



PARD Recommended Land Management Strategies and Climate Vulnerability Analysis

A GUIDE TO RESTORATION OF PARKLAND NATURAL AREAS

Presenters:

Kimberly McNeeley

Director, Austin Parks and Recreation Department

Matt McCaw

Environmental Conservation Program Manager,

Land Management, Austin Parks and Recreation Department

PRESENTATION OBJECTIVE

- Briefing Update:
 - 2019 Wildfire Preparedness Audit Recommendations background
 - PARD Land Management Strategies and Climate Vulnerability Analysis Summary
 - Demonstrate operationalization of the recent budget allocation for improved land management in parks





BACKGROUND

2019 WILDFIRE PREPAREDNESS AUDIT

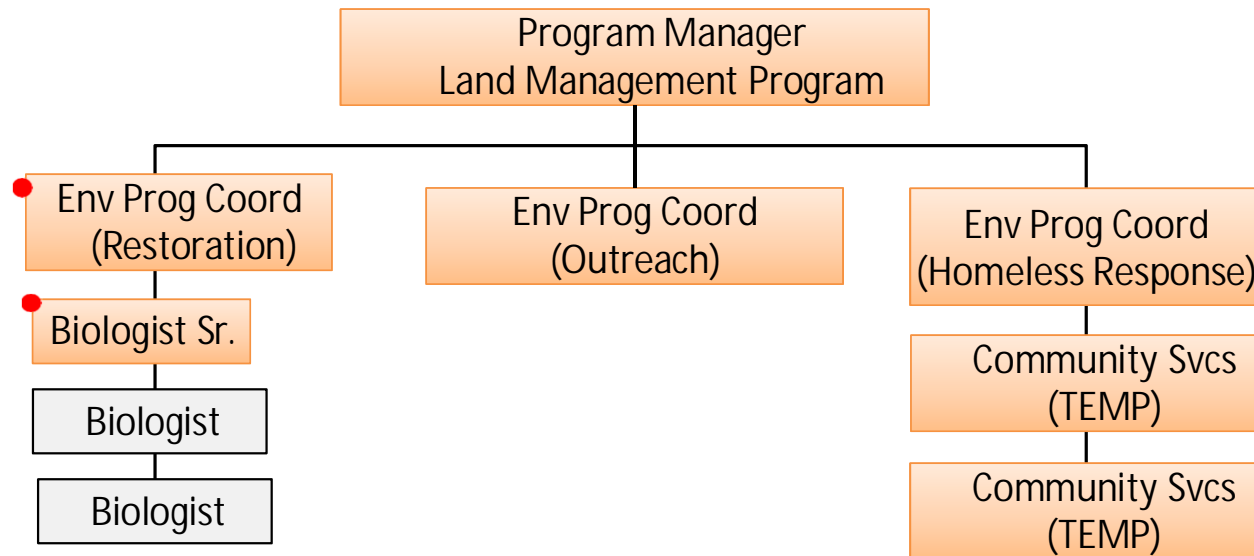
The audit found the Parks Department had little capacity to mitigate wildfire risk on parkland.

- Audit Recommendations:
 - Create and implement land management plans with a priority on “high-risk properties.”
 - Establish a land management team responsible for reducing wildfire threats.
- PARD Response:
 - Established a land management team
 - Participated as key stakeholder in the creation of the Climate Equity Plan
 - Used stakeholder experience to inform the creation of the Land Management Strategies and Climate Vulnerability Analysis
 - the technical guiding document to help direct action for land management

