

Balcones Canyonlands Conservation Plan (BCCCP)

October 2, 2024 Environmental Commission

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AW Environmental Resource Officer

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BCCCP Officer



AGENDA

- 💧 BCCP Permit Overview
- 💧 BCCP Covered Species



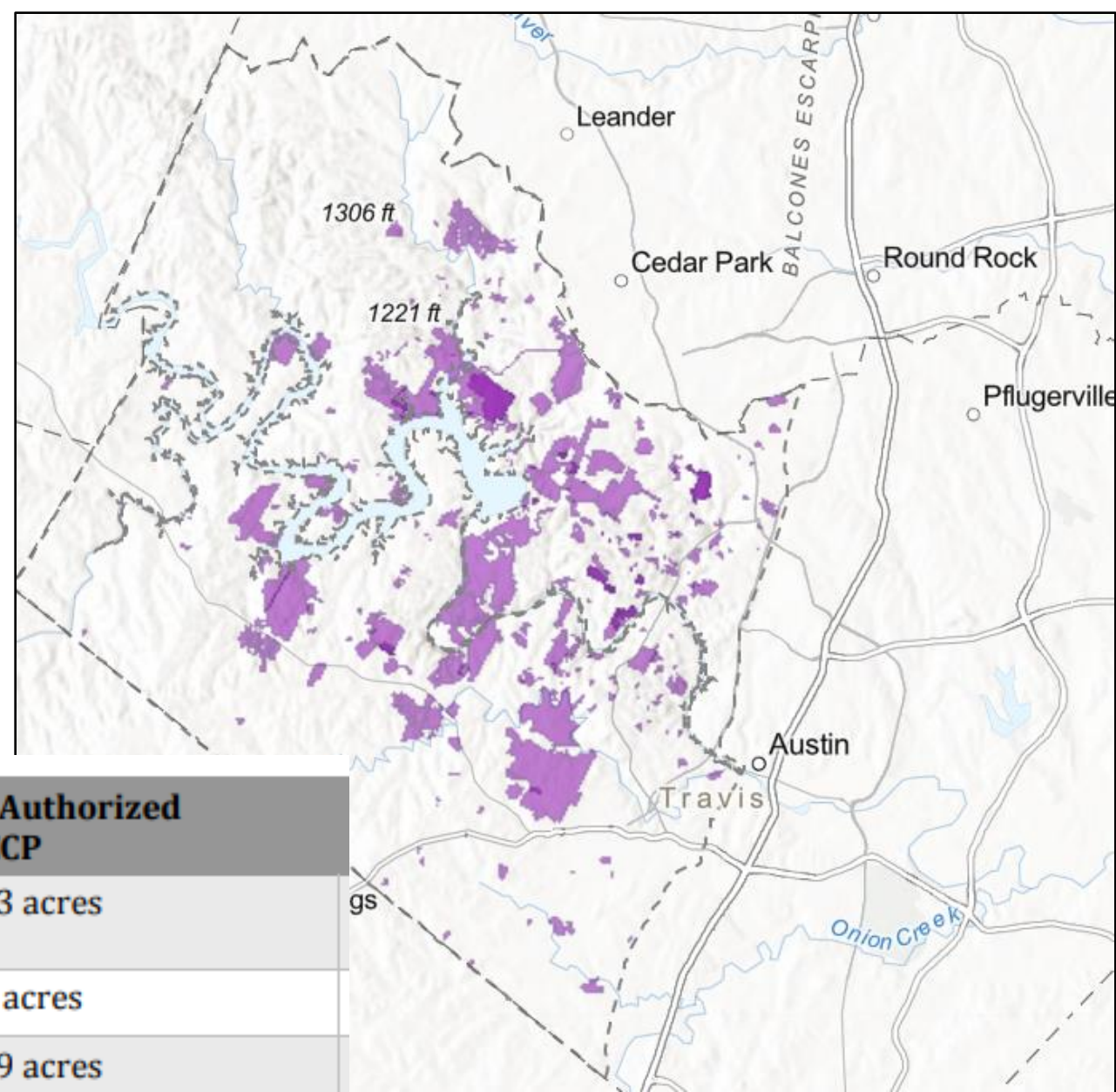
Key Elements of BCCP Permit

- ◆ **BCCP Permit Holders:** City of Austin and Travis County
- ◆ **Balcones Canyonlands Preserve (BCP) Partners:** City of Austin, Travis County, Lower Colorado River Authority, City of Sunset Valley, The Nature Conservancy, Travis Audubon, Texas Cave Management Association, USFWS, Balcones Canyonlands National Wildlife Refuge, and private preserve managers
- ◆ **Permit Area:** 561,000 acres = City of Austin and unincorporated Travis County excluding the Balcones Canyonlands National Wildlife Refuge boundary within Travis County
- ◆ **Original Permit Term:** 30 years (May 2, 1996 to May 2, 2026)
 - Applied for 15-year Permit extension (May 2, 2026 to May 2, 2041)



BCCP Take Permits

An Endangered Species Act (ESA) Incidental Take Permit is required for any “take” on an endangered or threatened species, incidental to an otherwise lawful activity.



