

City of Austin's BCCP Activities
Quarter 1 Update: 1 October – 31 December 2021

BCCP Administration	
Infrastructure Projects	One Infrastructure Habitat Assessment Application was processed, and Determination Letters were issued from October through December 2021.
Land Acquisition /Management Agreements	• Future expected preserve donations include a 10-acre addition to Parke West at the east end of Milky Way in River Place and Four Points Preserve adjacent to Sam Hamilton tract along the west end of Riverplace Boulevard. • AW BCP continues working with West Lake Hills neighbors of the 18-acre AW BCP Little Bee Creek Preserve and other land conservation groups to expand the preserve. This preserve currently contains only 1 of 4 caves in a designated protected preserve known to provide habitat for the endangered Bee Creek Cave harvestman (<i>Texella reddeni</i>), that is restricted to this portion of Austin; the ESA-candidate Bracted Twistflower; and aquatic permit species of concern. Preservation of this creek also supports high water quality for the adjacent Ullrich WTP.
Reports and Events	No activity to report.
Dual-managed Properties	No activity to report.
Personnel	Andrew Harrod joined Wildlands Conservation Division's Outreach Program. Andrew has been active in volunteering and arranging hikes and cave tours for the Sierra Club.
Rare and Endangered Resources Management	
Golden-cheeked Warbler (GCWA) and Black-capped Vireo (BCVI)	Staff entered BCVI and GCWA observation data into the geodatabase and summary spreadsheets to be compiled and submitted for annual reporting.
Bracted Twistflower	Staff compiled a response to the U.S. F&WS proposed listing of the Bracted Twistflower as a threatened species under the Endangered Species Act. Twistflower Site at Ullrich where no plants had been observed in the spring was revisited this fall and at least 18 seedlings were observed.
Other monitoring	Staff participated in the Westcave Christmas Bird Count for the 15th consecutive year on South Lake Austin macrosite tracts within the count circle. This citizen science project can provide insight into utilization of BCP habitat by birds during the winter. Monitoring live fuel moisture in Ashe juniper leaves in open and forest habitats.
Jollyville Plateau Salamander	BCP continues to conduct aquatic life surveys of springs across the BCP on a periodic basis in hopes of locating new salamander locations and other rare stygobitic life.
	AW BCP staff are collecting data for preparation of karst completion status analysis and report expected in FY22 with TC BCP.

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Karst invertebrates/ karst work	AW BCP conducted cave faunal surveys and cave cricket exit counts on all other assigned caves (ongoing). Staff noticed that the Schizomids (shorttailed whipscorpion) has invaded millipede annex cave and so far looks like this newly introduced predator may have a negative impact of cave fauna including the listed species. Currently hydrogeological studies continue in the FM 2222 and RM 620 area. Contractors and staff continue to excavate filled caves on AW BCP preserves along FM 2222 with funding provided from Texas Department of Transportation to mitigate the FM 2222 bypass to RM 620. Contractors removed sediment from Black Cap Cave on Cortana Preserve and Gaping Maw on Stovepipe Karst Preserve. AW BCP completed a hydrogeological study report of Airmen's Cave in December 2021 and recommends the establishment of an easement for the portion of the underlying cave with applicants of a proposed redevelopment of Brodie Oaks Mall. While it appears the mall redevelopment has little chance of impacting the cave, placing the cave under BCP management will assure that permit terms are continued, and that any impacts discovered can be mitigated. Under a new interlocal agreement with Lady Bird Johnson Wildflower Center, AW BCP staff initiated efforts in restoring and mapping a new cave named Lady Bird Lounge Cave (on going).
Plant and Animal Control	
Mammals	Staff continued efforts to trap and remove feral hogs (removed 3 this quarter).
Red-imported fire ants and Tawny crazy ants (TCA)	Funded TCA research with Dr. Ed LeBrun under a 5-year Master Agreement with the University of Texas. Dr. LeBrun will continue to assess TCA and native ant populations and effectiveness of management strategies.
Invasive plants	BCP staff and volunteers are continuing efforts to remove non-native plants on COA BCP tracts. Particular effort this quarter focused on killing larger, seed-bearing woody plants on the newly-acquired Carol Lee tract, the Vaught Ranch tract, and a branch of Panther Hollow on the Cortaño tract.
Land Stewardship	
Habitat Restoration	Staff harvested Shin Oak acorns from a shinnery on the Cortaño tract and planted them in a Black-capped Vireo habitat creation area in the central part of that same tract. Few acorns were available again this year, but >300 were harvested and planted.
	Staff and volunteers continued working on restoration projects on the JJ&T and Vireo Preserve tracts to promote water infiltration, slope stabilization, soil restoration, and reforestation on degraded sites to promote future habitat for GCWA and BCVI.
	Collected and grew out over 300 native grass, forb, and woody plants in the nursery. Planted approx. 475 trees and shrubs, as well as native grasses and wildflowers.
	Austin CCC assisted with tree planting on habitat restoration sites on the JJ&T tract.
	Beau Brotherton produced a "one year later" video of the bioswale project (bit.ly/bcpBioswale) on the Vireo Preserve.