Note: PARD completed 2 plans for specific park spaces prior to Audit

- Decker Tall Grass Prairie Preserve
- Barrera Indian Grass Preserve

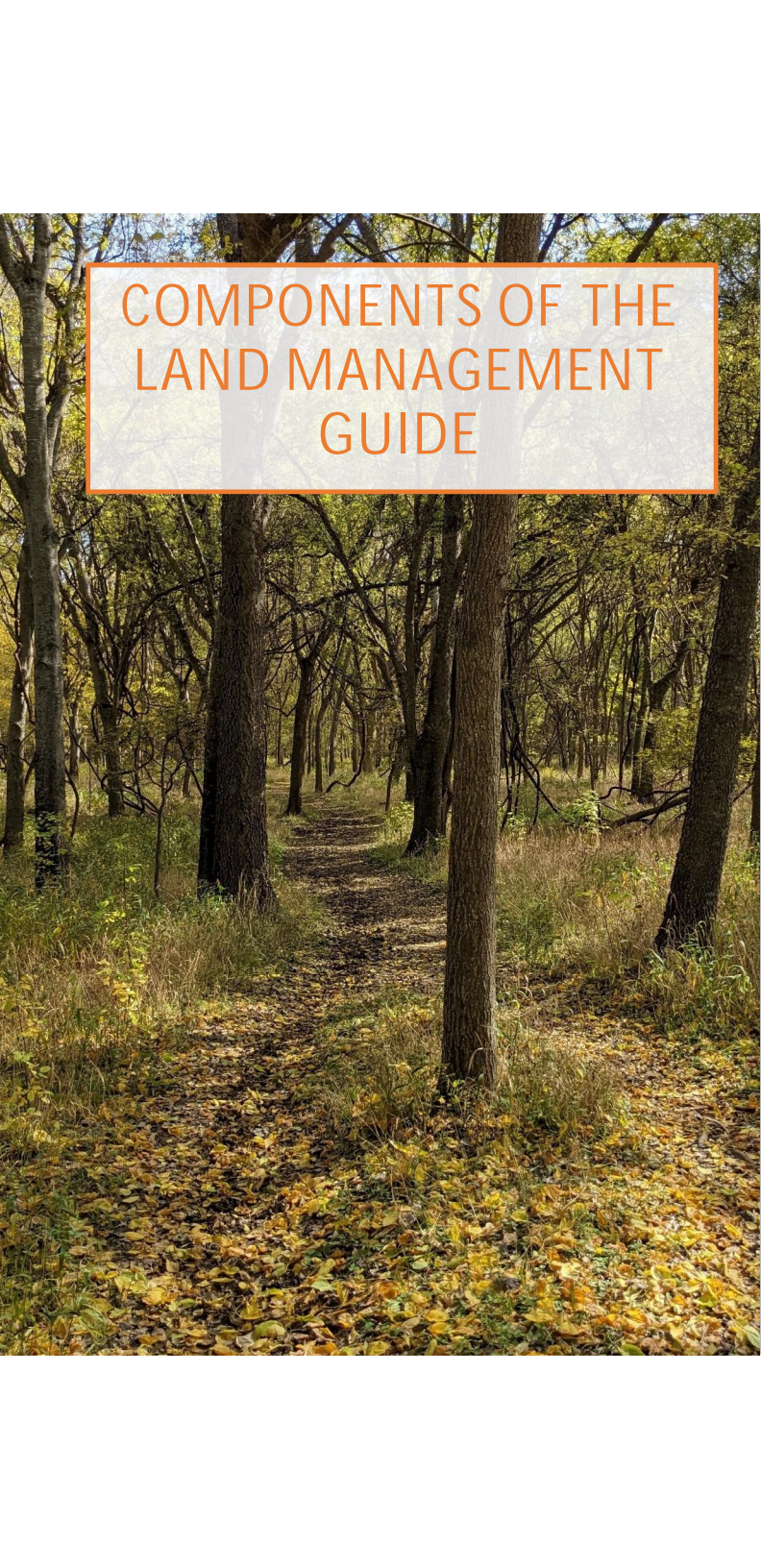
ESTABLISHED LAND MANAGEMENT TEAM:



Existing position

Future position(s)

● Allocated in FY24 budget



COMPONENTS OF THE LAND MANAGEMENT GUIDE

SITE ANALYSIS: (current challenges)

Current conditions and challenges:
Existing vegetation communities, wildfire
fuel conditions, soils, hydrology,
endangered species, other elements

CLIMATE VULNERABILITY ANALYSIS: (future challenges)

Defined the components of climate
vulnerability. Identifies and maps
vulnerability to intense heat, drought,
disease, and wildfire. Incorporates social
vulnerability as a component of risk.