BCCP Component	Take Authorized by BCCP
Golden-cheeked warbler habitat (Zones 1 and 2)	26,753 acres
Black-capped vireo habitat	1,000 acres
Potential karst invertebrate habitat (Zones 1 and 2)	38,349 acres
Named caves	Four specific named caves ³

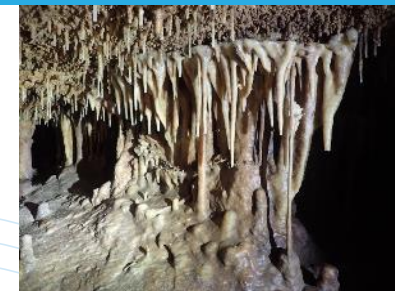


Key Elements of BCCP Mitigation Obligations

- ◆ Acquire, protect in perpetuity, manage, and monitor a system of preserve lands called the Balcones Canyonlands Preserve (BCP)
- ◆ 28,428 acres of Golden-cheeked warbler habitat
- ◆ 2,000 acres of Black-capped vireo habitat
- ◆ Seven preserve planning units called “macrosites”
 - Min. sizes and max. edge-to-area ratios requirements
- ◆ Acquire and/or manage 35 named caves for listed karst invertebrates + 27 named caves for karst invertebrates of concern
- ◆ Protect and manage populations of Canyon mock-orange and Texabama croton on the BCP



**32,428 acres
bird habitat
&
62 caves**



BCCP Covered Species

- Golden-cheeked Warbler
- Black-capped Vireo **Delisted in 2018*
- Bee Creek Cave harvestman
- Bone Cave harvestman
- Kretschmarr Cave mold beetle
- Tooth Cave ground beetle
- Tooth Cave pseudoscorpion
- Tooth Cave spider

- 7 Endangered Species
- 1 De-listed Species
- 2 Plants of Concern: Canyon mock-orange, Texabama croton
- 25 Karst Invertebrates of Concern





