



Blackland Prairie Floodplain Reforestation

August 2nd, 2023

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Outline

Background and History

- Blackland Prairie
- Stream corridors study
- Findings
- Actionable recommendations
- Initial actions

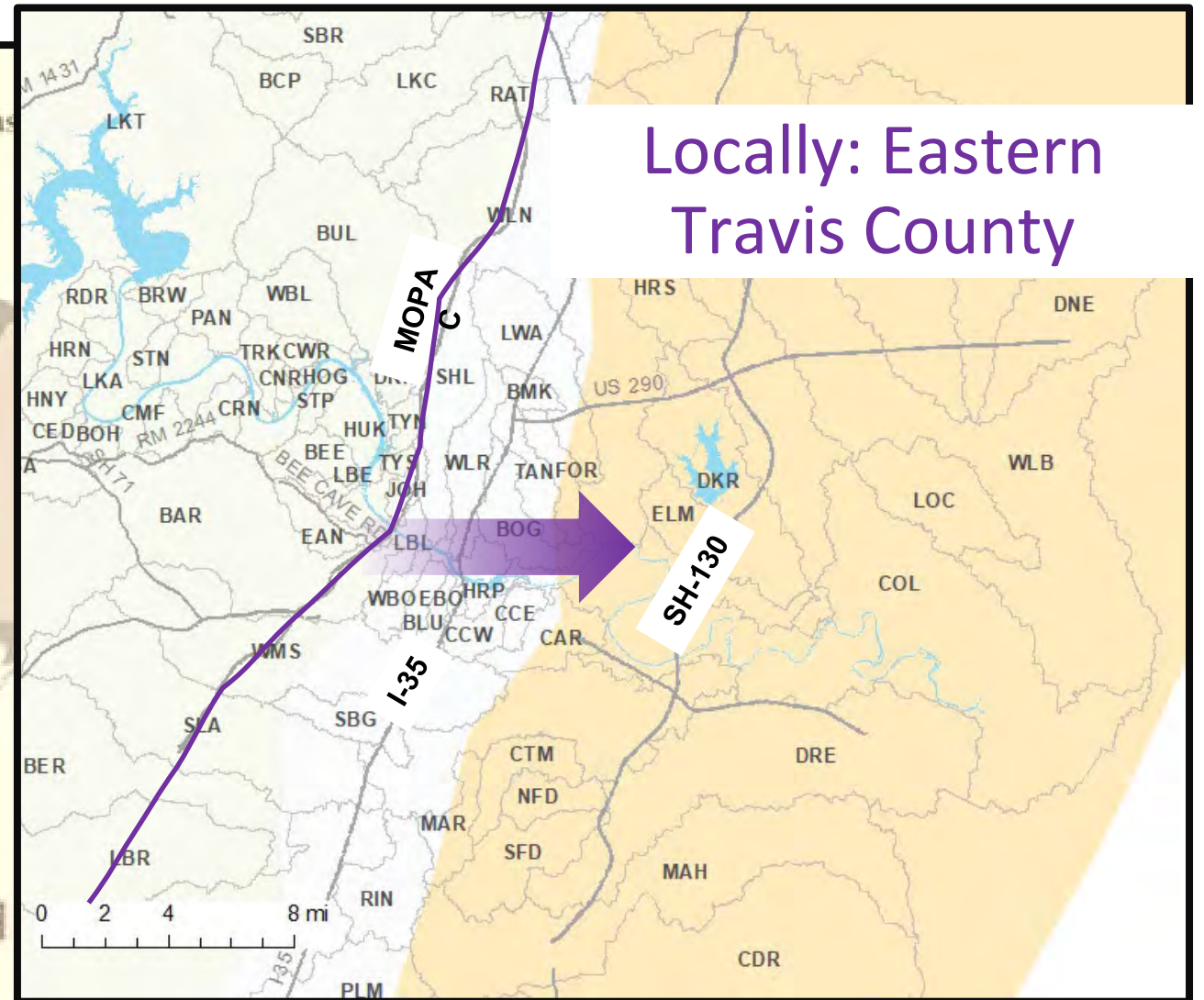
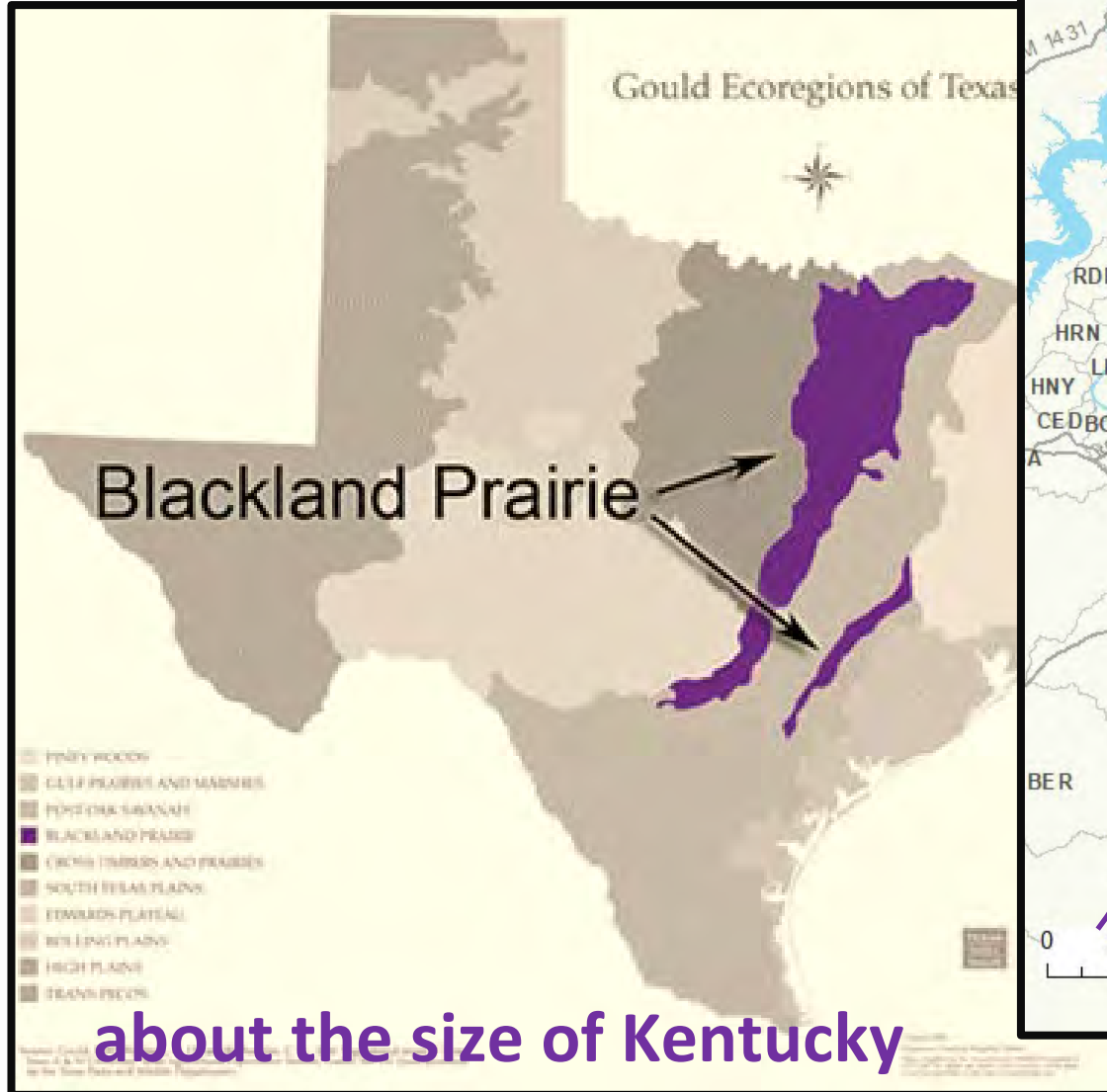
TreeFolks Central Texas Floodplain Reforestation

