



Balcones Canyon Lands National Wildlife Refuge  
24518 FM 1431, Marble Falls TX 78654  
(512) 339-9432 X 70, jennifer\_brown@fws.gov  
Cell: (830) 220-9254

## **BIRD SONGS AND CALLS**

### **VOLUNTEER DIRECTIONS**

#### **Need to Know**

1. Your station, **Bird Songs and Calls**, will teach students that listening is an important component of birdwatching. Other forms of identification are introduced and reinforced at stations like the What is a Bird (station #1), How to Use Binoculars (station #2) and Building a Home (Station #5).
2. You **must include something about the Golden-cheeked warbler and Blackcapped vireo into this program (a section in this guide book has more on both birds)**. After all, these birds are the reason there is a refuge near Austin. Furthermore, all of the resource management and public use management plans on the refuge must consider how these birds will be affected by man induced impacts.
3. The section in these directions called “Organism and Environments” is a specific science TEK requirement. **Get to know the Organism and Environments TEKS and be ready to share this with the students.**
4. A map of the stations is in this guide book to help you direct your group to the next station. They go clock-wise in number order. Please be ready to direct your group to the next sequential station.

#### **Sequence of Stations in Bridges to Birding**

1. What is a Bird?
2. Using a Field Guide
3. How to Use Binoculars
4. **Songs and Calls**
5. Building a Home (different shapes of nests)
6. Habitat
7. Migration
8. Bird Banding

#### **GOLDEN-CHEEKED WARBLER (GCW)**

HABITAT: Old Forests with big trees; shady, dense forests in steep-sided canyons & slopes as well as drier, flat hill tops. Requires Ashe Juniper (“cedar”) bark to construct nest.



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Spanish Oak, Live Oak, cedar foliage provides insects, caterpillars, spiders, beetles for food.

TERRITORY: 5-20 acres to forage;

NEST TERRITORY: 3-6 acres/ nesting pair

Female constructs Cup nest in old cedar and Hardwood (oak, elm) trees at least 15' high. All nests require cedar bark. Bark is woven with spider webs.

Nest is tucked in forked vertical limb & camouflaged. Warblers usually nest only once/season unless accident or predation.

Male stays nearby singing & defending during incubation.

3-4 eggs are hatched in 12 days & fledge 8-9 days later. Parents care for them for 1 month.

They migrate to pine/oak habitat of southern Mexico & Central America in July-mid-August & return in mid-March.

### **BLACK-CAPPED VIREO (BCV)**

HABITAT: Dense, shrubby, broad-leaved (shin oak, hackberry, sumac, agarita, persimmon, Texas Mountain Laurel) young forest. Patchy habitat with 30-60% cover interspersed with open grassland.

Shrubby vegetation reaching from ground level to 6- 7' high.

TERRITORY: 1-16 acres NEST

TERRITORY: 2-4 acres

Male & female select nest site between 3-'6' off ground (door knob height) in dense cover. Pendulous Cup Nest is made by female from grasses and spider webs and is suspended from its rim in the fork of a branch. Nest is completed in 2-3 days.

They may nest more than once /year building a new nest each time.

Incubate 14-17 days and this work is shared by male & female (as well as fed by both). Fledge in 10-12 days.

They arrive in mid-March to mid-April and stay until mid Sept. They spend their winter in western Mexico.



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## **COMPARING LIFE CYCLES OF DIFFERENT ANIMALS**

BLACK AND WHITE WARBLER (BWW): lives in similar habitat of the Goldencheeked Warbler (GCW), but lives in other types of forests too. Unlike the GCW that builds its nest up in a tree, the BWW builds its nest on the ground, although it is placed in a woodland as well. The nest is made from leaves and grasses concealed under fallen leaves or branches at the base of a shrub. The GCW always builds its nest from long strips of bark from only old Cedar. The GCW is highly dependant upon this certain kind of tree. That is why its range is so restricted because the range of Ashe Juniper is restricted to central Texas. If the cedar were to become extinct, then the GCW would become extinct as well. Would the BWW become extinct in this situation? No, because it also can live in other types of woods and in different parts of the USA.

The GCW cannot live in pure stands of Ashe Juniper. Since they are totally insect eaters, they depend on a diversity of trees, shrubs, and grasses to provide the numerous kinds of caterpillars and insects they require for themselves and their offspring.

BWW creeps up and down tree trunks (similar to Nuthatches, Brown Creepers) frequently hanging upside down to probe crevices in bark grabbing spiders & caterpillars. It will thrash its prey against the tree to stun or kill it before eating it.

BBW may resemble some female woodpeckers. Woodpeckers do not walk upside down trees. Thus, even though a woodpecker and a BWW may eat insects off the same tree, the BWW is getting insects that woodpeckers miss since they are not walking upside down.

Like GCW, BWW are one of the first warblers to return in the spring because they forage on the bark of trees. They have no need to wait until the leaves emerge and eat bugs that are on the leaves. GCW arrive at BCNWR around early March.

Even though BWW are more accepting of different habitats than the GCW, there numbers are still drastically decreasing because they are frequent hosts to Brownheaded Cowbirds, are sensitive to Habitat Fragmentation, and habitat loss- just like the GCW.

WOODPECKERS: They have strong claws and short legs for clinging to tree trunks, while stiff tail feathers serve as props when climbing. Instead of the normal toe arrangement of 3 toes pointing forward and one toe pointing backwards, they have 2 toes pointing forward and to backward to facilitate vertical climbing.