MANAGEMENT GOALS:

Target vegetation types expected to best
withstand and recover from heat, drought,
disease, and wildfire throughout 21st
century.

RESTORATION STRATEGIES:

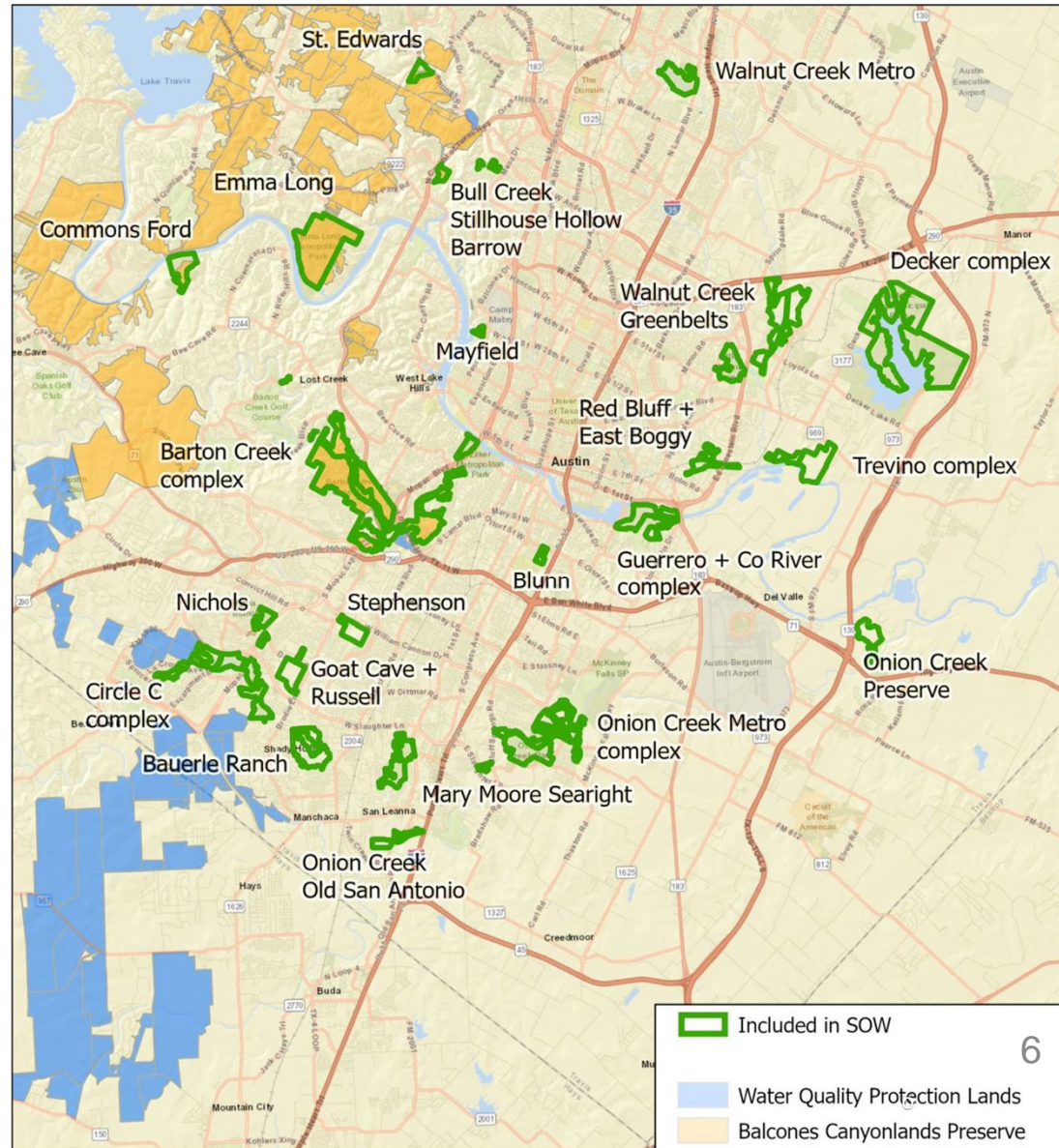
Actions for economically and efficiently
achieving management goals at large
scales