- Program Overview
- Contract with COA
- Growth Plan Provision
- TreeFolks approach
- Current Status and direction



Remnant Blackland Prairie (The Nature Conservancy, 2021)

Where is the Blackland Prairie?



What is the Blackland Prairie?



Texas Parks and Wildlife

<http://artemis.austincollege.edu/acad/bio/gdiggs/introduction.html>

Why do we care about our Blackland Prairie?

Extensive set of streams and floodplains

- ~ 800 stream miles in the Blackland Prairie
- ~33K acres in creek buffers (14K full purpose; 19K ETJ)
- ~11K acres of floodplain outside creek buffers (3K full purpose; 8K ETJ)

Equity

Development will continue to expand eastwards. The already degraded stream conditions will be inherited by these communities

Resilience

Our ability to survive and thrive in Austin will depend in part on the condition of our streams

WPD Study: Expand our understanding of riparian corridors in Austin's Blackland Prairie watersheds

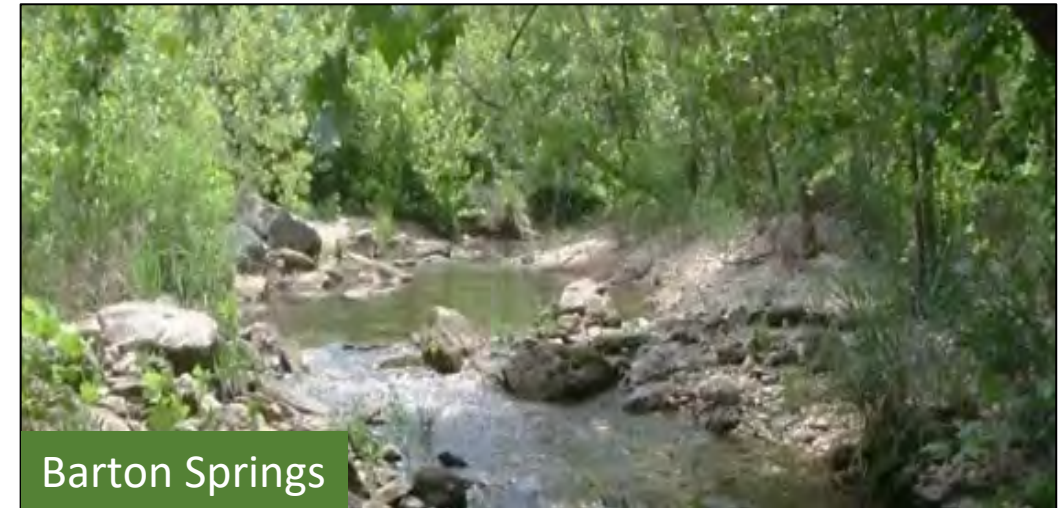
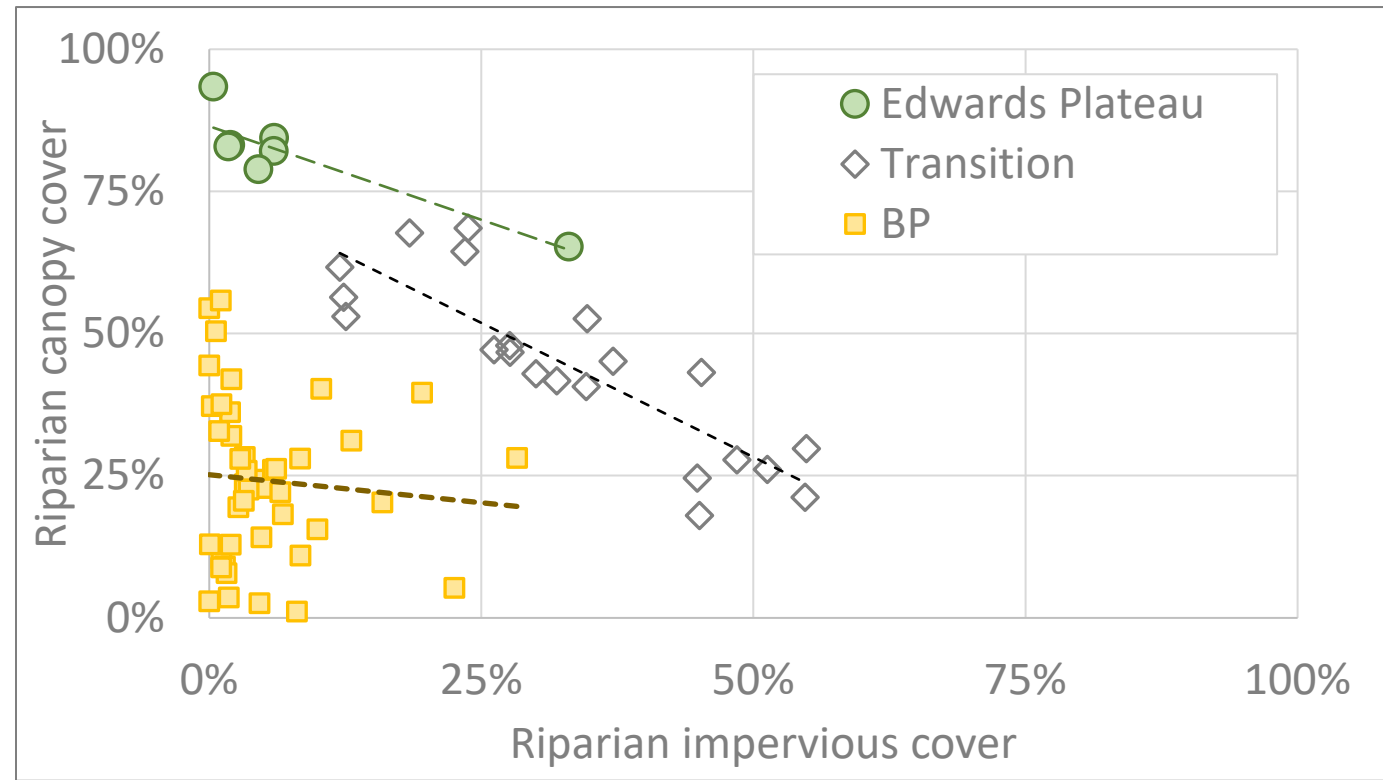
1. Riparian vegetation
2. Stream conditions
3. Development & impervious Cover