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	Worked with TreeFolks, Development Services, City BCP, and County BCP to collect “hyperlocal” native woody plant seeds. Seeds were shipped to a vendor, who prepared (stratified and/or scarified) seeds for planting, and began growing out a subset to determine viability and for future planting. Treated seeds will be sown directly in the field. Continued work on Chinese Privet removal with staff and volunteers at Long Canyon. Executed a 5-year interlocal agreement with Northern Arizona University to investigate the role of mycorrhizal fungi in habitat management and restoration. Executed a 5-year contract with Van Dyck Earthworks and Design to implement forest restoration projects.
Fencing	Initial fencing of priority areas at recently acquired Bright Leaf Preserve was completed in November and December 2021. The initial areas were mandated in a court judgement transferring ownership to AW BCP, although additional mandated perimeter fencing will be conducted in the future as the preserve is further evaluated.
Oak Wilt	BCP staff continues to inspect several known oak wilt centers.
Wildfire Preparedness	Contractors directed by Wildland Conservation Division staff implemented shaded fuel breaks adjacent to neighborhoods on the JJ&T tract, and adjacent to RM 2244 on the Senna Hills tract. Shaded fuel breaks reduce the risk that fires originating in residential areas will spread into wildlands.
Law Enforcement	
Trespass and Criminal Mischief	Continued patrols of Preserve boundaries.
Outreach/Volunteers	
Staff worked with volunteers to promote forest restoration at JJT and Vireo Preserves, maintain demonstration gardens at Reicher Ranch, remove invasive plant species, and expand Live Fuel Moisture monitoring.	
Staff presented to the Audubon Outdoor Club of Corpus Christi in October a virtual program on findings of the BCP Golden-cheeked Warbler studies.	
AW BCP hosted the National Cave and Karst Management Symposium, gave 6 presentations, and led 3 cave/ karst tours.	

City of Austin's BCCP Activities
Quarter 2 Update: 1 January – 31 March 2022

BCCP Administration	
Infrastructure Projects	Eleven Infrastructure Habitat Assessment Applications were processed, and Determination Letters were issued from January through March 2022.
Land Acquisition /Management Agreements	Real Estate Dept is currently processing the donation of a 10-acre donation of creek adjacent to existing Park West Preserve at the east end of Milky Way in River Place to the City under AW BCP management. Multiple City departments discussed the proposed transfer of Four Points Preserves, containing 4 of the 62 BCCP permit caves and portions of Bull Creek, to AW BCP management, in association with upcoming PUD agreement. AW BCP has been in discussion with the owners on the proposed acquisition since 2017.
Reports and Events	Submitted annual BCCP report to USFWS https://www.traviscountytx.gov/tnr/nr/2021-annual-report Austin Water (AW) BCP, Wildlands Conservation staff, Austin Fire Department, and local neighborhood Firewise coordinators toured Bright Leaf Preserve on March 21 to examine wildfire risk elements and get feedback for its management. Securing the preserve from open unauthorized access was the biggest current risk.
Personnel	No activity to report.
Rare and Endangered Resources Management	
Golden-cheeked Warbler (GCWA) and Black-capped Vireo (BCVI)	Initiated BCVI and GCWA surveys and color-banding in March. Conducted a volunteer training to search for banded GCWAs outside the study plots. Over 60 volunteers are assisting with search efforts this year. Due to the late February freeze, GCWA arrival and nesting was delayed by about a week.
Jollyville Plateau Salamander	BCP continues to conduct aquatic life surveys of springs across the BCP on a periodic basis in hopes of locating new salamander locations and other rare stygobitic life. Contractor Crystal Datri collected what is believed to be a Barton Springs salamander from Bee Creek preserve (Ullrich WTP), if so, this will be a new location for this endangered salamander. BCP staff conducted the twice yearly JP salamander survey in testudo tube, all salamanders captured were photographed for future population analysis.
Karst invertebrates/ karst work	Soft tick/ Tick borne relapsing fever: staff met with staff from Baylor School of Medicine and staff from the State Health Department, the primary purpose of the visit was to show City staff their methods of collecting soft ticks, and where to search. They also are actively conducting research on soft ticks, so they need lots of live specimens. One goal is to try to determine how genetically distinct populations are, so that could show how widespread the populations are, and or if they are actively being transported by host. The team successfully collected ticks from shallow features at VWO and at the base of Seismic Wall/ Barton Creek.
	Currently hydrogeological studies continue in the FM 2222 and RM 620 area. Conducted cave faunal surveys and cave cricket exit counts on all other assigned caves (ongoing).