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They have strong chisel-like beaks to dig for boring insects and hew out nests from solid wood. They can stick out their tongue several inches past the tip of its beak. Backward pointing barbs allow most Woodpeckers to spear insects. Flickers have long tongues with few barbs, but is coated with a sticky secretion for licking up ants. Sapsuckers tongues are bristled like a brush for lapping up sap oozing from holes drilled through the bark of living trees.

Do Woodpeckers live in the desert where there are few trees? Yes. They are adapting to those habitats by utilizing large cacti, old agave bloomstalks, and utility poles to construct nests!

### **ORGANISM AND ENVIRONMENTS**

There are complex and important relationships that organisms have with their environment. There are systems and cycles within environments.

Organisms live and survive in their ecosystem by interacting with the living and nonliving components.

Organisms undergo similar processes and have structures and behaviors that help them survive within their environments.

### **Example of an Interaction with the Environment**

Golden-cheeked warblers require cedar bark to build their nests for successful nesting here in Texas in the spring. The removal of cedar trees for development and grazing has resulted in the Golden-cheeked warblers having less natural environment in which to build nests and the species chances of survival have been reduced. The refuge provides an area where the cedar trees are protected which in turn protects the Golden-cheeked warbler.

## **Getting Ready**

Use the laminated activity station sign to identify your table (in the guide book).

### **Materials List**

Plastic bin containing:

Laminated photos of emphasis birds

Pictures of the Golden-cheeked warbler and Black capped vireo.

Tape Recorder



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3 Tapes  
Turkey Call  
3 Stuffed Birds

## Taking Flight!

Verbal communication is one of the main characteristics of birds. It ranks among the most complex of all bird traits.

This station will teach students the difference between a song and a call, which birds sing, call or both, why calls and/or songs are important to survival, and how calls and songs are used to identify birds. Some birds look so similar that it is sometimes easier to identify them by their call or song. You can also locate birds by sound first.

All birds make **calls** (males, females, young) but not all birds make **songs**.

### **SONGBIRDS**

Songs are made mostly by males (warblers, vireos, bluebirds) Songs are prettier, longer, sound that has melody and/or rhythm.

Songs are not sung year-round.

Songbirds must learn their song at a very young age.

Songbird species have one (chipping sparrow) to thousands of songs (Brown thrasher) to learn.

#### REASONS FOR SONG

1. Proclaim Identity
2. Establish Territory
3. Attract a Mate

### **CALLS**

Calls are short bursts of sharp high-pitched notes used to convey different information throughout the year.

Calls are simple in structure.

Calls are innate.

Each species can make about 12 different calls.

The Corvids (crow family) possibly make the greatest number of calls.



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### REASONS TO CALL

1. Warning of Danger Call: alarm calls of different intensities depend on the type of danger. May also have an “all is well” call after the danger passes.
2. Aggressive Calls: occur when disputes arise over territory, mate, nesting materials, and food.
3. Other Birds’ Location Calls: helps members of pair or flock stay closer or keep far apart. These types of calls are more common amongst birds that live in habitat with little visibility. Flocks use this type of call to keep them together during flight.
4. Nestlings Calls: beg for food call, distress call, alert to predator, has left the nest.
5. Discovery of Food Calls

### MIMICRY

Thrashers, Crows and Jays mimic other bird calls and songs.

Mockingbirds can even imitate a squeaky fence gate and a backfiring car (reason for this might be to advertise its age (young) and its ability to learn fast the calls/songs of other birds).

### **ACTIVITY**

1. Give the students the 3 stuffed birds quiz. Have them indicate which bird has a song or call.
2. Bird songs and calls on tape using the cassette player

BIRD		TAPE COUNTER POSITION
Play GCW A Song. A is for “attract”. The male is using this song to attract a female.	Courtship song: zee-zeezee-chee	0-9
Play GCW B Song. B is for “battle”. The male is saying back off!	Defend territory song: please, please, your teacher	10-13
Play BCV Song.	Song: pick up a chair, put it back	14-20
Play Black and white warbler “fun song”. This bird lives in GCW habitat too.	Song sounds like a squeaky wheel: wheesa, wheesa	21-30



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not sound like an owl.	whinny.	
Play Mourning dove because they do sound like owls. You can hear doves during day though.	The sound is actually called a wing whir as both wings rub together.	85-94
Robin	Cheerup, cheerily, cheerily	95-120
Wild turkey	Call	121-123
Ducks	Call	129-148
American crow	Call	149-152
Raven	Call	153-155
Blue jay	Call, mimicry	156-158
Play Black capped chickadee and Carolina chickadee. Show the pictures of these two birds. Ask if they can easily tell the difference between the birds. The answer is no. These 2 birds have overlapping ranges so the easiest way to tell them apart is by their songs and calls. Give the students a test by replaying the songs on tape of these 2 birds. The call of Carolina chickadee is much faster.	BCC: song – fee-bee, call – chickadee-dee-dee  CC: song – fee-bee, call – chickadee-dee-dee	31-35 Black capped chickadee 36-39 Carolina chickadee
Owl calls.		
Play Great horned owl.	Song sounds like Who's awake? Me too!	40-53
Play first barred owl then play the part where this bird sounds like a monkey (counter reading #66-69).	Song sounds like Who Cooks For You?	41-69
Play screech owl. This one really does	Sounds like a descending	70-84



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### Quiz Your Guests

1. What are some ways to identify a bird? (size, shape, color, field markings, behavior, habitat, bill shape, posture, songs and calls)
2. What are two tools important to use to identify birds? (a field guide and binoculars. Bird songs and calls identification can be helpful in ID'ing birds too.)

### Take Away

The best times to bird watch are during spring migration, during the breeding season, and before dawn, early morning.

Most birds are quiet during midday but the Red-eyed vireo sings all day.