Put findings within context of the more studied Edwards Plateau and central Transition systems

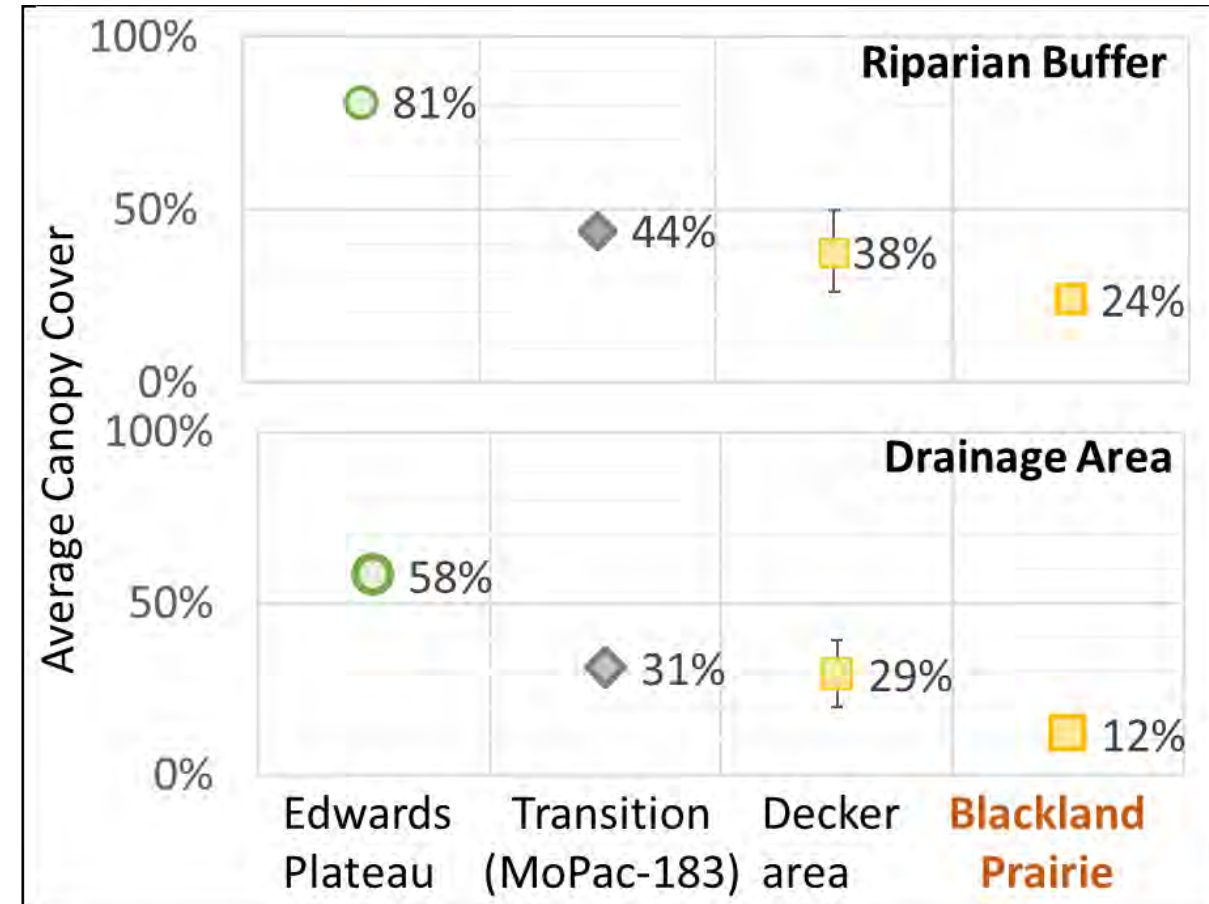
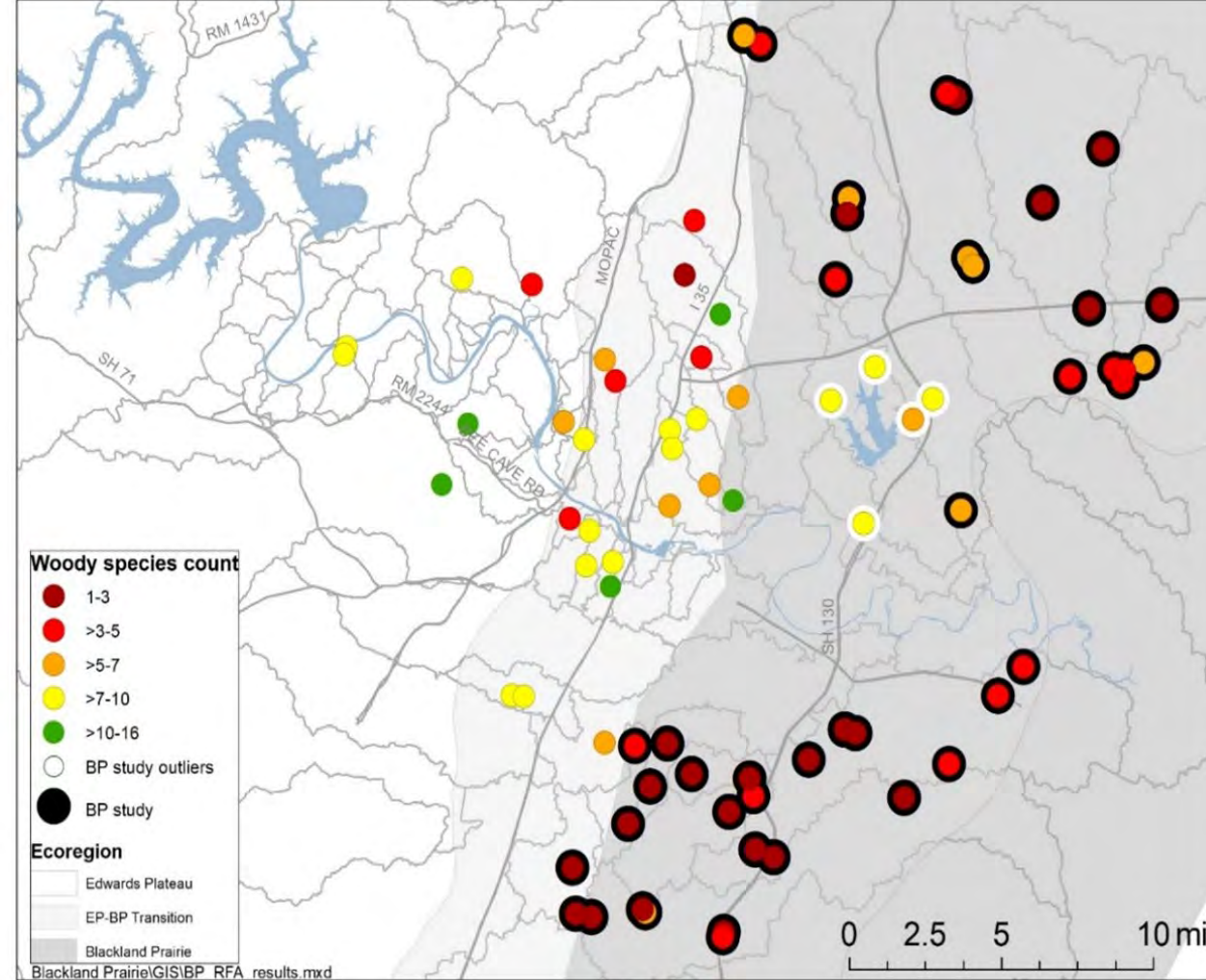
1. Impervious cover NOT a proxy for quality of riparian buffers

