

Management Guidelines for Black-capped Vireo

The following guidelines address land management practices that can be used to maintain, enhance, or create Black-capped Vireo habitat. They are intended primarily to serve as general guidance for rural landowners and others managing land for livestock and/or wildlife in Texas. The guidelines are based on our current understanding of the biology of this species.

Private landowners have a tremendous opportunity to conserve and manage the fish and wildlife resources of Texas. The objective of these guidelines is to provide landowners with recommendations about how typically-used land man-

agement practices could be conducted so that it would be unlikely that Black-capped Vireos would be impacted. The guidelines will be updated periodically to make them more practical and useful to rural landowners. The guidelines are based on the best available information and current understanding about the biology of the vireo, but may be refined as additional biological data are collected. TPWD biologists have prepared these guidelines in consultation with USFWS biologists to assure landowners who carry out land management practices within the guidelines that they would know, with the greatest certainty possible, that they would not be in violation of the Endangered Species Act.

This document also provides information on land management practices that are appropriate for protection and/or enhancement of habitat. The categories were chosen to represent commonly encountered vegetation types and to address common questions regarding the effect of management practices on Black-capped Vireos. In addition, suggestions are offered that promote conservation of soil, water, plant, and wildlife resources.

Prescribed Burning

Fire is a natural component of Texas rangelands, and prescribed burning has many range and wildlife management benefits. These include improved forage quality and availability for livestock and deer, and maintenance of desirable plant composition and structure. Prescribed burning in some portions of the vireos range can be an excellent tool used to maintain or create the desired vegetation structure for vireo nesting; i.e. a mosaic of shrubs and open grassland with abundant woody foliage below 10 feet. If planning these activities in Bandera, Kerr, Kimble, Real, and Uvalde counties, landowners should avoid impacts to Tobusch fishhook cactus (*Ancistrocactus tobuschii*), a federally listed endangered plant, which occurs on similar soils as the vireo. Cool sea-

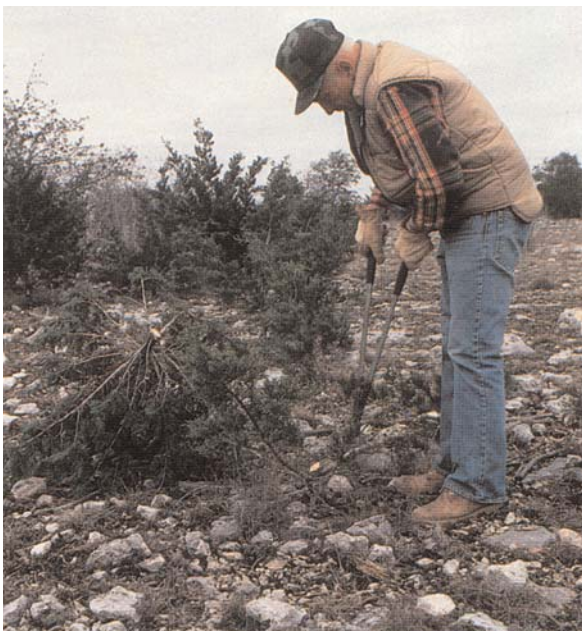
son burns that are patchy and low intensity, conducted prior to March 15, are often recommended to control small juniper, thus maintaining the relatively open shrublands preferred by vireos. Care should be taken to burn under appropriate humidity and wind conditions to maintain the proper black-capped vireo vegetation profile. Prescribed burns conducted during late spring and early fall, under hotter conditions, can be used to set back plant succession to create vireo habitat; however, warm season burns should be done only in areas that do not currently support Black-capped Vireos. On grazed rangeland, prescribed burns should be coordinated with livestock rotation to allow for needed deferments. It is best to avoid burning relatively small areas within large pastures to prevent heavy grazing pressure by livestock and/or deer on burned areas.

Desirable burn intervals for cool season burns vary throughout the state, depending on rainfall and vegetation type. Field experience shows that, for much of the Hill Country, a burning interval of 5 to 7 years is considered desirable to keep Ashe juniper (cedar) invasion in check and to allow regrowth of broad-leaved shrubs. Maintaining open grassland areas between clumps of shrubs is important for good vireo habitat. Research is needed to better understand the use of prescribed burning to maintain and create vireo habitat, and to develop guidelines on desirable burn intervals throughout the vireo's range in Texas, especially in the western Edwards Plateau and eastern Trans-Pecos.

Assistance from people experienced with the use of prescribed burning is highly recommended. Landowners are encouraged to have a complete written prescribed burn plan addressing the objectives of the burn, required weather conditions, grazing deferments, fireguard preparations, personnel and equipment



Prescribed burning
© Matt Wagner



Selective handcutting of juniper
© TPWD Glen Mills

needed, a detailed map showing how the burn will be conducted, and notification and safety procedures. Landowners are advised to contact local representatives of the Texas Parks and Wildlife Department, USDA Natural Resources Conservation Service, or Texas Cooperative Extension for help in developing and implementing a prescribed burning program designed specifically for your property and management objectives.

