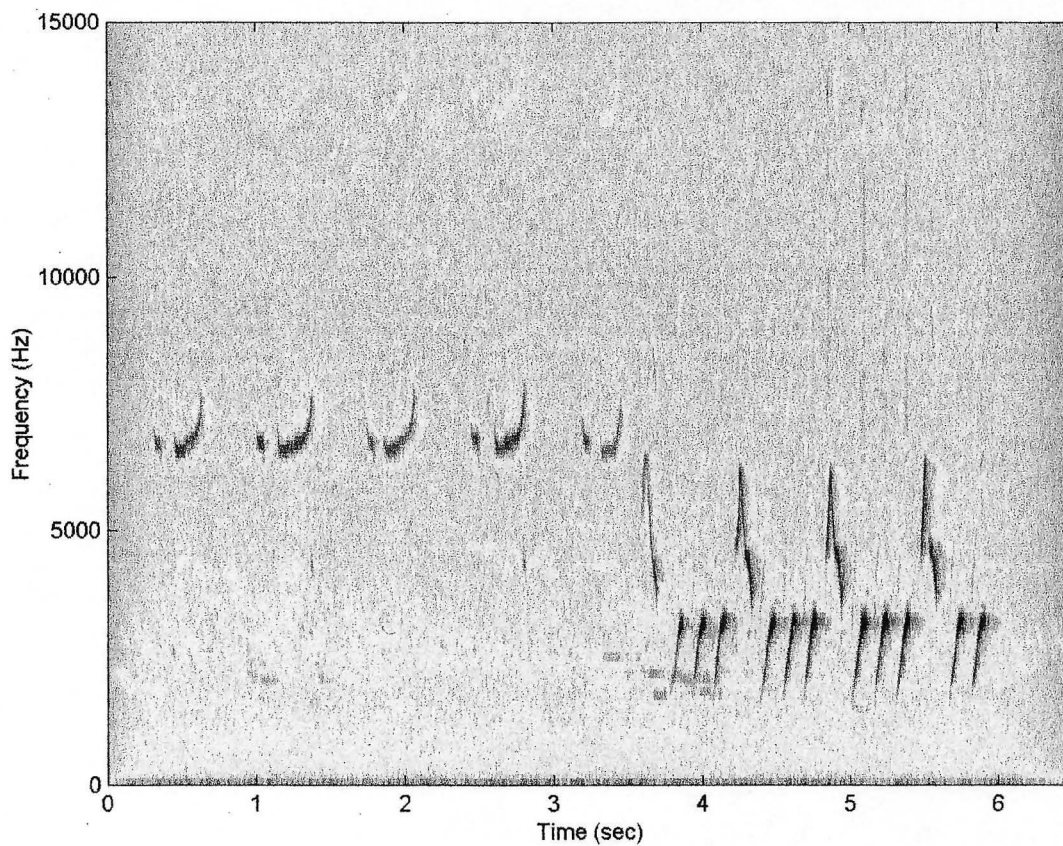
Ruby-crowned Kinglet

Habitat: Mixed conifer forests and deciduous woodlands at higher elevations.

Song: Phrases begin with high soft syllables that change to a loud slow trill with warble-like qualities.

Species with similar songs: The combination of the soft high beginning and the loud repetitive ending makes this song distinctive.

Sonogram: Note the 6.5-second scale (different than many others in the class). (Recorded June 1, 2003 in the Valle Grande on the Valles Caldera National Preserve)



