

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.

Prescribed Burning

Prescribed burning is an excellent tool used to maintain the desired vegetation structure for vireo nesting; i.e. a mosaic of shrubs and open grassland with abundant



Prescribed burning
© Matt Wagner



Selective handcutting of juniper
© TPWD Glen Mills

woody foliage below 6 feet. Cool season burns, conducted prior to March 15, are often recommended to control small juniper, thus maintaining the relatively open shrublands preferred by vireos.

Prescribed burns conducted during late spring and early fall, under hotter conditions, can be used to set back plant succession in order 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 4 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.

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, fire-guard preparations, personnel and equipment needed, a detailed map showing how the burn will be conducted, and notification and safety procedures.

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. Landowners are advised to contact local representatives of the Texas Parks and Wildlife Department, U.S. Natural Resources Conservation Service (formerly Soil Conservation Service), or Texas Agricultural Extension Service for help in developing and implementing a prescribed burning program designed specifically for your property and management objectives.

Selective Brush Management

Increases in juniper (cedar) and other woody species can easily cause the vegetation to grow (succeed) out of the patchy, low shrub cover that provides suitable habitat. In the eastern portion of the vireo's range, good nesting habitat generally has between 30 and 60 percent shrub canopy. Selective brush removal with herbicides or mechanical means 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 a relatively open shrub canopy and encourages growth of associated broad-leaved shrubs. Selective brush removal should strive to maintain the low shrubby structure. Also, radical changes in shrub canopy from one year to the next over large areas should be avoided. 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.

Handcutting or carefully planned mechanical methods of brush management such as chaining, roller chopping, or shredding can be used to stimulate basal sprouting of key woody species in order to maintain, enhance, or create vireo habitat. Mechanical methods should only be used during the non-breeding season (October-February). 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 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 needed for nest concealment. Livestock 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 0 to 6 feet, is needed. On ranches throughout Texas, moderate stocking, rotation of livestock, controlling deer 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. Browsing surveys should pay more attention to stem growth than leaf growth, since leaf production in many shrubs varies widely, depending on season and weather conditions. Also, the amount of leaf production depends in part on the amount of stem and bud growth available on the plant. Research is lacking concerning how various levels of browsing pressure affect habitat structure and nesting use. However, based on field experience, a conservative approach would be to limit browsing pressure, especially during the growing season, to no more than 50% of the total annual growth (young, tender twigs) 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 browse plant, then too much stem and leaf growth has been removed.

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 determining proper use of browse plants is available from the Texas Parks and Wildlife



Cattle rotation
© TFWID



Overgrazed range with low-growing cover removed
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Department and U.S. 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 cattle 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.

Grazing management can be used to remove cattle from areas where vireos nest. For example, cattle 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 periodi-



Cowbird trap
© TPWD

cally improves range condition and may also help reduce nest parasitism.

Finally, trapping and/or shooting cowbirds can be effective in reducing vireo brood parasitism. Mounted mobile traps, placed near watering sites as livestock are rotated through pastures, have been used successfully to reduce cowbird numbers. Shooting cowbirds at places where they congregate is another option, although this method is often not selective for the cowbirds responsible for the parasitism. Contact Texas Parks and Wildlife Department or the U.S. Fish and Wildlife Service for assistance with implementing a cowbird control program for your property.

Habitat Restoration

For landowners 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.

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 can reduce overall shrub height, stimulate basal sprouting of shrubs, and reduce shrub density to produce more favorable habitat for vireos.

Also, in areas where the brush has become too dense, selective thinning 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. In each of these examples, the idea is to restore areas that may once have provided habitat to the relatively open, low-growing shrub/grassland vegetation preferred by vireos.

Summary

Periodic prescribed burning, selective brush management, control of deer and exotic wildlife numbers, and good grazing manage-

ment practices, including proper stocking and rotational grazing, are management options that can be used to create and maintain Black-capped Vireo habitat. 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 or U.S. Natural Resources Conservation Service. Information is also available from the Texas Agricultural Extension Service. Further guidance and specific questions concerning Black-capped Vireo research, endangered species management and recovery, and landowner responsibilities under 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.