Selective Brush Management

In some portions of the vireos range, particularly the central and eastern segment, increases in juniper (cedar) and other woody species can cause the vegetation to grow out of the patchy, low shrub cover that provides suitable habitat. In these communities, good nesting habitat generally has between 30-60% shrub canopy. Selective brush removal with herbicides or mechanical means during the non-breeding season (September-February) can be used to keep the habitat favorable for vireo nesting. For example, the selective removal of juniper, mesquite, or pricklypear (less desirable to the vireo and to the rancher) serves to maintain the proper shrub canopy and encourages growth of associated broad-leaved shrubs. Selective brush removal should strive to maintain the desired low shrubby structure. Radical changes in shrub canopy from one year to the next over large areas should be avoided, since this may alter vireo habitat too drastically within a short time-frame. However, moderate thinning of dense (>60%) shin oak so that the low canopy is maintained at 30-60% shrub canopy can enhance habitat. Western Edwards Plateau rangelands comprised primarily of mesquite, often referred to as mesquite flats, are not considered Black-capped Vireo habitat; therefore, mesquite control in these areas will not affect vireos.

When using herbicides, careful attention to the kinds, amounts, timing, and application technique will achieve the best control of target species at minimum cost. Precise application also reduces the risk of environmental contamination and off-site effects. It is best to choose

highly selective individual plant treatment methods, whenever practical, to avoid damage to desirable shrubs such as live oak, shin oak, Texas oak, hackberry, Texas persimmon, sumac, redbud, and elm. Herbicides should always be used in strict accordance with label directions, including those for proper storage and disposal of containers and rinse water. Herbicide applications should not occur during the breeding season, except for basal applications or individual plant treatment of prickly pear pads.

Carefully planned mechanical methods of brush management such as chaining, roller chopping, shredding, hand cutting, hydraulic shearing, grubbing, and tree dozing can be used to achieve desirable shrub composition and to stimulate basal sprouting of key woody species in order to maintain, enhance, or create vireo habitat. If planning these activities in Bandera, Kerr, Kimble, Real, and Uvalde counties landowners should avoid impacts to Tobusch fishhook cactus (*Ancistrocactus tobuschii*), a federally listed endangered plant, which occurs on similar soils as the vireo. As with other habitat manipulation procedures, mechanical methods should only be used during the non-breeding season (September-February) and done in such a way as to maintain the proper black-capped vireo vegetation profile. Remember that good grazing management and moderate stocking rates can reduce woody plant invasion and therefore the need for expensive brush control practices.

Finally, although brush management practices can be used to change the structure and composition of vegetation so that vireos may occupy the habitat, landowners should seek technical assistance when planning brush management practices in habitat that is known to be occupied by Black-capped Vireos. Since brush management activities can affect habitat for the Golden-cheeked Warbler as well as the Black-capped Vireo, landowners are encouraged to learn about the habitat requirements of both endangered songbirds (see TPWD leaflet on the Golden-cheeked Warbler).

Grazing and Browsing Management

Excessive browsing by goats, exotic animals, and white-tailed deer destroys the thick woody growth



Cattle rotation
© TPWD



Overgrazed range with low-growing cover removed
© TPWD

needed for nest concealment. Live-stock and deer management, which allows woody plants such as live oak, shin oak, sumac, Texas persimmon, elbowbush, redbud, and hackberry to make dense growth from zero to at least 8 feet, is needed. On ranches throughout Texas, moderate stocking, rotation of livestock, controlling deer and exotic ungulate numbers and proper use of desirable browse plants will benefit deer and livestock as well as Black-capped Vireos.

To provide adequate nesting cover for vireos, woody plants should receive only limited browsing during the spring and summer. If animals (livestock, deer, and exotics) are well-managed and kept within recommended stocking rates, this can be achieved. Experience has shown that, in general, ranges stocked with cattle and deer tend to maintain better vireo nesting cover than ranges stocked with goats and exotic animals. Limit browsing pressure, especially during the growing season, to no more than 50% of the total annual growth (current year twigs and leaves) within reach of animals on any given plant. This will maintain plants that are already vigorous and allow for improvement of those with less than ideal structure. As a rule of thumb, if you can "see through" a



Cowbird trap
© TPWD

browse plant at “door knob” to “eye level”, then too much stem and leaf growth has been removed. Installation of structures needed to facilitate good grazing management; i.e., fencing, pipelines, water troughs, water tanks, and ponds, need to avoid removing vireo habitat, should include only enough space to allow for proper operation and maintenance, and need to conduct activities during the non-nesting period (September-February).

Careful management of woody plants will not only provide for the habitat needs of Black-capped Vireos, but will also create high quality habitat for deer and other wildlife as well as livestock. Technical assistance in identifying browse plants and determining proper use is available from the Texas Parks and Wildlife Department and USDA Natural Resources Conservation Service.

Reducing Impacts From Cowbirds

Brood parasitism by Brown-headed Cowbirds poses a serious threat to successful reproduction in some populations of Black-capped Vireos. Research is currently underway to better understand the impacts of cowbirds on vireos. Because livestock attract cowbirds, management to reduce cowbird impacts is important on grazed land.

