

Black-capped Vireo

Scientific Name: *Vireo atricapillus*

Federal Status: Endangered, 10/6/87 • State Status: Endangered

Description

The Black-capped Vireo is a 4.5 inch insect-eating songbird. Mature males are olive green above and white below with faint greenish-yellow flanks. The crown and back of the head is black with a partial white eye-ring. The iris is brownish-red and the bill black. The plumage on the back of the female is duller than the male. Females have a medium to dark gray head with a blackish ring around the



Male Black-capped Vireo
© TPWD



Female Black-capped Vireo
© USFWS A. Shull

white surrounding the eye (this generally distinguishes the female from the second year male).

Distribution and Habitat

Historical records from 1852-1956 show that the Black-capped Vireo once occurred and nested from central Kansas, Oklahoma, Texas and into northern Mexico. Today, Black-capped Vireos are known to nest in

central and southwest Texas, a few counties in central Oklahoma, and in Coahuila and Nuevo Leon, Mexico, although less is known of their status in Mexico. Black-capped Vireos winter along the western coast of Mexico.

The descriptions of habitat presented in this document are intended to help landowners determine if they have Black-capped Vireo habitat on their property. Not all sites within the habitat types described will be used by Black-capped Vireos. It is only where individuals of this species occupy the identified habitat types during the breeding season that special management considerations such as those provided in these guidelines need to be considered.

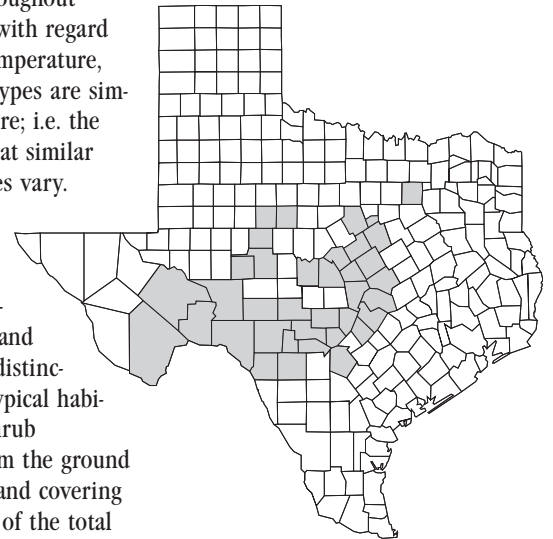
In Texas, vireo habitat is found on rocky limestone soils of the Edwards Plateau, Cross Timbers and Prairies, eastern Trans-Pecos and, to a limited extent, on igneous soils in the Chisos Mountains. Although Black-capped Vireo habitat throughout Texas is highly variable with regard to plant species, soils, temperature, and rainfall, all habitat types are similar in vegetation structure; i.e. the "overall look" is somewhat similar although the plant species vary.

Vireos require broadleaf shrub vegetation reaching to ground level for nesting cover. They typically nest in shrublands and open woodlands with a distinctive patchy structure. Typical habitat is characterized by shrub vegetation extending from the ground to about 6 feet or more and covering about 30-60% or greater of the total area. In the eastern portion of the vireo's range, the shrub layer is often combined with an open, sparse to moderate tree canopy. Patches of open grass or bare rock separate the clumps of shrubs and trees. In central Texas, this habitat is often regrowth from disturbances such as clearing, fire, and browsing.

In the Edwards Plateau and Cross Timbers Regions, vireo habitat occurs where soils, topography, and land use produce scattered hardwoods with abundant low cover. Common broad-

leaved plants in vireo habitat in these regions include: Texas (Spanish) oak, Lacey oak, shin oak, Durand (scaley-bark) oak, live oak, mountain laurel, evergreen sumac, skunkbush sumac, flameleaf sumac, redbud, Texas persimmon, Mexican buckeye, elbowbush and agarita. Although Ashe juniper is often part of the plant composition in vireo habitat, preferred areas usually have a low density and cover of juniper.

In the western Edwards Plateau and Trans-Pecos Regions, on the western edge of the vireo's range, the birds are often found in canyon bottoms and slopes where sufficient moisture is available to support diverse shrub vegetation. Dominant woody plants in this habitat type include sandpaper oak, Vasey oak, Texas kidneywood, Mexican walnut, Texas persimmon, lotebush, brasil, wafer ash, mountain laurel, cenizo, whitebrush, and guajillo.