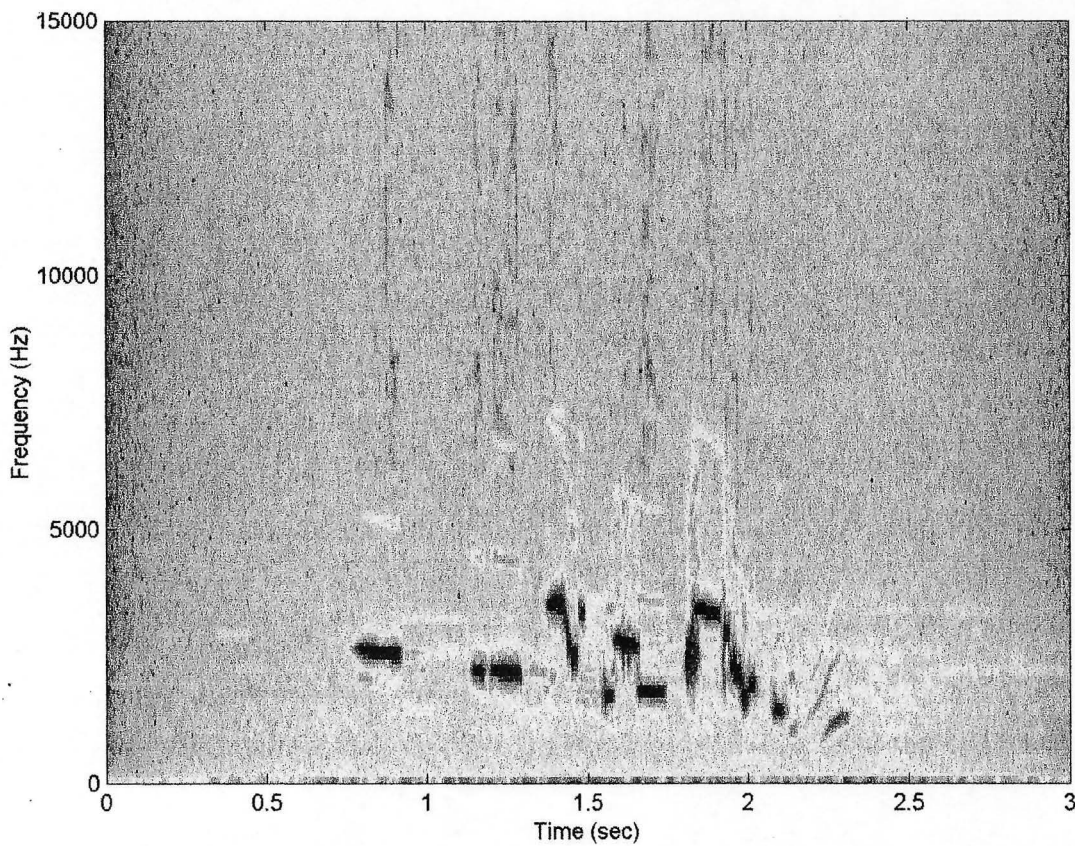
Western Meadowlark

Habitat: Grasslands and agricultural areas.

Song: Each phrase starts with two or three whistled syllables followed by complex syllables.

Species with similar songs: The song of the Eastern Meadowlark (page 22) is typically two pairs of whistled syllables.

Sonogram: Note the 3-second scale. (Recorded June 13, 2003 in the Valle Grande on the Valles Caldera National Preserve)



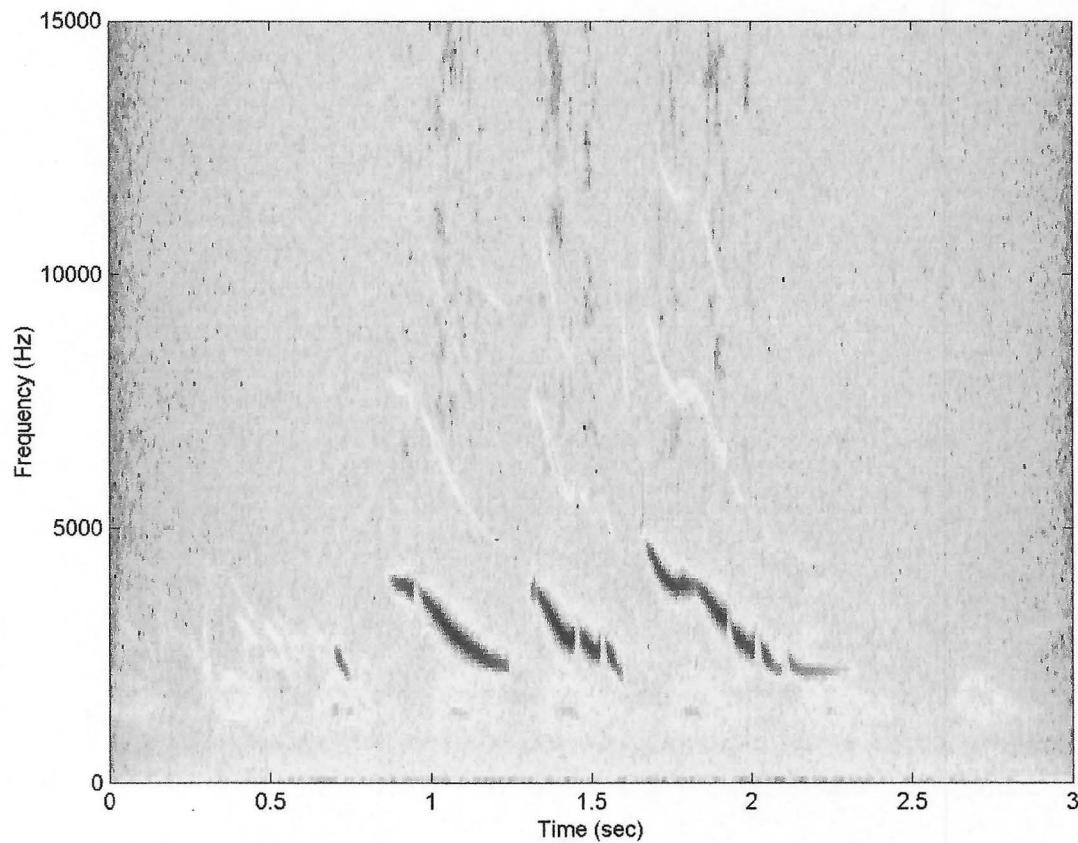
Eastern Meadowlark

Habitat: High elevation mixed conifer forest.