Because cowbirds are attracted to easily available sources of food, avoid spilling or scattering grain. Supplemental feeding areas should be moved frequently and kept free from accumulations of waste grain. This would help to prevent sparsely vegetated areas of compacted soils, which also tend to attract cowbirds.

Because cowbirds can be attracted by the presence of livestock, grazing management can be used to

remove grazing animals from areas where vireos nest. For example, livestock can be rotated away from prime nesting habitat during the breeding season. Another option is to graze stocker cattle during the fall and winter, resting pastures during the spring/summer nesting season. Resting pastures periodically improves range condition and may also help reduce nest parasitism.

Finally, trapping and/or shooting cowbirds can be very effective in reducing vireo brood parasitism, since a single female cowbird can parasitize hosts over a sizeable area (4-5 acres, or more). Mounted mobile traps, placed near watering sites as livestock are rotated through pastures, have been used successfully to reduce cowbird numbers. Properly placed stationary traps have also proven effective in reducing cowbird numbers and parasitism in a local area. Shooting cowbirds at places where they congregate is another option, although this method is often not selective for the cowbirds responsible for the parasitism. Shooting female cowbirds within Black-capped Vireo nesting habitat for as little as one hour a week can reduce parasitism. Persons trapping cowbirds need to be certified for the handling of non-target birds under the general trapping permit held by TPWD. Preventing mortality of non-target birds is very important, so traps must be carefully monitored and checked frequently. Contact Texas Parks and Wildlife Department for information and assistance in implementing a cowbird control program.

Habitat Restoration

For landowners in central Texas wishing to restore or create habitat for the Black-capped Vireo in areas currently unoccupied by vireos, the following suggestions are offered. One type of restorable habitat is an open shrubland capable of growing a diversity of woody plants, where much of the low-growing cover has been removed through overbrowsing by livestock or deer. Controlling browsing pressure by reducing animal numbers and providing pasture rest will allow the natural reestablishment of low-growing shrub cover needed by vireos. Prescribed burning and or mechanical methods described under the Selective Brush Management section may

be needed to jump start the resprouting and root sprouting of trees and shrubs.

Habitat restoration may also be possible in areas where the shrub layer has become too tall or dense to provide good vireo habitat. In these areas, well-planned use of controlled fire or other brush management techniques listed above can reduce overall shrub height, stimulate basal sprouting of shrubs, and reduce shrub density to produce more favorable habitat for vireos. The goal is to maintain the critical low growing canopy cover of 30-60%.

Also, in areas where the brush has become too dense, selective thinning conducted during the non-nesting period (September through February) could be done to produce a more open habitat. Carefully planned brush management could be used to encourage regeneration and lateral branching of desirable shrubs by allowing sunlight to reach the ground. The idea is to restore areas to relatively open, low-growing shrub/grassland vegetation that may provide habitat preferred by vireos. If planning any of these activities in Bandera, Kerr, Kimble, Real, and Uvalde counties landowners should avoid impacts to Tobusch fishhook cactus (*Ancistrocactus tobuschii*), a federally listed endangered plant, which occurs on similar soils as the vireo.

Currently, there is no strong evidence to suggest that habitat manipulation will be necessary on many parts of the drier western and southwestern Texas range (western Edwards Plateau and eastern Trans-Pecos) as mature vegetation communities in these areas are used successfully by vireos. Unless browsing pressure or other catastrophic disturbances have eliminated desirable shrub land in these areas, the only requirement needed is time. Fire is of limited use in lower rainfall areas devoid of fine fuels and the plant density required for cost-effective prescribed burns.

There are a number of agencies and organizations conducting management activities benefiting the vireo that can provide useful information and/or assistance to landowners. These include Texas

Parks and Wildlife Department, USFWS, The Nature Conservancy, USDA Natural Resources Conservation Service, and Environmental Defense.

Summary

In the Edwards Plateau and other parts of the range supporting woodland or savanna, periodic prescribed burning and selective brush management are very effective in maintaining and creating Black-capped Vireo habitat. In all parts of the range, control of deer and exotic wildlife numbers, and good grazing management practices, including proper stocking and rotational grazing, are management options that can be used to maintain and enhance habitat for Black-capped Vireos. These same management tools will also maintain diverse and productive rangelands. In addition to providing food, fiber, and support for rural landowners, well-managed rangelands provide habitat for a wide variety of wildlife, and

benefits such as clean water, natural diversity, and recreational opportunities for all Texans.

Technical assistance in range and wildlife management, including grazing management, determination of proper stocking rates, prescribed burning, brush management, and management for endangered species, is available to landowners and managers by contacting the Texas Parks and Wildlife Department, USDA Natural Resources Conservation Service, or Texas Cooperative Extension. Further guidance and specific questions concerning Black-capped Vireo research, endangered species management and recovery, and the Endangered Species Act, should be directed to the U.S. Fish and Wildlife Service or Texas Parks and Wildlife Department. If, after reading this leaflet, you are still unsure whether or not your management plans will adversely affect the Vireo or its habitat, please contact the U.S. Fish and Wildlife Service for assistance.