Photo by Gil Eckrich

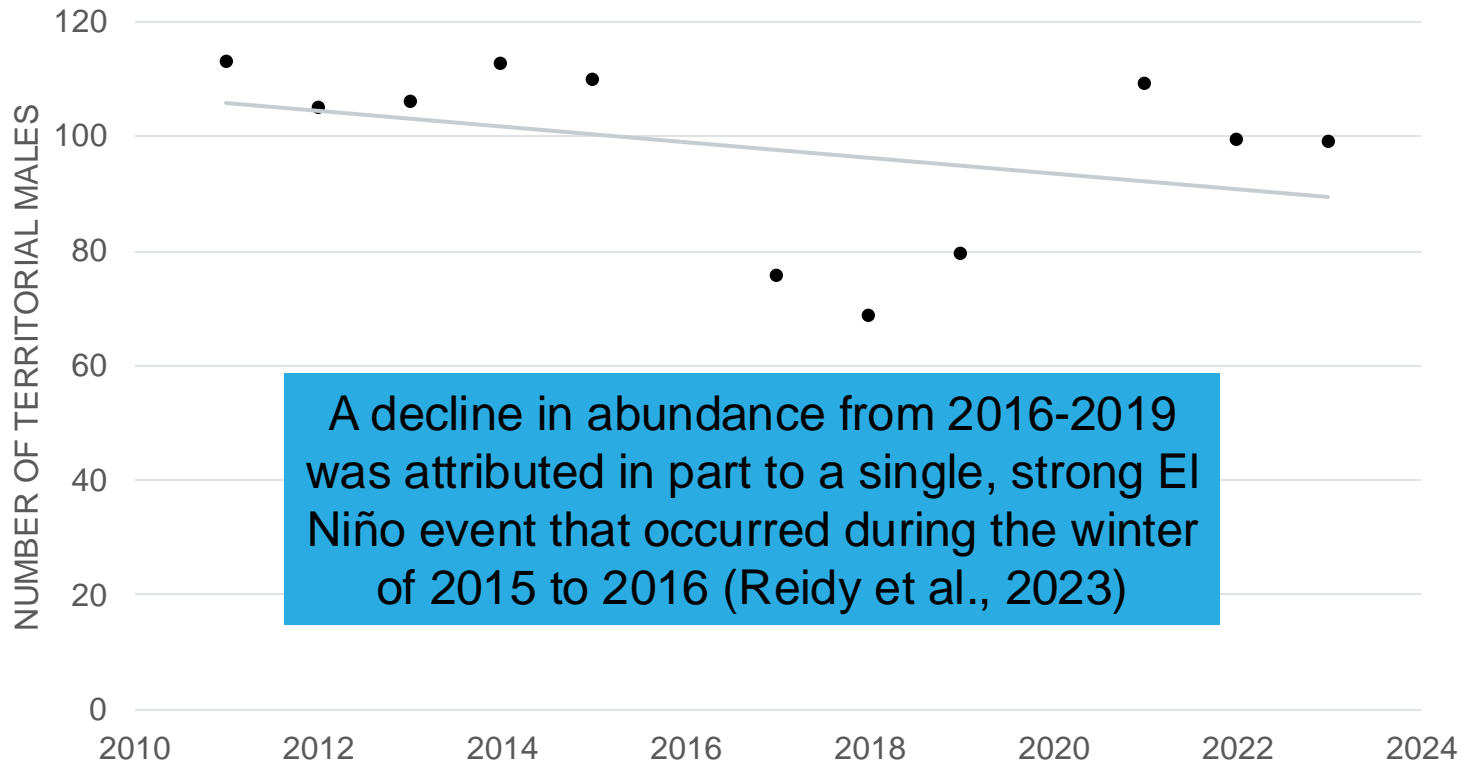
Golden-cheeked Warbler

- Listed as Endangered in 1990
- All are native Texans
- Require Ashe Junipers for nesting and for hosting invertebrate prey
- Need closed-canopy woodland of both junipers and broadleaved trees



Number of Territorial Male Golden-cheeked Warblers

ON THE BALCONES CANYONLANDS PRESERVE



Reidy, J. L., E. A. Sinnott, F. R. Thompson, and L. O'Donnell. 2023. Urban land cover and El Niño events negatively impact population viability of an endangered North American songbird. *Ecosphere* 14(6): e4583

- Long-term monitoring allows us to determine how the Golden-cheeked Warbler is doing across the BCP.
- Management focuses on protecting, maintaining, and creating high quality Ashe juniper-oak woodlands to help overcome threats that the Golden-cheeked Warbler faces throughout its limited range.



Black-capped Vireo

- Listed as Endangered in 1987
- Delisted in 2018 following many years of intensive conservation efforts by multiple partners
- Conservation efforts must continue to ensure their populations remain viable



(c) Gary Sertich





- Conduct annual censuses to determine abundance and reproductive success.
- Collect DNA to assess genetic diversity and viability.
- Color-band nestlings to determine how far juveniles disperse from their birth site to where they will reproduce.

Karst Invertebrates

- All are troglobites (cave obligates)
- Adapted to cave life and can not survive on the surface
- Very small ranges- found nowhere else on Earth





Bee Creek Cave Harvestman

- Listed as Endangered in 1988
- Only found south of Colorado River
- Has reduced eyes
- Has very limited range in Rollingwood area which is heavily developed



- Conduct biannual cave faunal surveys of Little Bee Creek Cave
- Protect and enhance habitat inside known caves
- Search the Rollingwood karst faunal region to find more caves where they are present
- Restore filled caves to create more habitat for the species



Bone Cave Harvestman

- Listed as Endangered in 1988
- Only found north of Colorado River
- Larger range extends into Williamson County
- Very sensitive to low humidity