City of Austin's BCCP Activities
Quarter 2 Update: 1 January – 31 March 2022

Bracted Twistflower	Staff submitted a response to the U.S. F&WS proposed listing of the Bracted Twistflower as a threatened species under the Endangered Species Act on January 7 th 2022.
Plant and Animal Control	
Mammals	5 hogs were removed by contractors and City staff this quarter.
Red-imported fire ants and Tawny crazy ants	Ed LeBrun continued monitoring TCA and native ant densities and effectiveness of management strategies.
Invasive Plants	BCP staff continue to remove non-native plants on COA BCP tracts. A long-standing infestation of Chinese Privet on the Long Canyon tract continues to be a focus of work by staff and volunteers. New areas addressed by staff this quarter included a large invasive plant infestation on the Vaught Ranch tract, and others in canyons in the northern half of the Cortaño tract.
Land Stewardship	
Habitat Restoration	Staff and volunteers continued working on restoration projects on the JJ&T and Vireo Preserve tracts to promote water infiltration, slope stabilization, soil restoration, and reforestation on degraded sites to promote future habitat for GCWA and BCVI. Planted ~500 native woody trees and shrubs, as well as native grasses and forbs.
	Austin CCC assisted with tree planting on habitat restoration sites on the JJ&T tract.
	Planted ~100,000 "hyperlocal" native woody plant seeds on the JJT tract.
Fencing	Fence work was initiated on Stovepipe cave karst preserve. Barbed wire fence was replaced with game fence on 1-1/3 mile of the western boundary of the Cortaño tract, including new gates at entrances off of Portofino Drive.
Wildfire Preparedness	Staff oversaw contractor completion of a Shaded Fuel Break on Park West, covering ~600ft of boundary.
Law Enforcement	
Trespass and Criminal Mischief	Staff located a few new homeless camps residual trash dumps in the Barton Creek Wilderness, and reported to PARD Rangers. Removal of these camps will be a lower priority than for camps in more visible public areas.
	We continue to work on fencing, patrolling and education to avoid preserve damage.
Outreach/Volunteers	
Staff prepared and presented a Wild Neighbors virtual presentation about Golden-cheeked warblers.	

City of Austin's BCCP Activities
Quarter 3 Update: 1 April – 30 June 2022

BCCP Administration	
Infrastructure Projects	Four Infrastructure Habitat Assessment Applications were processed, and Determination Letters were issued from April through June 2022.
Land Acquisition /Management Agreements	AW BCP received comments from Parks & Recreation on an interdepartmental agreement and are working on revision. AW BCP agreed to acquire/manage a small land donation from proposed Juniper Apartments on FM 620 near Zimmerman Lane.
Reports and Events	AW BCP staff attended a Juneteenth sign unveiling at Eastwoods Park on June 11 Held cave guide training at Goat Cave June 1
Dual-managed Properties	No activity to report.
Personnel	No activity to report.
Rare and Endangered Resources Management	
Golden-cheeked Warbler (GCWA) and Black-capped Vireo (BCVI)	Staff continued color-banding GCWAs and BCVIs through the quarter. Staff and volunteers continued GCWA and BCVI surveys through May (volunteers) and June. Due to the late February freeze, GCWA arrival and nesting was delayed by about a week. U.S. Fish & Wildlife Service is currently conducting a Species Status Assessment for the GCWA to evaluate the needs of the species, its current condition, and its potential future condition under a variety of probable future scenarios. They held an "Expert Meeting" on June 2 to receive feedback on preliminary recommendations. BCP staff followed up with written comments.
Bracted Twistflower	Staff and volunteers censused known twistflower populations in April and May.
Jollyville Plateau Salamander	BCP continues to conduct aquatic life surveys of springs across the BCP on a periodic basis in hopes of locating new salamander locations and other rare stygobitic life.
Karst invertebrates/ karst work	Restoration: staff worked on protecting recently planted vegetation adjacent to Millipede and Millipede annex caves from future damage from RISD mowing crews.
	AW BCP conducted cave faunal surveys and cave cricket exit counts on all other assigned caves (ongoing). Currently hydrogeological studies continue in the FM 2222 and RM 620 area. Contractors and staff continue to excavate filled caves on AW BCP preserves along FM 2222 with funding provided from Texas Department of Transportation to mitigate the FM 2222 bypass to RM 620. Flow monitoring station for Flint Ridge Cave upgraded with new solar panels.
Plant and Animal Control	
Mammals	14 hogs were removed by contractors and City staff this quarter.
Red-imported fire ants and Tawny crazy ants	Ed LeBrun continued monitoring TCA and native ant densities and effectiveness of management strategies.