Unlike Edwards Plateau & Transition areas, low impervious cover in the Blackland Prairie ***did not correlate*** with high riparian health.



2. Blackland Prairie riparian areas in worse conditions than urban streams

Species diversity, Canopy Cover, Tree demography



3. Most BP streams no longer benefit from the once protective, stabilizing prairie system of its own hard-points and grade controls

- Pre-settler predominantly tree-based
- Now, rarely observed at sites. Recovery lag & clearing continue to be a disadvantage for Blackland Prairie streams (*different from west and central Austin, hard points like outcrops, large cobbles, and infrastructure*)

Beaver dams



Harris

Grade control via roots



Dry Creek East

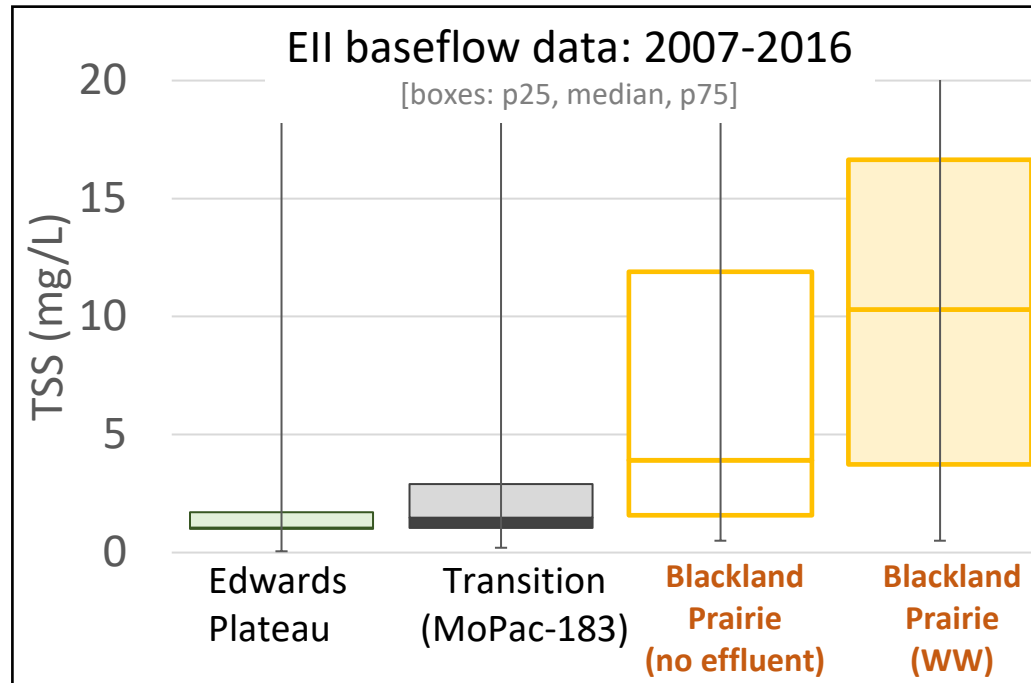
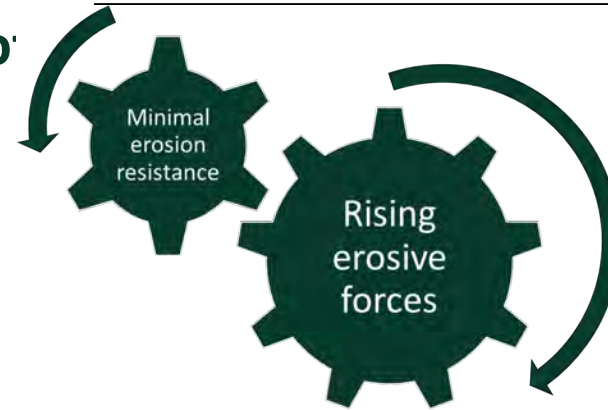
Debris jams