Adult

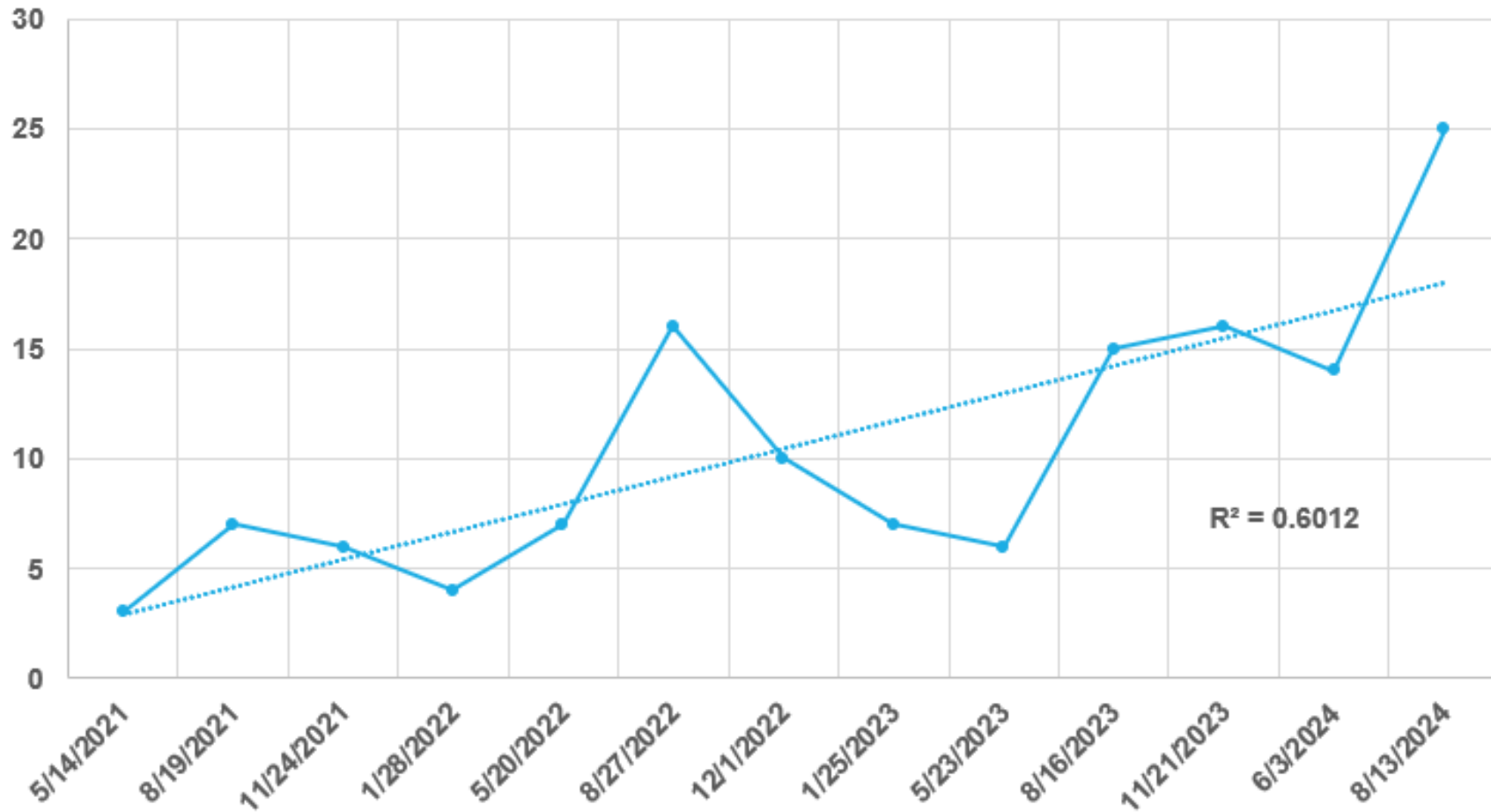
Juvenile



- Conduct biannual cave faunal surveys in multiple Northwest Austin caves
- Reduce predatory red imported fire ant densities with boiling water
- Excavation and restoration of filled caves have increased the number of caves they are found in



Bone Cave Harvestman (*Texella reyesi*) Counts in a Restored Cave called Persephone Caverns



- Nutrients enter the cave, like cave crickets
- Abundance increases

There was a significant increasing trend in the number of *Texella reyesi* observed in Persephone Caverns since 5/14/2021, $r(11) = .79$, $p = 0.001$.





Kretschmarr Cave Mold Beetle

- Listed as Endangered in 1988
- Extremely small range
- Found in Four Points area
- 1/8-inch-long body, fast moving





- Conduct biannual cave faunal surveys in multiple Northwest Austin caves
- Restoration of one cave benefits multiple listed species
- Reduce predatory red imported fire ant densities with boiling water