For all habitat types, the plant composition appears to be less important than the presence of adequate broad-leaved shrubs, foliage to ground level, and mixture of open grassland and woody cover. Deciduous and broad-leaved shrubs and trees throughout the vireo's range are also important in providing habitat for insects on which the vireo feeds.

Life History

Black-capped Vireos arrive in Texas from mid-March to mid-April. Adult males often arrive before females and first-year males to select their territories. Vireos' territories are often clustered in patches of suitable habitat. Although territories range in size from 1 to 16 acres, most territories are 5 to 10 acres. Males sing to attract mates and defend territories. Many males can be heard singing throughout the breeding season, but singing begins to decline by July. The vireo's song is described as hurried and harsh, composed of numerous phrases separated from one another by pauses of 1 to 3 seconds.

Nesting begins after the females arrive in late March to early April. Both the male and female select the nest site and build the nest, but the female often completes it. First nests are built in about 6 to 9 days, but subsequent nests can be built in one day. The cup-shaped nest is suspended from its rim in a fork of a branch about 1 to 6 feet above the ground. However, most Black-capped Vireos nest at about "door-knob" height. Nests have been found in a variety of species including shin oak, scalybark oak, Texas oak, Vasey oak, sumac, Texas persimmon, juniper, Texas redbud, Mexican buckeye and Texas mountain laurel.

The vireo usually nests more than once in the same year. A new nest is constructed each time. Three to four eggs are usually laid in the first nesting attempt, but later clutches may contain only 2 to 3 eggs. The first egg is usually laid one day after completion of the nest, with one egg being laid each subsequent day. Incubation takes 14 to 17 days, and is shared by the male and female.

Vireo chicks are fed insects by both adults. The young leave the nest 10 to 12 days after hatching. Fledglings are cared for by the female alone, the male alone, or by both adults. Sometimes the parents split the brood and each care for one or more young. Occasionally, males or females will leave the care of the young to their mate, and attempt another nesting effort.

Vireos may live for more than five years, and usually return year after year to the same territory, or one

nearby. The birds migrate to their wintering grounds on Mexico's western coast beginning in July, and are gone from Texas by mid-September.

Threats and Reasons for Decline

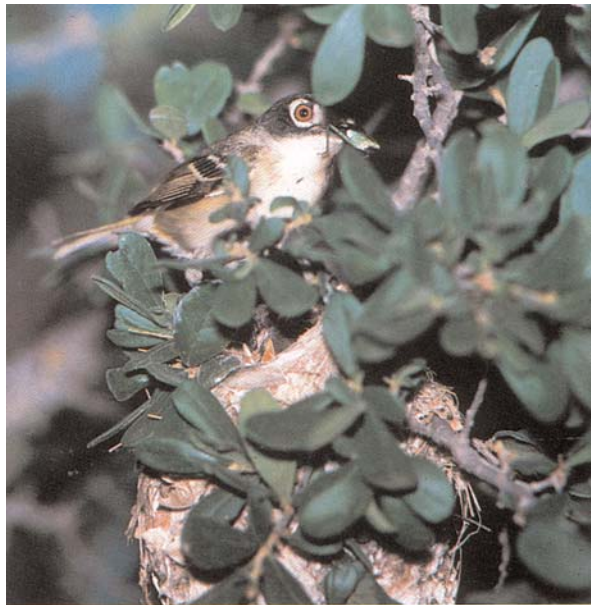
The Black-capped Vireo is vulnerable to changes in the abundance and quality of its habitat. Habitat may become unsuitable for vireos because of natural plant succession, sustained brood parasitism by the Brown-headed Cowbird, or because of human activities. Factors that can adversely affect vireo habitat include broad-scale or improper brush clearing, fire suppression, over browsing by deer and livestock, and urbanization. Loss of tropical wintering habitat is also a concern, but requires further study.

Poorly planned brush management practices on rangeland may remove too much low growing woody cover, especially when large acreages are treated at one time. This eliminates or reduces habitat value for vireos and for other wildlife, such as White-tailed deer, quail, small mammals, and various songbirds. Over browsing of broad-leaved shrubs by goats, deer, and exotic animals reduces the vegetation in the 2- to 4-foot zone, making it unsuitable for vireo nesting. Continued overuse of these preferred browse plants over many years may eventually eliminate them from the plant community, thus permanently altering the habitat.