MONITORING DIRECTION:

For evaluating progress relative to
management goals

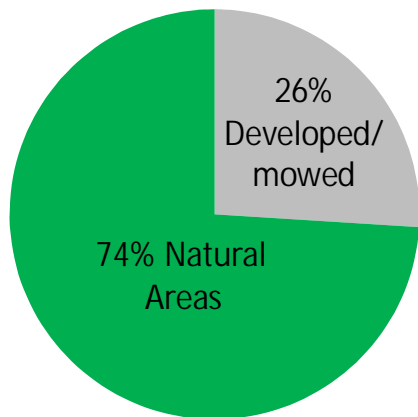
DEVELOPMENT OF LAND MANAGEMENT GUIDE: SCOPE

- Analysis for 10,347 acres (16.2 square miles) of natural areas
- Includes interventions options for all PARD Nature Preserves and PARD Balcones Canyonlands Preserves
- Includes interventions for contiguous natural areas > 75-100 acres
- Creates large management complexes
- Excludes small and/or fragmented natural areas which provide difficult access and are expensive to manage

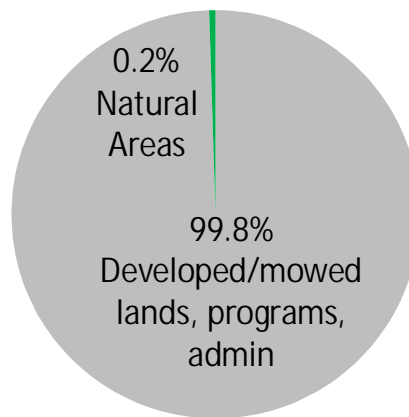


ANALYSIS CURRENT STATE

- A natural area is one with natural character, typically dominated by native plants and animals.
- 74% of parkland (~10,000 acres) is designated as natural areas in Nature Preserves, Greenbelts, and other park types.
- Natural areas provide critical services such as support for human health and well-being, climate regulation, clean air and water, and support for strong economies.