City of Austin's BCCP Activities
Quarter 3 Update: 1 April – 30 June 2022

Invasive Plants	BCP staff continue to remove non-native plants on COA BCP tracts.
Land Stewardship	
Habitat Restoration	Staff and volunteers continued working on restoration projects on the JJ&T and Vireo Preserve tracts to promote water infiltration, slope stabilization, soil restoration, and reforestation on degraded sites to promote future habitat for GCWA and BCVI.
Fencing	Contractor completed the Stovepipe Cave Karst Preserve perimeter fence. Staff installed a new gate to prevent active dumping at Forest Ridge.
Oak Wilt	No work during nesting season.
Wildfire Preparedness	In response to homeowner complaints, staff investigated sites behind homes adjacent to Jester preserve and determined that vegetation was not touching powerlines and thus not an immediate fire threat.
Law Enforcement	
Trespass and Criminal Mischief	Hiller/ Gibson/ Forest ridge: illegal trails: staff investigated trespass issues on the Hiller/ Gibson tracts, staff installed a new game camera at Hiller/ Hough boundary. Staff also followed up with PARD staff about curtailing illegal access from their newly acquired Hough tract.
	Cave Y gate breach: staff reported that someone had breached the gate at Cave Y, found that large rocks to the right of the gate had been removed, thus allowing easy access. Staff oversaw contractor who made the necessary repairs, thus securing the cave from future trespass.
	Staff found three gates had been vandalized between Portofino Drive and Big View Drive across the Steiner Ranch and Cortaña tracts – chains cut and removed and one hinge broken. Staff repaired the damages.
	Continued patrols of Preserve boundaries. Biologists patrolled tract interiors that correspond with warbler monitoring.
Outreach/Volunteers	
June 30 Nature Nights and public cave tours for 150 at Wildflower Center.	
Staff gave a brief presentations to 3 science classes at McNeil High, the focus was on cave fauna and the restoration work we are doing in the courtyard. Staff also led in cave tours to approximately 20 students.	
Staff led a night hike/ guided tour at Sam Hamilton Memorial Reserve. On April 11, staff provided a soil trench excavation of likely sinkhole on Whirlpool Cave Preserve for a Univ of Texas soil class field trip led by Dr. Tim Beach as an opportunity to examine local historical environments.	
Staff led the annual cave guide training at Goat and Wade cave for Pard and WP staff, the focus was on how to minimize impacts, keep an eye out for signs of vandalism, and educate the public about the importance of karst and karst invertebrates.	
On June 30, staff from AW Wildlands Cons. Division, Watershed Protection, and Parks & Recreation departments hosted a free Nature Nights for 730 and cave tours for 150.	