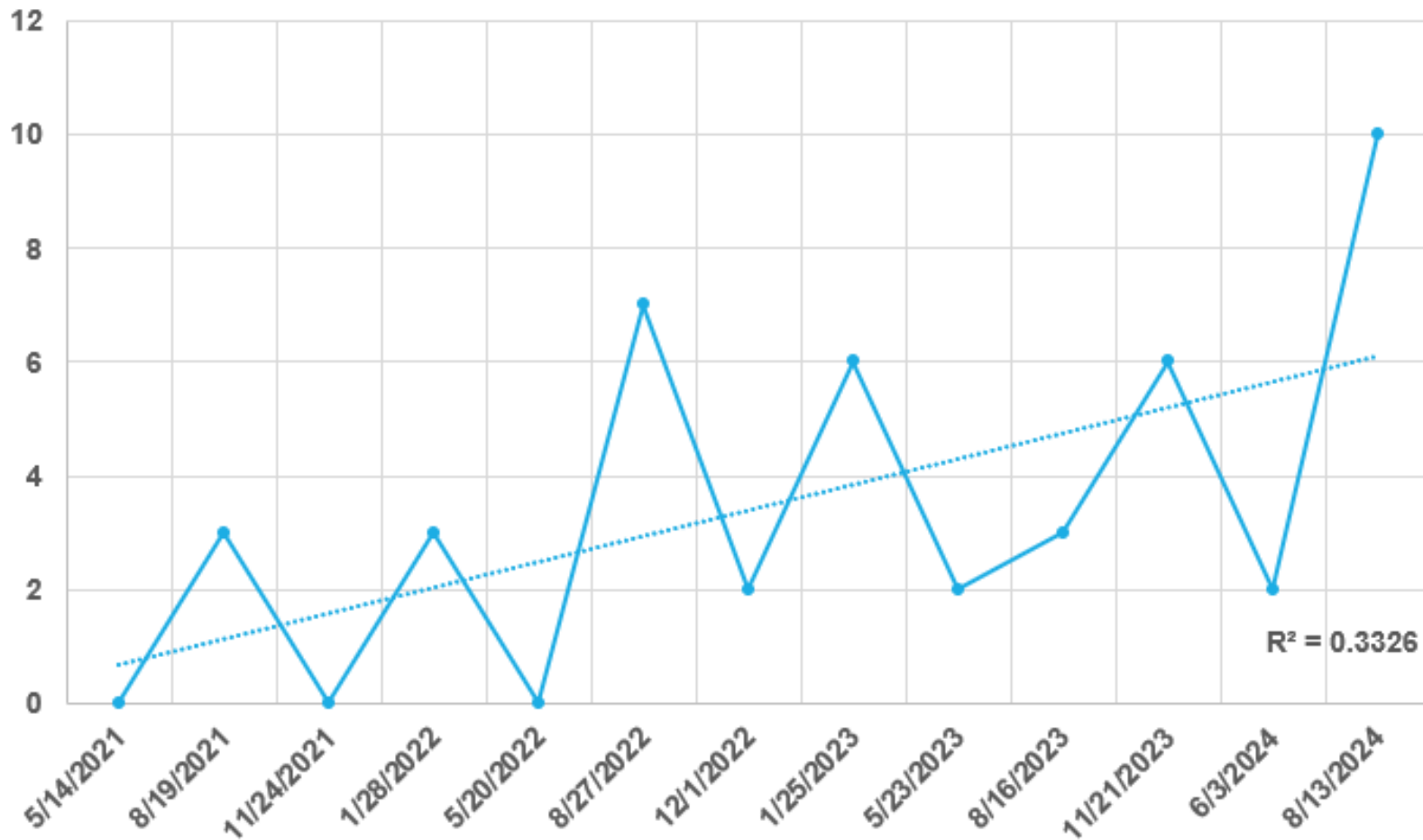


Tooth Cave Ground Beetle

- Listed as Endangered in 1988
- ¼-inch-long body, largest of the six
- Very small reduced eyes
- Feeds on cave cricket eggs



Tooth Cave Ground Beetle (*Rhadine Persephone*) Counts in a Restored Cave called Persephone Caverns



- Conduct biannual cave faunal surveys in multiple caves in Northwest Austin
- Enhance and promote native vegetation for healthy surface habitat that cave crickets depend on
- Cave restoration work has increased numbers of known caves and abundance

There was a significant increasing trend in the number of *Rhadine persephone* observed in Persephone Caverns since 5/14/2021, $r(11) = .57$, $p = 0.04$.





Tooth Cave Pseudoscorpion

- Listed as Endangered in 1988
- 3/16 inch long
- Tailless and eyeless
- Body is covered in sensory hairs
- Uses pinchers to capture small invertebrates, such as cave cricket nymphs



- Conduct biannual cave faunal surveys in multiple Northwest Austin caves
- Protect surface habitat allowing cave crickets to thrive, bringing vital nutrients into the cave ecosystem