Marble

4. Total Suspended Solids (TSS): symptoms of degraded water quality, watershed erodibility + stream instabilities

- Early settlers, streams ran clear
- Legacy of wide-spread:
 - Loss of grasslands (higher flows)
 - Unstable streams (loss of resistive strength)



Report recommendations

- Provisions for Critical Water Quality Zone Restoration
- Rain to River Strategic Planning
- Asset management & erosion identification
- Active Riparian Restoration (not passive)
- Land Protection

[Why update the plan?](#) [Watershed problems](#) [Watershed solutions](#) [What we've heard](#) [Tell us what you think!](#)


Rain to River

A Strategic Plan to Protect Austin's Creeks and Communities

Each time rain falls on our city, it flows through a vast network of built and natural infrastructure and into our creeks, lakes, springs, and the Colorado River. Rain feeds the beautiful places that make Austin special—places where we can spend time with friends and family, explore nature, cool off, and relax. But rain can also pick up pollutants, erode creek banks, and flood homes and businesses.


What is Rain to River?

Rain to River is a strategic plan that will guide the work of the Watershed Protection Department for the next 10 years. Our department will use this plan to set goals, prioritize our work, and guide our decision making to tackle urgent challenges such as climate change and racial inequities. The plan will update and replace the current Watershed Protection Strategic Plan. We need your help to draft the plan!



Report recommendations



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PRIDE DESIGN CONTESTREFORESTATION SERVICESGET INVOLVEDABOUT USDONATE

Central Texas Floodplain Reforestation Program

The Central Texas Floodplain Reforestation Program restores healthy forest buffers along riparian or streamside areas within a 6-county region. **Riparian forests improve water quality, provide wildlife habitat, and contribute to our overall well-being.** These forests can sequester enough carbon to counteract the effects of local fossil fuel consumption while generating carbon offsets to address regional climate change.

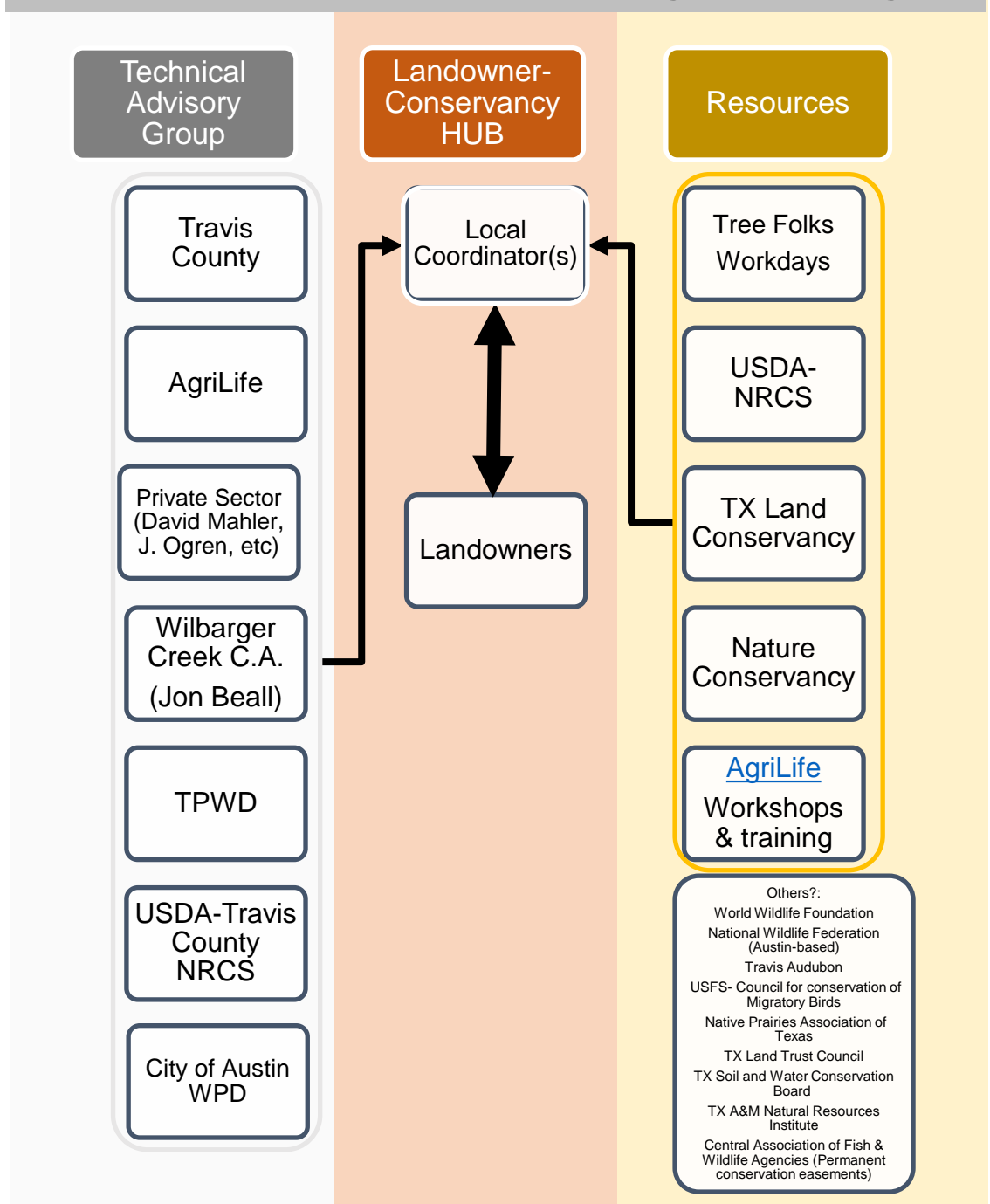
Public and private landowners in Travis, Bastrop, Hays, Williamson, Caldwell, and Burnet counties interested in protecting their land while creating a positive impact on our environment are encouraged to apply. There is no cost to private landowners, and all proceeds made from the sale of carbon credits help fund current and future reforestation efforts.