City of Austin's BCCP Activities
Quarter 4 Update: 1 July – 30 September 2022

BCCP Administration	
Infrastructure Projects	Ten Infrastructure Habitat Assessment Applications were processed, and Determination Letters were issued from July through September 2022.
Land Acquisition /Management Agreements	• AW BCP was approached in April 2022 by developer representatives of the proposed Juniper Apartments on FM 620 near Zimmerman Lane adjacent to existing AW BCP-managed Bull Creek Preserves. Because of the proximity of Jollyville salamander springs nearby on Bull Creek, the creek channels making up the proposed preserve, the frequent observation of endangered Golden-cheeked Warblers, the high frequency of nearby caves with endangered karst species, AW BCP offered to manage a small preserve here. A site inspection of Aug 25 revealed several potential filled caves within a block of several federal permit caves. In August, Parks & Recreation requested the site for a public trail through parkland dedication of the development review process and AW BCP has offered to co-manage it as a preserve with public trails. • AW BCP is working with the owner of Four Points Preserve to transfer ownership to the City. This site is a high priority acquisition, containing 4 BCCP permit caves and springs with Jollyville salamanders. • Brodie Oaks Mall representatives drafted an access easement for the portion of Airmen's Cave beneath the mall as requested. It is currently under review by City Legal.
Reports and Events	AW BCP staff presented cave activities at Barton Springs University Sept 20. Barbara Attwell unveiled her local endangered bird and cave life paintings there which remain on exhibit at the Sheffield Education Center.
Dual-managed Properties	No activity to report.
Personnel	No activity to report.
Rare and Endangered Resources Management	
Golden-cheeked Warbler (GCWA) and Black-capped Vireo (BCVI)	GCWAs were observed through early August, and BCVIs as late as September 1st. City/County BCP staff completed BCVI and GCWA observation data entry into a GIS geodatabase and summary spreadsheets in preparation for annual reporting.
Jollyville Plateau Salamander	BCP continues to conduct aquatic life surveys of springs across the BCP on a periodic basis in hopes of locating new salamander locations and other rare stygobitic life. BCP staff conducted the twice yearly JP salamander survey in Testudo Tube, all salamanders captured were photographed for future population analysis.
Karst invertebrates/ karst work	AW BCP conducted cave faunal surveys and cave cricket exit counts on all other assigned caves (ongoing). Currently hydrogeological studies continue in the FM 2222 and RM 620 area. Contractors and staff continue to excavate filled caves on AW BCP preserves along FM 2222 and RM 620 with funding provided from Texas Department of Transportation to mitigate the FM 2222 bypass to RM 620. Mapping of new cave on Wildflower center continues
Plant and Animal Control	

City of Austin's BCCP Activities
Quarter 4 Update: 1 July – 30 September 2022

Mammals	Three hogs were removed by contractors and City staff this quarter.
Red-imported fire ants and Tawny crazy ants	Ed LeBrun continued monitoring TCA and native ant densities and effectiveness of management strategies. The TCA were observed for the first time at Weldon Cave.
Invasive Plants	BCP staff continue to remove non-native plants on COA BCP tracts. In September Austin Youth Works helped remove invasive plants from Long Canyon.
Land Stewardship	
Habitat Restoration	Staff and volunteers continued working on restoration projects on the JJ&T and Vireo Preserve tracts to promote water infiltration, slope stabilization, soil restoration, and reforestation on degraded sites to promote future habitat for GCWA and BCVI. Tree planting and seed collection to grow "hyperlocal" native trees and shrubs began in late September.
	City of Austin/Travis County BCP and Lisa Markovchick (Northern Arizona University) hosted the first MycoBlitz on the BCP to learn about the benefits of mycorrhizal communities (symbiotic with plant roots) and collect mycorrhizal samples to inform habitat restoration and land and natural resources management.
Fencing	In anticipation of new fence installation projects, BCP staff completed prep work including finding property monuments and worked on determining how the contractor will access Bright Leaf and Hiller preserves to enable fence installation.
Oak Wilt	BCP staff inspected several known oak wilt centers this quarter. Aerial reconnaissance, with Austin Police Department, was used to locate new infections. None were found.
Wildfire Preparedness	Shaded fuel break work started along a boundary on the Bright Leaf Preserve. Live Fuel Moisture collection was expanded to 3 plots (Open/Edge/Forest) on 3 different sites to compare LFM content across the BCP landscape.
Law Enforcement	
Trespass and Criminal Mischief	Staff reported to PARD Rangers in August homeless camps appearing behind an unsecured gate along Loop 360 in the Barton Creek Wilderness.
	Continued patrols of Preserve boundaries.
Outreach/Volunteers	
Staff gave a virtual presentation to 35 member of the Lost Pines Master Naturalists Sept. 19 th on the topic "Connecting Us : Riparian Forests, Corridors of Life"	
On behalf of AW BCP, a simulated cave experience was provided to about 450 6-8 th grade students at Gus Garcia YMLA (title 1 school) by CaveSim on Sept 23 and Sept 26, as well as Anderson High School.	