Tooth Cave Spider

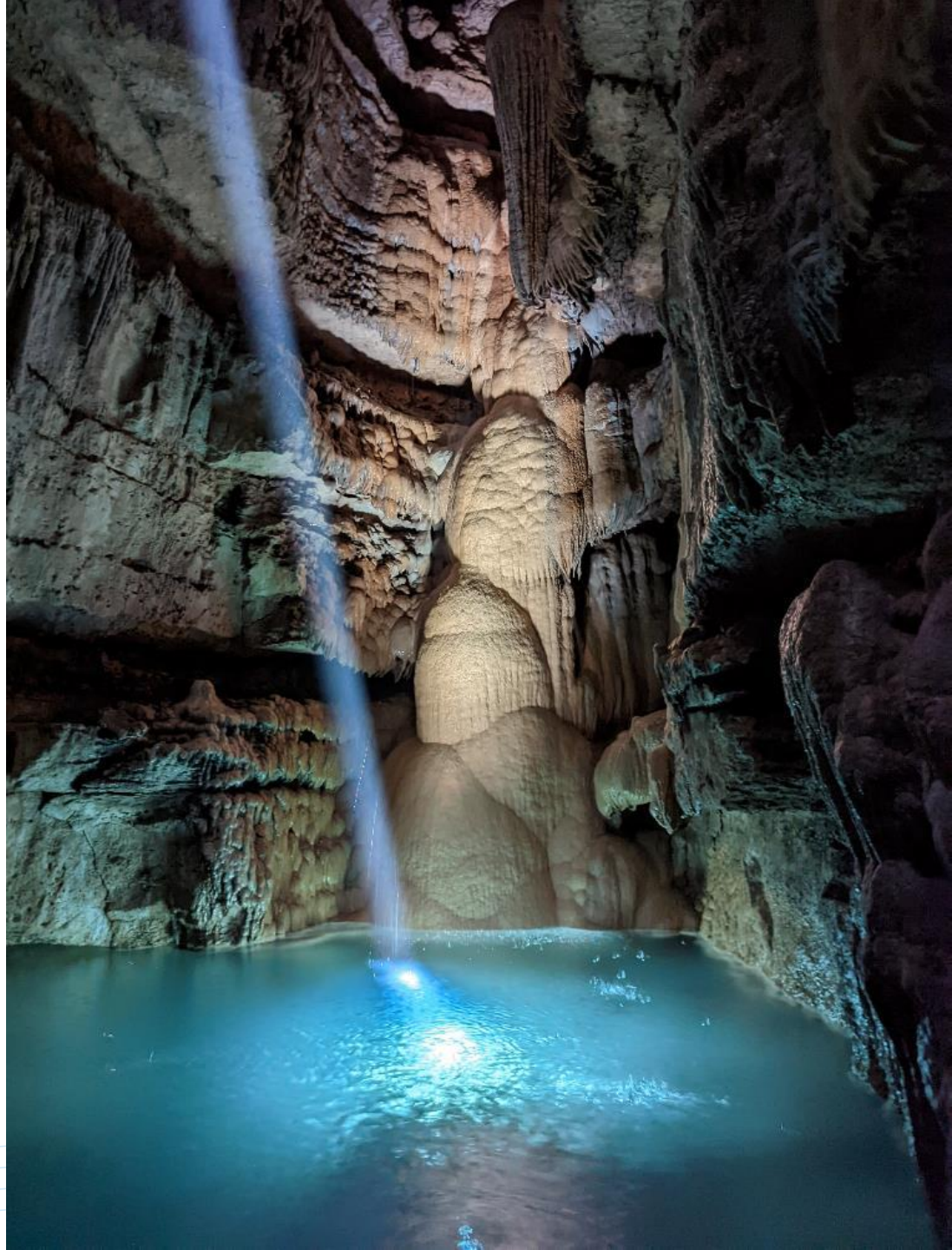
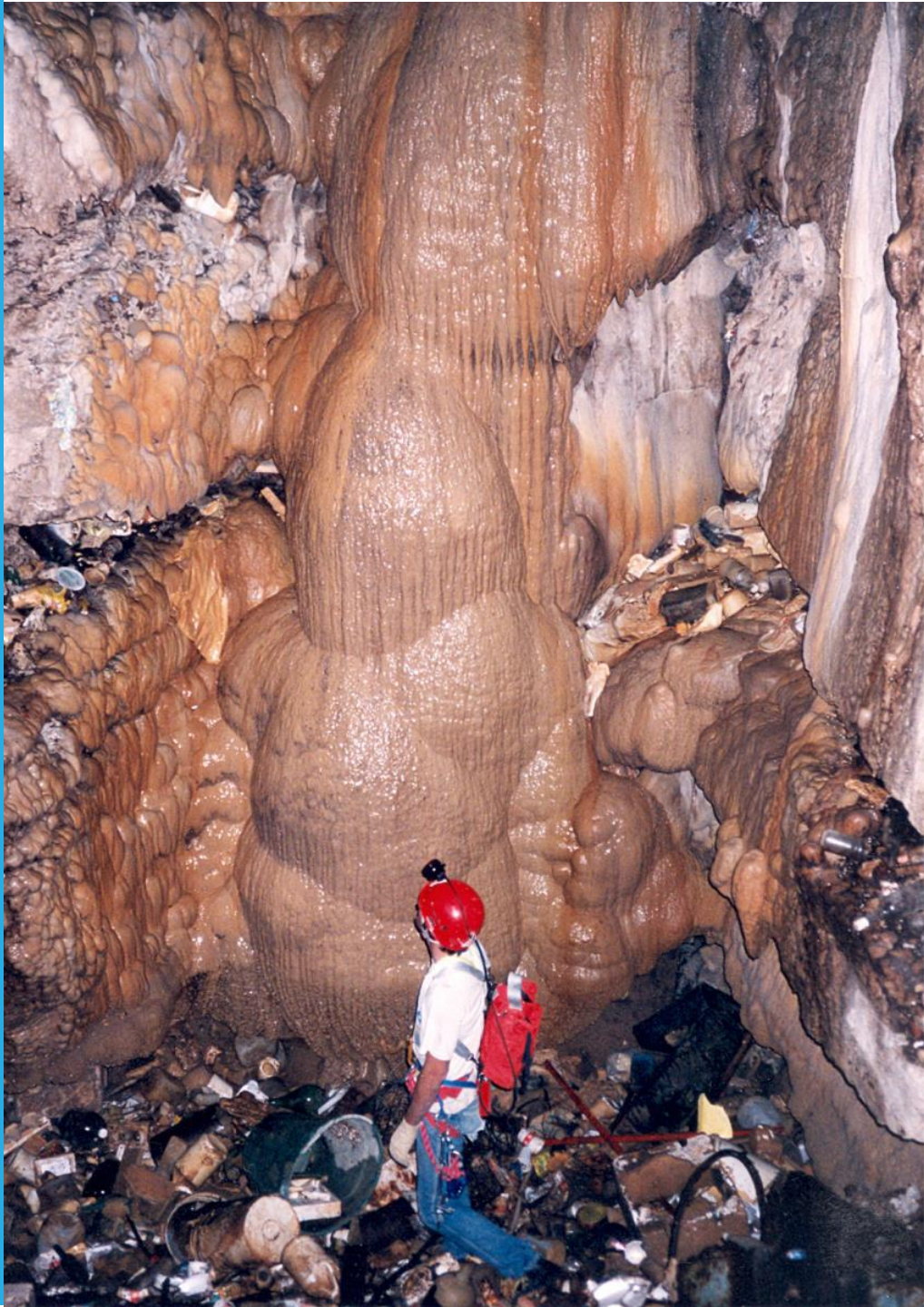
- Listed as Endangered in 1988
- Body is 1/16-inch long, smallest of six
- Has rudimentary eyes
- Legs reflect blue when light is shined on them



