



U.S. Fish & Wildlife Service

Black-capped Vireo

Post-delisting Monitoring News, Vol. 4

2022 News

The 2022 survey season provided more black-capped vireo (BCVI) data and information to support the post-delisting monitoring (PDM) effort. We want to thank all of our partners for their continued participation and work to complete the PDM plan. Highlights below!

Possum Kingdom State Park

The Arlington Field Office teamed up with Texas Parks and Wildlife Department to survey for BCVI at Possum Kingdom State Park for a second year. This effort was a continuation of 2021 PDM surveys that, despite being largely rained out, still returned estimates of 43 – 81 male BCVI. Four biologists and an intern from the Arlington Field Office visited the park over two one-week visits in April and May. The team surveyed the same 91 point locations visited in 2021, which were evenly distributed across a 250-meter grid spanning the park. Three of the points were not visited due to hazardous terrain. The team observed 51 BCVI during 18 person-days of surveying. Distance analyses were conducted with data from both the 2021 and 2022 survey seasons to produce more robust abundance estimates. Based on this information, we estimate the population of breeding male BCVI at Possum Kingdom is between 81 – 123 individuals, summed across both years. Approximately 36 of these individual BCVI were present in 2021 and 66 in 2022. These results support categorizing Possum Kingdom as a Tier 1 site as described in the PDM plan.

Government Canyon State Natural Area

Government Canyon State Natural Area (GCSNA) became a Tier 1 site in 2021 with the discovery of a large vireo population. Surveys continued in the 2022 breeding season to confirm the status of the breeding population at the park. This year, a total of 95 BCVIs

were detected, 17 of which were at point count survey locations while 69 detections were made while traveling between survey points. There were an additional 9 incidental detections that were recorded during golden-cheeked warbler (GCWA) surveys and checking known BCVI habitat patches. For the first time, nest searching and monitoring, banding, bird resighting, and bird follow projects were initiated at GCSNA. Folks from Trinity University, Texas A&M San Antonio, and volunteers located 17 BCVI nests, banded 27 adult BCVIs (both male and female), and banded 18 nestlings and fledglings. The portion of GCSNA with the most BCVIs was previously clearcut for a housing development. Over 10 years, this 500-acre clearing was left to grow naturally, and the combination of scrubby growth, corridors, and edges made this area exceptionally great habitat for BCVI.



Banded vireo at Government Canyon State Natural Area. Photograph by Derrick Mims.

Big Bend National Park

In April 2022, the Arlington Field office worked with the U.S. Forest Service and National Park Service to continue long-term monitoring of BCVIs in the Chisos Mountains at Big Bend National Park. The 2022 survey effort supplements over two decades of monitoring information collected within the Park and is intended to

provide comparable trend data and population information for the PDM plan. Seventy-seven points were conducted across 10 main transects, totaling 4.1 hours of survey time. Eighteen male BCVI were detected during point counts and 12 opportunistic detections (observed while moving between point count stations) of male BCVI were recorded. The efforts in 2022 fulfilled the survey recommendations suggested to partners within the PDM plan.



USFWS biologists survey for black-capped vireos at Green Gulch in Big Bend National Park.

Balcones Canyonlands National Wildlife Refuge

This year, Balcones Canyonlands National Wildlife Refuge conducted surveys with some help from the USFWS Austin Field Office to estimate the number of GCWA and BCVI on the Refuge, with a secondary objective to determine if BCVIs are present in historically unoccupied areas. Five surveyors covered approximately 2,939 acres across 15 Refuge tracts. Approximately 99 BCVI territories were counted in all areas surveyed, expanding the Refuge's area of occupied habitat!

Clearwater Ranch

Surveys conducted on the Clearwater Ranch in 2021 were made available this year. The Clearwater Ranch located in Burnet County contains an approximately 1,662-acre conservation easement that serves as

mitigation for a utility project. The property first confirmed the presence of a large population of vireos in 2013. In 2021, three 100-acre plots were surveyed for BCVI between June 4th and 29th. In all, a total of 34 male vireos were detected on the study plots, as well as juveniles indicating nest success. These surveys show an increase in the population since it was discovered, which could be the result of recovery from the 2011-12 drought.