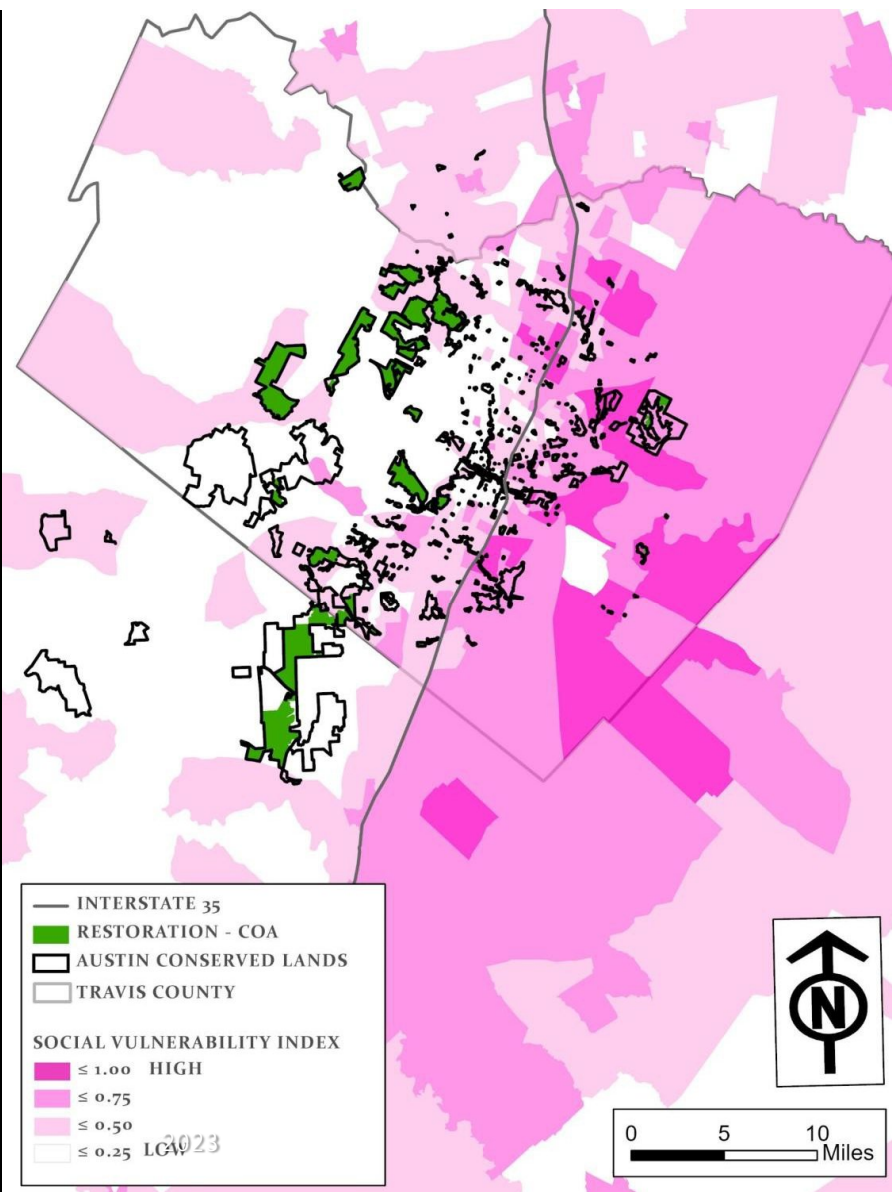
PARD lands



PARD budget

DEGRADED LANDS

Most parkland natural areas have not been managed for ecosystem health and are degraded. As a result, they are threatened by heat, drought, disease, and wildfire and present safety risks to both park users and neighbors.



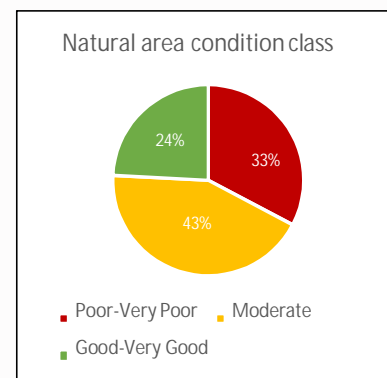
ANALYSIS CURRENT STATE

AUSTIN'S NATURAL AREAS (City Owned Lands)

- 87.5% of Austin's public natural areas are west of Interstate 35.
- 98.5% of all lands that have received ecological restoration activities are west of Interstate 35.
- Socially vulnerable communities depend heavily on healthy ecosystems for their health, well-being, and economic vitality. Most communities classified as high social vulnerability are located east of Interstate 35.

PARD CURRENT CHALLENGES

- 76% of parkland natural areas are in Very Poor to Moderate condition due to invasive species, loss of biodiversity, and hazardous wildfire fuel conditions. Ecological condition affects the likelihood of widespread tree mortality and intense wildfire.
- Areas of elevated probability of intense wildfire are distributed throughout the park system.
- Areas of highest Climate Vulnerability Index are distributed throughout the park system but concentrated east of Mopac.



FUTURE CHALLENGES

- Climate change is increasing the likelihood of widespread tree mortality and intense wildfire.
- The temperature conditions during the 2011 wildfire season are projected to be the average condition as soon as 2040.

IMPLEMENTATION: WHAT DOES IT LOOK LIKE?