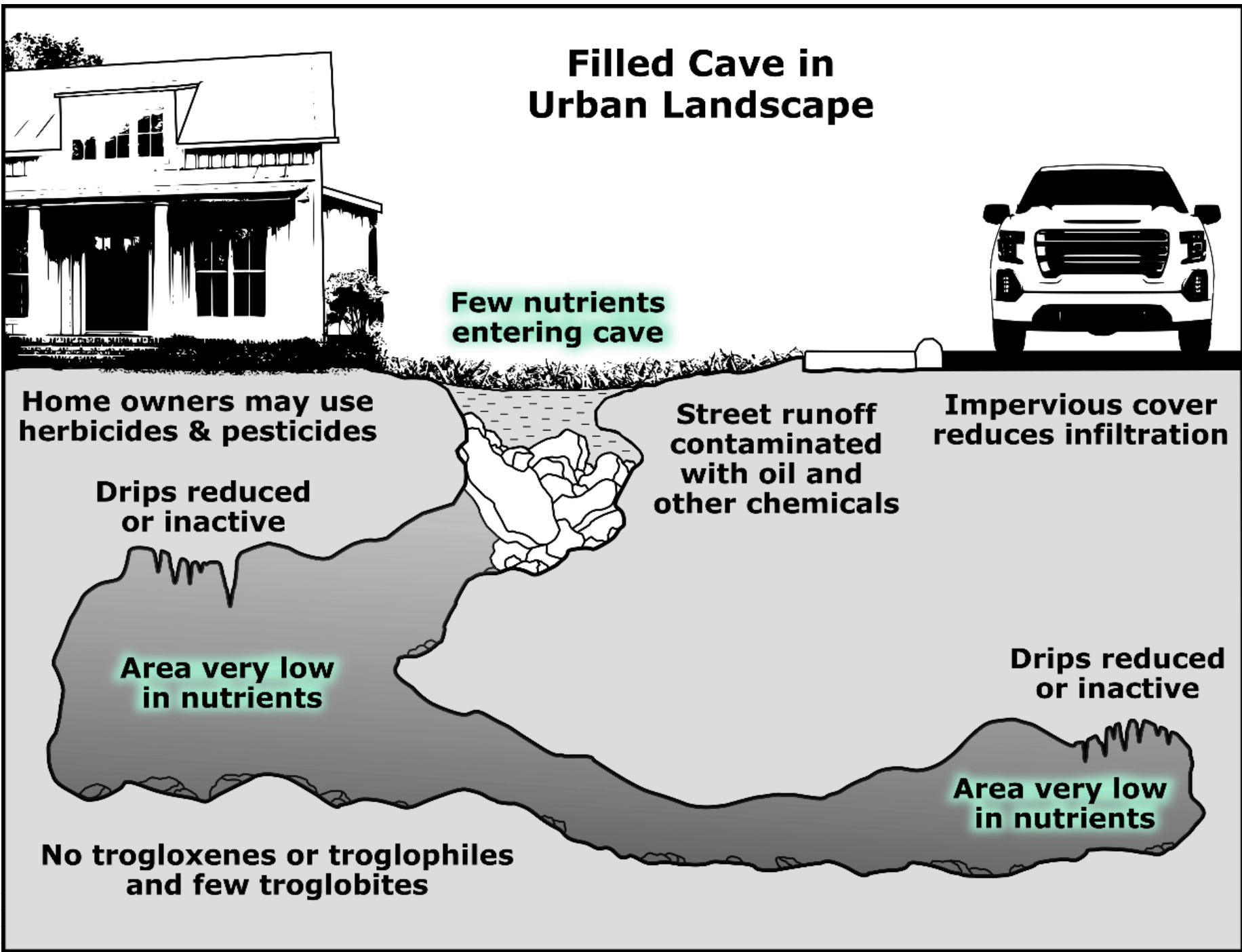
- Conduct biannual cave faunal surveys in multiple Northwest Austin caves
- Reduce predatory red imported fire ant densities with boiling water
- Cave restoration work has increased numbers of known caves and increased abundance