Song: Phrases typically consist of two pairs of slurred whistles. Some folks find the sounds "see-you, see-year" to be helpful in remember this song.

Species with similar songs: The song of the Western Meadowlark (page 21) ends with complex syllables rather than whistled syllables.

Sonogram: Note the 3-second scale. (Recorded July 9, 2003 in the Valle Grande on the Valles Caldera National Preserve)



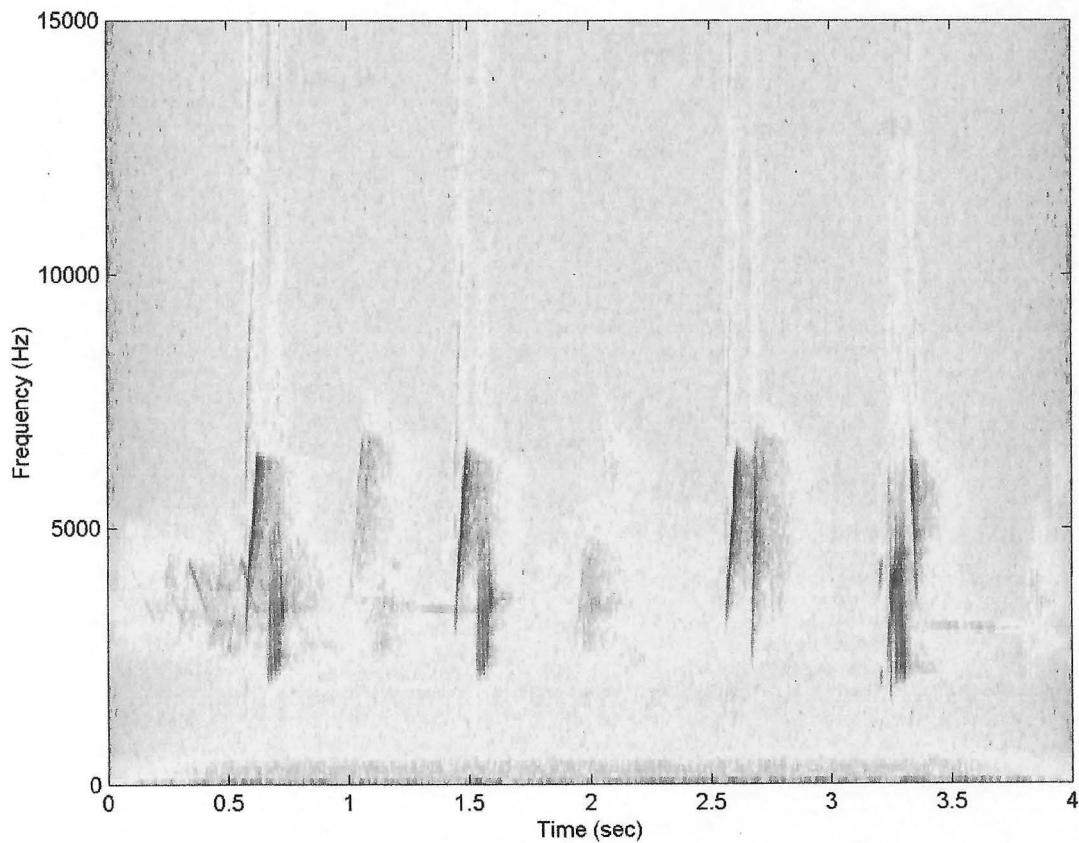
Hammond's Flycatcher

Habitat: Relatively dense conifer forests with few shrubs in the understory.

Song: Phrases are flexible in the order of three buzzy, harsh syllables.

Species with similar songs: The song of the Dusky Flycatcher has a similar three-syllable phrase, one definitive syllable with an up slurred quality.

Sonogram: Note the 4-second scale. (Recorded May 31, 2004 along Forest Road 289 at Bandelier National Monument)



Dusky Flycatcher

Habitat: Relatively open conifer forests with abundant shrubs in the understory.

Song: Phrases are flexible in the order of the three buzzy, harsh syllables. The up-slurred quality of one syllable is definitive for this species.

Species with similar songs: Hammond's Flycatcher sounds less varied and lacks the up-slurred (definitive) syllable that the Dusky Flycatcher uses. Dawn songs are most helpful in determining the differences between Hammond's and Dusky Flycatchers. During the middle part of many days, these flycatchers may not be distinguishable by sound.

Sonogram: Note the 4-second scale. (Recorded May 31, 2004 along Forest Road 289 at Bandelier National Monument)