In the absence of natural processes, active, well-planned land management is often required to maintain good vireo habitat, especially in the eastern portion of its range. Disturbance, particularly fire, plays an important role in maintaining, improving, or creating vireo habitat. The rangelands of central Texas, and the various plant communities these lands support, evolved under the influence of periodic fires. Historically, these natural and man-made fires maintained a matrix of open grassland, shrubland and woodland. Fire stimulated shrubs to sprout multiple stems at the base, thus providing areas of dense foliage at the 2- to 4-foot level, required by vireos. In the past, fire was responsible for maintaining or periodically returning some areas to vireo habitat. Today, prescribed burning, a valuable range and wildlife management tool occurs on many ranches throughout



Black-capped Vireo nest
© TPWD Glen Mills



Nesting vireo
© Greg W. Lasley

Texas. However, the combination of overgrazing, brush clearing, and lack of fire in the recent past has reduced vireo habitat in many other areas. Natural plant succession is less of a concern in the western portion of its range where suitable habitat persists for long periods.

Human activities have provided favorable habitat for the Brown-headed Cowbird, which parasitizes vireo nests. The cowbird is usually associated with livestock, farms, dairies, and grain fields, where it benefits from waste grain and insects. They may also be attracted to backyard bird feeders, trash dumps, or other urban areas where food and water are available. Cowbirds lay their eggs in other birds' nests, leaving the host bird to raise their young. The female cowbird often removes an



Habitat at Kickapoo Caverns State Park
© Matt Wagner



Habitat with low-growing shrubs
© Matt Wagner



Habitat in Big Bend National Park
© USFWS A. Shull

egg or a nestling from the host nest before she lays an egg in it. Cowbird chicks hatch earlier than most hosts' young and are thus able to out-compete the smaller vireo nestlings for food and, consequently, the young vireos typically starve. While some birds remove cowbird eggs from their nest, the vireo does not, although it is known to abandon parasitized nests. Thus parasitized nests usually fail to produce vireos. The amount of brood parasitism varies greatly from one population to another throughout the state, ranging from 10 to over 90% of the nests. Brown-headed Cowbirds are also known to remove vireo chicks from active nests. Evidence indicates that sustained parasitism pressure may lead to local extinctions of vireo populations.

Direct habitat loss and fragmentation due to urban and suburban

development is a major threat in expanding urban areas of Travis, McLennan, Dallas, Bexar, and Kerr counties. Problems associated with suburban expansion, such as increases in predation by dogs, cats, raccoons, skunks, and jays, have also impacted the vireo.

Recovery Efforts

Research is underway to better understand the distribution, life history, habitat requirements, and land management practices affecting the Black-capped Vireo. Population surveys during the breeding season are being conducted in known and potential habitat areas. Efforts to provide information and educational opportunities to landowners and the public regarding life history and habitat requirements of the vireo are also a vital part of the recovery effort. Major research and/or recovery efforts are being conducted on Department of Defense's Fort Hood and Camp Bullis, Travis County and the City of Austin's Balcones Canyonlands Preserve, the U.S. Fish and Wildlife Services' Balcones Canyonlands National Wildlife Refuge, TPWD's Kerr Wildlife Management Area, properties owned and/or managed by The Nature Conservancy of Texas, and in Mexico. Additionally, Environmental Defense through their Safe Harbor Agreement with the U.S. Fish and Wildlife Service is assisting many landowners with thousands of acres to manage and/or create habitat for the benefit of the vireo. Research is ongoing regarding the impact of cowbirds on vireo populations in Texas. Research efforts in Mexico are also underway to gather information concerning life history, habitat requirements, and conservation threats on the wintering range. TPWD biologists are monitoring populations on both state and private lands, and voluntary cowbird trapping is being conducted by more than 400 landowners in counties throughout the range of the vireo.

Habitat conservation planning is underway in counties such as Travis and Bexar to allow for urban expansion and development while still conserving endangered species habitat. Intensive monitoring of a large population at the U.S. Army Fort Hood Military Installation is on-going. Finally, efforts to provide information, technical assistance, and incentives for

private landowners to incorporate management for Black-capped Vireos into their livestock and wildlife operations are an essential part of the recovery process.

Where To See the Black-capped Vireo

A number of state lands offer opportunities to see and learn more about the Black-capped Vireo. These include Colorado Bend State Park State Park (SP), Devils River State Natural Area (SNA), Kerr Wildlife Management Area, Kickapoo Cavern SP, Lost Maples SNA, and Hill Country SNA. Also, the Balcones Canyonlands National Wildlife Refuge near Austin offers additional opportunities to see Black-capped Vireos.