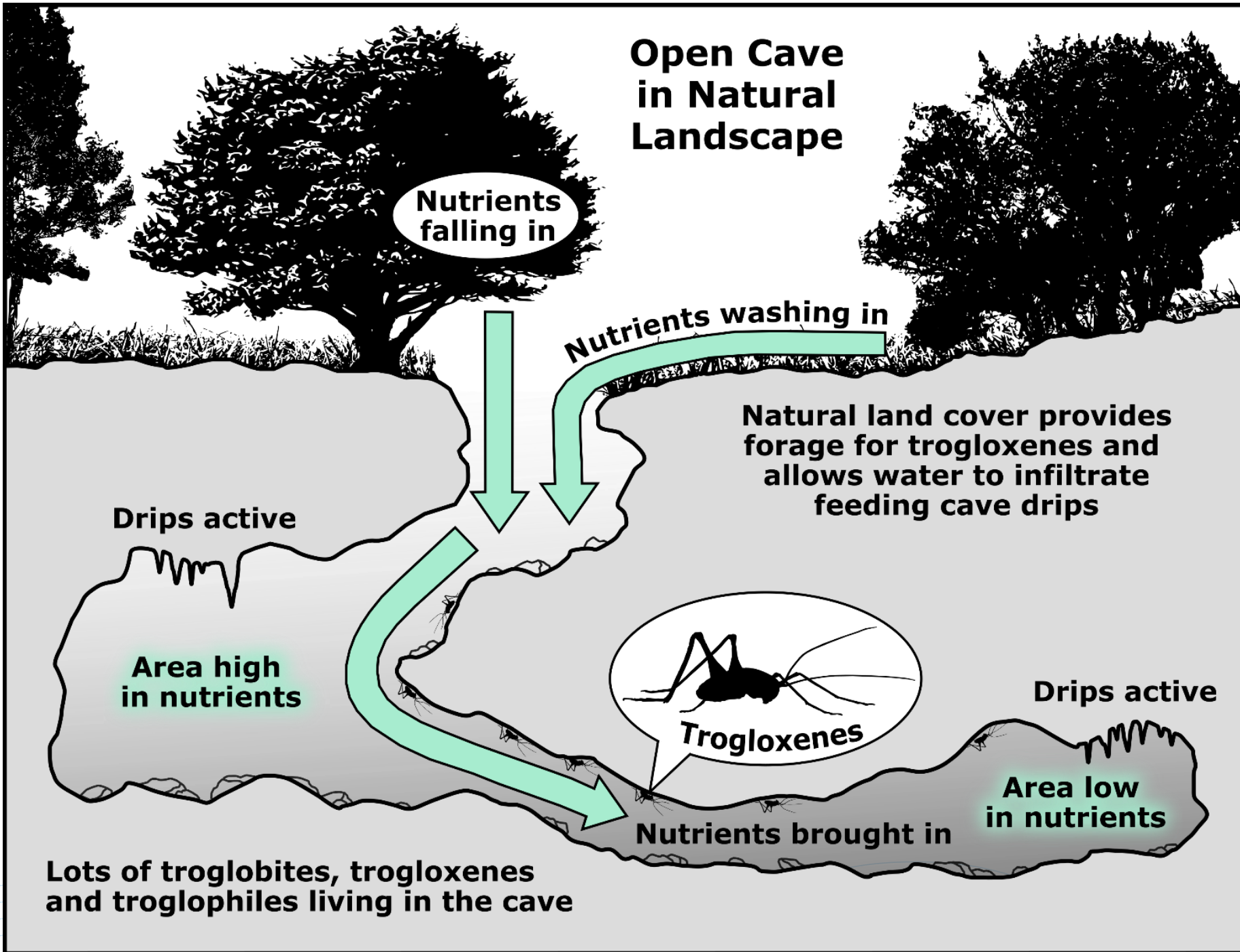


Cave
Restoration



Filled Cave in Urban Landscape







Cave Crickets

- Keystone species for karst ecosystem
- Forage for food on surface at night bringing vital nutrients into the nutrient poor cave environment
- Their eggs, scat and themselves provide food for the whole cave ecosystem
- Negatively impacted by urbanization

Questions?

Find out more at the links below.

Events: www.austintexas.gov/wildlands

Facebook: www.facebook.com/austinwildlandconservation

Instagram: www.instagram.com/wildlandsforwater/