State Parks Grant

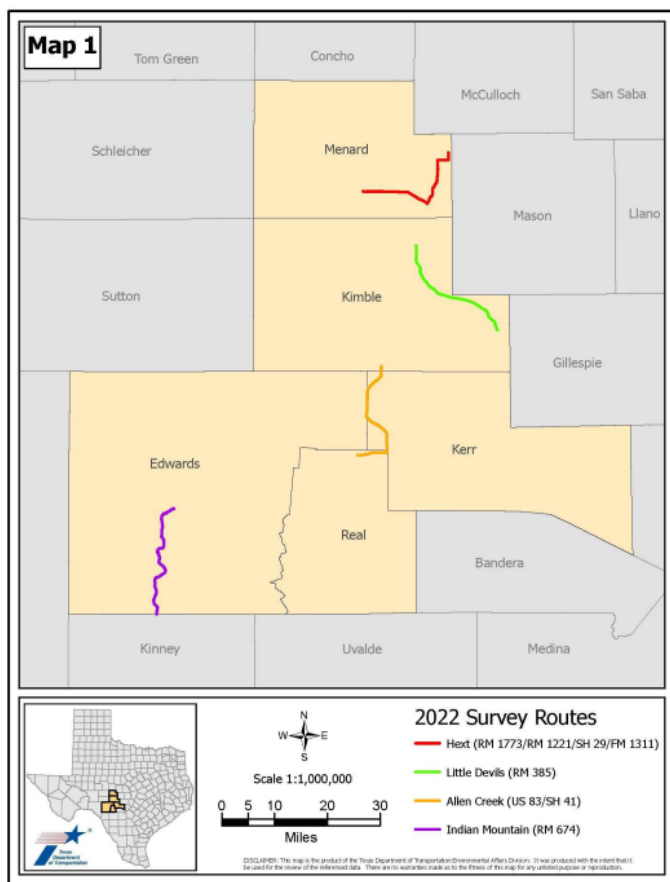
Monitoring of state parks under the section 6 grant to the American Bird Conservancy continued this year thanks to support from Texas Parks and Wildlife Department. Although point counts at Devils Sinkhole State Natural Area and Kickapoo Caverns State Park indicate a healthy abundance of singing males (26 males at 19 points at Devils Sinkhole and 54 males at 36 points at Kickapoo Caverns), productivity was not good this year. Kickapoo Caverns experienced exceptional drought which severely impacted the vireo nesting season in 2022. The crew, led by Texas State University, was able to find a total of 16 nests during this field season, which is less than in the 2021 pilot season ($n = 22$). Even worse news, not a single nest found in 2022 survived from egg-laying through fledging. Additionally, more nests were found in Ashe juniper in 2022 than in the mild drought year in 2021, a pattern that had been noted in other studies during exceptional drought years. Preliminary analysis shows daily and annual nest survival were both down in 2022 compared to 2021 (annual success in 2021 = 41% vs. 2022 = 5%).



Severe drought conditions at Kickapoo Caverns State Park in 2022. Photo: Brendan Mulhall.

TXDoT Transect Surveys

The Texas Department of Transportation provided their third year of survey data from road transects utilizing Breeding Bird Survey protocols. All four transects were surveyed this year, yielding a total of 98 detections (includes 4 females and one unidentified). The Little Devils Route had the most detections (29 males), followed by Allen Creek (26 males) and 19 males were detected at both the Indian Mountain and Hext routes. These transects are an important indicator of vireo prevalence in what some consider to be the heart of the breeding range in Texas.