Because the Black-capped Vireo is an endangered species, birders and other observers should carefully follow certain viewing ethics. Observers should be careful not to flush birds from the nest or disturb nests or young. Black-capped Vireos should be viewed only from a distance with binoculars. Do not use recorded calls of the Black-capped Vireo or the Screech Owl to attract birds, and be careful that your presence does not unduly disturb or stress the birds.

How You Can Help

You can help by learning more about the habitat requirements of the Black-capped Vireo and incorporating management practices which create or maintain habitat for these birds. You can also encourage and support private landowners who are managing their land to protect and provide habitat for endangered species.

The Black-capped Vireo is a beautiful songbird and is much sought after among people who enjoy birdwatching and nature study. Possibilities exist for landowners to take advantage of the growing demand for natural history tours and vacations. Landowners interested in more information concerning nature-based tourism opportunities should contact the Wildlife Diversity Branch, Texas Parks and Wildlife Department, Austin (800) 792-1112; Environmental Defense, Austin (512) 478-5161; the Nature Conservancy, San Antonio (210) 224-8774.

You can also be involved with the conservation of Texas' nongame wildlife resources by supporting the Special Nongame and Endangered Species Conservation Fund. Special nongame stamps and decals are available at Texas Parks and Wildlife Department (TPWD) field offices, most state parks, and the License Branch of TPWD headquarters in Austin. Part of the proceeds from the sale of these items is used to conserve habitat and provide information to the public concerning endangered species. Conservation organizations in Texas also welcome your participation and support.

For More Information Contact

Texas Parks and Wildlife Department
Wildlife Diversity Branch
4200 Smith School Road
Austin, Texas 78744
(512) 912-7011 or (800) 792-1112
or

U.S. Fish and Wildlife Service
Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, Texas 78758
(512) 490-0057

Management guidelines are available from the Texas Parks and Wildlife Department and U.S. Fish and Wildlife Service for landowners and managers wishing to know more about rangeland management practices which improve habitat for the Black-capped Vireo.



Cowbird egg (spotted) in Black-Capped Vireo nest
© Glen Mills

References

- Armstrong, W.E., M.W. Lockwood, and D.K. Stuart. 1992. *Performance report: Black-capped vireo management on Texas Parks and Wildlife Department lands*. Federal Aid Project No. E-1-4, Job No. 3.2.
- Armstrong, W.E., C. Travis, and B.G. Alexander. 1989. *Final report: Black-capped vireo management*. Federal Aid Project No. W-103-R-19, Job No. 60.
- Farquhar, C.C. and J. P. Maresh. 1998. *Population biology and habitat characterization of black-capped vireos at Dolan Falls Ranch Preserve, Val Verde County, Texas. Year two final report*. Endangered Resources Branch, Texas Parks and Wildlife Department. Austin, Texas.
- Graber, J.W. 1961. *Distribution, habitat requirements, and life history of the black-capped vireo*. *Ecol. Mon.* 31:313-336.
- Grzybowski, J.A., R.B. Clapp, and J.T. Marshall, Jr. 1986. *History and current population status of the Black-capped vireo in Oklahoma*. *American Birds* 40:1151-1161.
- Grzybowski, J.A., D.J. Tazik, and G.D. Schnell. 1994. *Regional analysis of black-capped vireo breeding habitats*. *Condor* 96:512-544.
- Grzybowski, J.A. 1995. "Black-capped vireo (*Vireo atricapillus*).” *The birds of North America*, No. 181. The Academy of Natural Sciences, Philadelphia, and The American Ornithologist Union, Washington D.C.
- Oberholser, H.C. 1974. *The bird life of Texas*. Edgar Kincaid, Ed., University of Texas Press, Austin, Texas. Vol. 2, 1069 pp.
- Robinson, S.K., S.I. Rothstein, M.C. Brittingham, L.J. Petit, and J.A. Grzybowski. 1995. "Ecology and behavior of cowbirds and their impact on host populations" (pp 428-460) in T.E. Martin and D.M. Finch, eds. *Ecology and management of neotropical migratory birds*. Oxford University Press, New York, New York.
- U.S. Fish and Wildlife Service. 1991. *Black-capped vireo recovery plan*. Endangered Species Office, Albuquerque, N.M.
- U.S. Fish and Wildlife Service. 1996. *Black-capped vireo population and habitat viability assessment report*. Compiled and edited by Carol Beardmore, Jeff Hatfield, and Jim Lewis in conjunction with workshop participants. Report of a September 18-21, 1995 workshop arranged by the U.S. fish and Wildlife Service in partial fulfillment of U.S. National Biological Service Grant No. 80333-1423. Austin, Texas. ix + 57 pp.