Initial actions

- Meetings with NRCS, Willbarger Creek Conservancy, Travis County, TreeFolks, Texas Parks and Wildlife
- Idea of floodplain reforestation program
- Co-sponsorship for TreeFolks Pilot for public parcels

Example structure for Riparian Revegetation Program





TREEFOLKS

Empowering Central Texans
to build stronger communities
by planting and caring for trees.



History of TreeFolks' Reforestation Programs

Bastrop Reforestation:

in response to 2011 & 2015 Wildfires

- 2.2 million Loblolly pines planted for private landowners in 5 years
- 25K pines distributed annually for next 5 years

Trees for the Blanco:

in response to 2015 Memorial Day Floods

- 200K trees planted along Blanco River in Hays county in 4 years
- 20 miles of riverbank reforested

Central Texas Floodplain Reforestation:

in response to climate change and human impacts on streamside forests

- With aligned goals and support from various partners including WPD, TreeFolks completed a 2 Year Pilot in Eastern Travis county
 - Carbon+ Credits generated, protecting trees for 26 years
- After pilot, expanded to serve 7 counties
- **In 2021, started a 5 year contract with WPD to reforest CoA floodplains**

WPD Floodplain Reforestation Contract

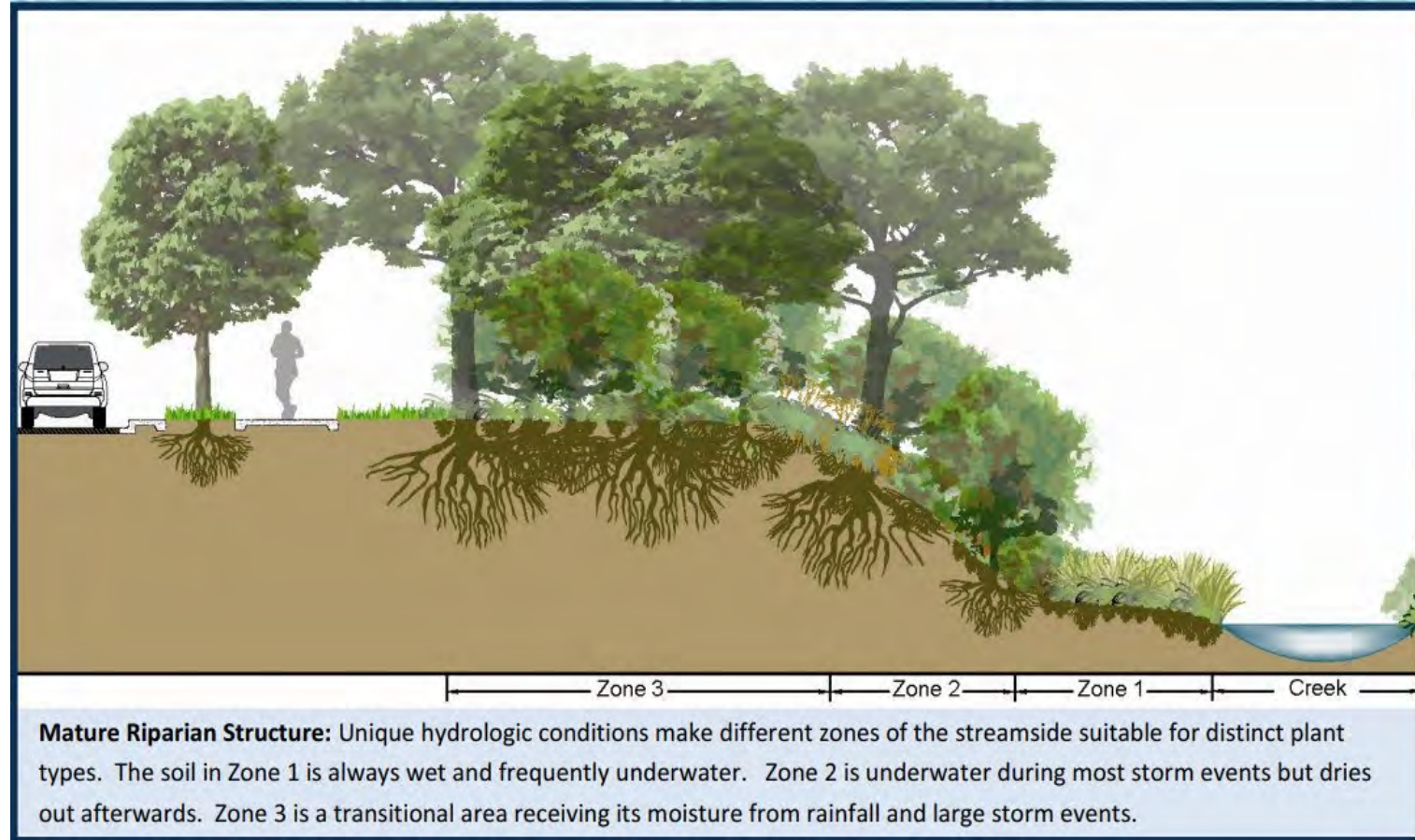
5 Yr Contract with Watershed Protection Department for \$125,000 began in 2021 to:

- Plant **20,000 saplings** and native tall **grasses** on floodplain land annually
- Provide professional **marketing** and **education** materials
- Register **Carbon+Credits**
- Create a **Woody Seed Collection** program
- Provide **Program Growth Plan** to secure a minimum 25% supplemental funding to the city's investment (\$31,250)
 - Pathway to plant more trees



Functional Riparian Benefits

- Shade
- Improved water quality & quantity
- Dissipation and slowing of floodwaters
- Streambank stabilization
- Wildlife habitat improvement
- Aesthetic value
- Regional cooling
- Carbon sequestration
- Groundwater infiltration



Central Texas Floodplain Reforestation Program (CTFRP)

Large-Scale Reforestation & Carbon+ Credits

Restores degraded riparian buffers

- Partners with public & private landowners
 - On-site Consultations, Trees & Planting Services
- Generates Carbon+ Credits, sequestering
 - 1 Credit = 1 metric ton of CO₂
 - 1 acre captures 106.7 tonnes in 25 yrs
- Contributes to climate equity

Ultimate goal: Offset the impacts of climate change for all Central Texans

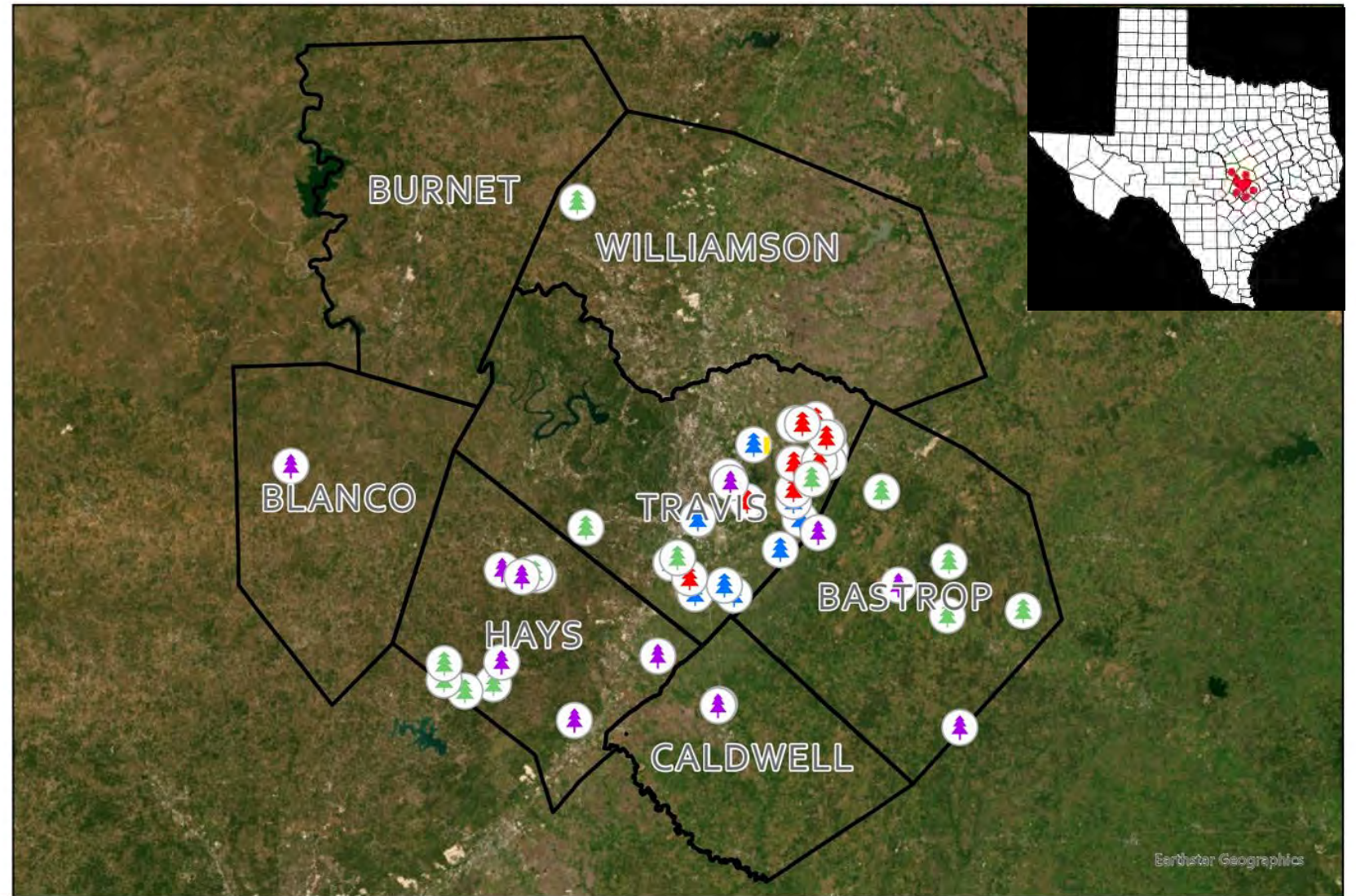



TreeFolks' Central Texas Floodplain Reforestation Program


Project Sites


How it's going


- **56 Sites** (51 private, 5 public, *80% in disinvested communities*)
- **239 acres** planted
- **212,839 trees** planted (40+ species)




 Planting Locations
22-23

 Planting Locations
21-22

 Planting Locations
20-21

 Planting Locations
19-20

 County Boundaries

2023-2024 site locations will be finalized by September 2023 and an updated map will be provided at that time.