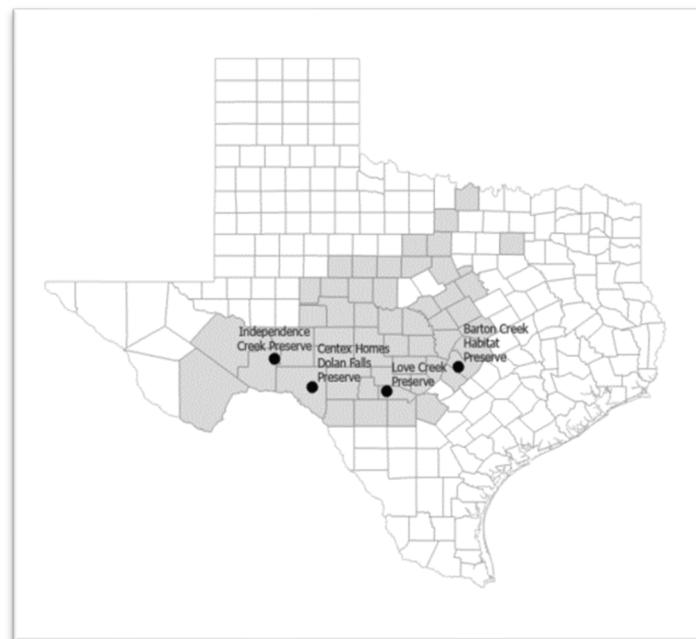


Map showing locations of road transects surveyed by TXDoT in 2022.

TNC Lands

This year, The Nature Conservancy (TNC) of Texas closed out the USFWS grant to survey four of their properties as part of the PDM plan. The original funding was granted in 2019 and extended an additional 2 years. Although the COVID-19 pandemic limited surveys in 2020, the project was extended through 2022. The TNC provided important surveys for three Tier 1 properties and one Tier 2 property needed for the first

half of the PDM plan. Distance sampling estimates at Dolan Falls, Independence Creek, and Love Creek preserves show large abundances of breeding birds, although there is an associated high degree of uncertainty.



Map showing locations of TNC preserves surveyed under a USFWS grant.

These data indicate the populations at these preserves are stable and larger than previously known. Additionally, nest monitoring was accomplished at the Love Creek Preserve in 2019, where 11 nests were found and no signs of cowbird parasitism.

Site	County	2022 Count	2021 Count	2021 Abundance
Barton Creek	Travis	1	1	N/A
Dolan Falls	Val Verde	N/A	93	1,120 males (595-2,111)
Independence Creek	Terrell	N/A	30	950 males (533-1,696)
Love Creek	Bandera	N/A	19	1,232 males (307-4,943)*

Table showing the most current numbers from TNC preserves; confidence limits in parentheses. *Low number of detections creates high uncertainty in estimate.

Wichita Mountains Wildlife Refuge

The Wichita Mountains Wildlife Refuge conducted abundance surveys and completed its second year of nest monitoring in 2022. The 2022 estimate of 8,824 (95% CI: 6,714-11,620) is almost 25% higher than the

previous estimate from the 2020 breeding season. The large abundance is thought to be driven by primary habitats that have experienced severe fire in the last 11 years. The 2022 season saw another extremely low cowbird parasitism rate (1 of 30 nests monitored) and an increase in nest success (50% successful) compared to 2021 nest monitoring. The continued use of cowbird control and fire management are having a positive effect at one of the largest known BCVI populations.



*Black-capped vireo nestlings at Wichita Mountains Wildlife Refuge.
Photo: Christine Fallon.*

Canyon of the Eagles

A park-wide survey for BCVI and GCWA was conducted at the Canyon of the Eagles in Burnet County in 2022. A previous survey in 2011 documented 45 males at the park. The 2022 survey shows 74 males encountered, likely the largest population to date. Additionally, 16 nests were found, four of which contained a brown-headed cowbird egg representing a fairly low parasitism rate (25%). Based on previous surveys and habitat conditions at the park, the surveyors surmise that the local population of BCVI has been increasing over the past decade.

More Surveys

The USFWS worked with the City of San Antonio to analyze count data from City's Rancho Diana Park. Based on this work, there were at least 2-3 breeding pairs at the park in 2021. Additionally, two vireos were detected in 2022 at Friedrich Wilderness Park, where they have not been seen in several years. Another year of surveys were completed at Escondido Draw Recreational Area showing 21 adult BCVI – still holding steady at that park. Texas Parks and Wildlife Department completed surveys at two Wildlife Management Areas – Muse with 39 males and Mason Mountain with 227 males.

We appreciate the contributions and leadership of our many partners in this effort. The post-delisting monitoring of the BCVI is a coordinated partnership and amazing success story – Thank you!

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