 TREEFOLKS



0 12.5 25 50 Miles

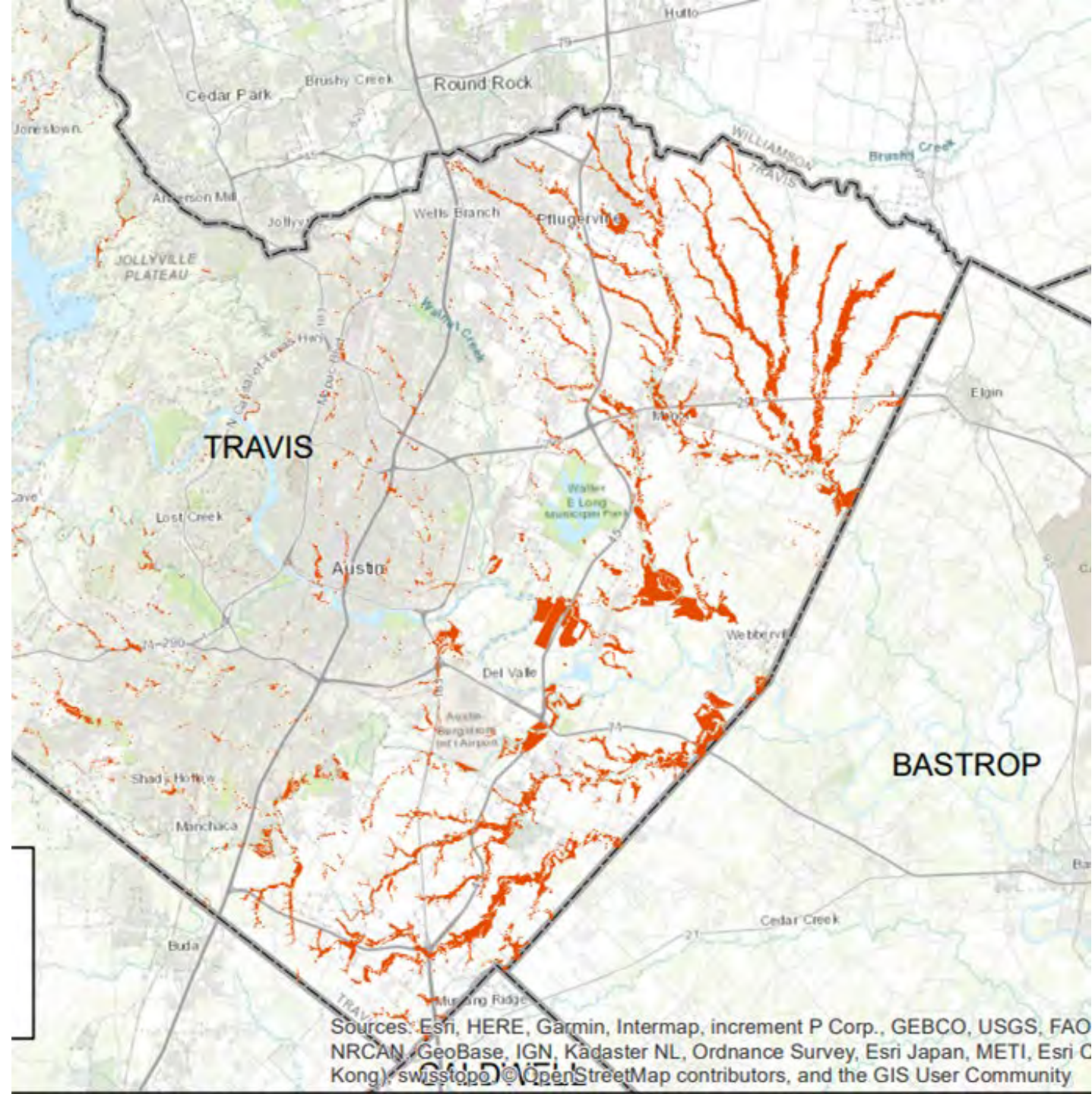
The Vision and Roadblocks

Climate Equity through Restoration of Waterways

- Double CTRP output by 2028

Limiting Factors

- Need millions of seeds, ½ million saplings
- Landholders commit planting & BMP's



Tree Shortages: Why?

In general:

Supply chain issues

- Pots, Fertilizer, Soil, Fuel, etc.

Labor Shortages

Seed & Sapling Shortages

Extreme Weather

Rare native trees:

Considered unprofitable

- Lower demand
- Slower to reach sellable size
- Harder to propagate

Growers are closing down

- (5 of 11 in last 3 years)





Groundwork

AeLK Foundation Grant (\$25k) funding business plan with Davey Resource Group

Green Workforce Accelerator (\$10k). By Austin Civilian Conservation Corps partnership with Office of Innovation

Visioning (Market Analysis, Case Studies, Feasibility Study, Accelerator Training)

A Nursery of Nurseries



Seeds to Trees

- Seeds
- Saplings
- 5-Gallon Trees

Key Functions

- Grow Trees
- Support Growers
- Train Future Growers



March 2023: Initial Funding Secured

**\$118,000 Urban Forest Grant from the
Development Services Department to fund:**

- Start-up Materials
- Seed Collection and Nursery Manager
- Conservation corps engagement
- Retiring growers consultation
- 15,000 trees for our programming

Scaling the Program

- **5-year plan to Reforest 575 Acres**
 - Produce over 60,000 Carbon + Credits
 - Collect 3.5 Million Seeds
 - Grow 515,000 Saplings
 - Engage 600 Volunteers
- **Funding**
 - \$10 Million proposal submitted to USDA in the CTAEC Proposal



Partners and Sponsors

- **City of Austin**
 - Watershed Protection Department
 - Development Services Department
 - Austin Energy
 - Austin Water
 - Parks and Recreation Department
- **AeLK Foundation**
- **Central Texas Seed Savers**
- **Program Participants**
 - Landowners, Volunteers, Tree Adopters
- **Nurseries**
 - Seed Collectors, Seed Processors, Growers



Blackland Prairie Streams

The scale of the restoration challenge is enormous:

- ~ 800 stream miles in the Blackland Prairie
- ~33K acres in creek buffers
- ~11K acres of floodplain outside creek buffers
- Rate and magnitude of development in the east will impact vulnerable streams
- Proactive restoration is critical



Our collective ability to make a difference hinges on identifying and addressing bottlenecks to meet the scale of the challenge



Questions?