Pile burning at the Onion Creek Wildlife Sanctuary. Pile burning can be a cost-effective method for managing slash generated as part of fuel reduction or restoration projects. Pile burn operations are planned, permitted, and managed as prescribed burns by certified wildland fire staff. Photo taken April 2023.

IMPLEMENTATION: WHAT DOES IT LOOK LIKE?



Broadcast prescribed burns are an important and economical strategy for restoring large natural areas and mitigating wildfire risk. Prescribed burns are planned and managed by PARD staff with state and federal wildland fire certifications, permitted by AFD, and implemented by PARD staff and a coalition of federal, state, county, City, and non-profit entities, including AFD.

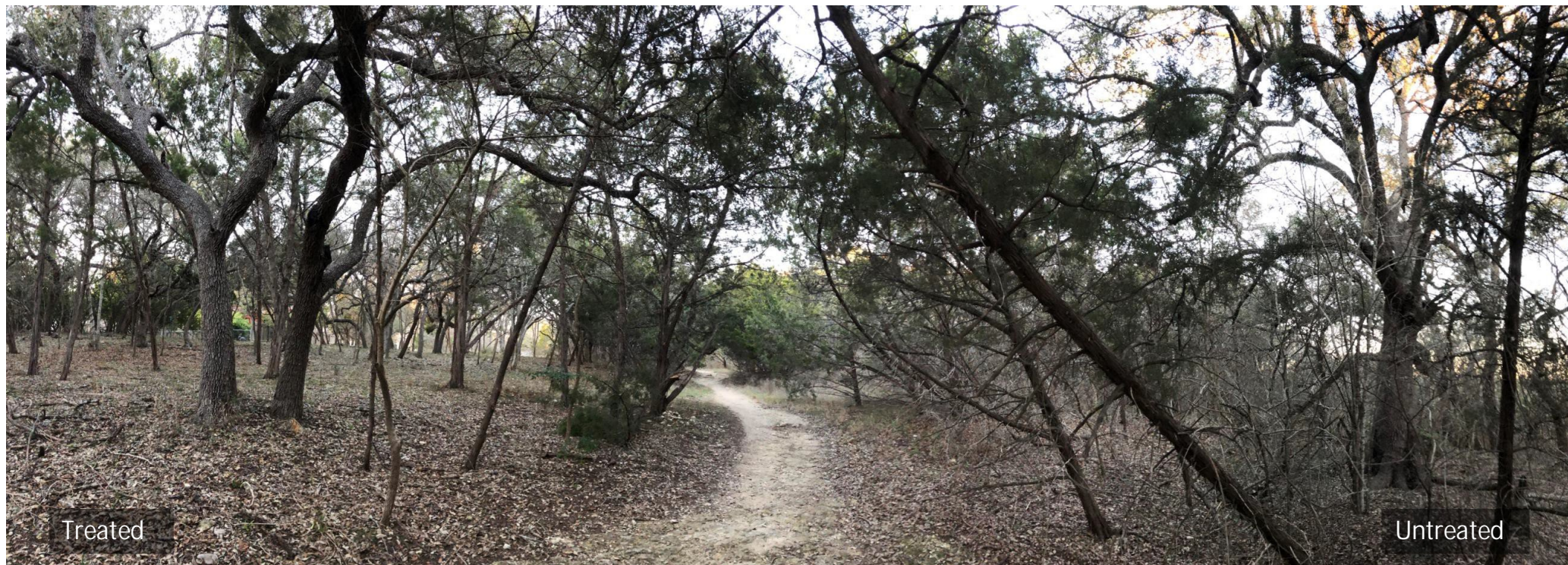
IMPLEMENTATION: WHAT DOES IT LOOK LIKE?



“Dripline” treatments remove small trees and brush from beneath the canopies of larger trees.

The purpose is to improve the health of the larger tree as well as the resilience of the woodland system to heat, drought, disease, and wildfire.

IMPLEMENTATION: WHAT DOES IT LOOK LIKE?



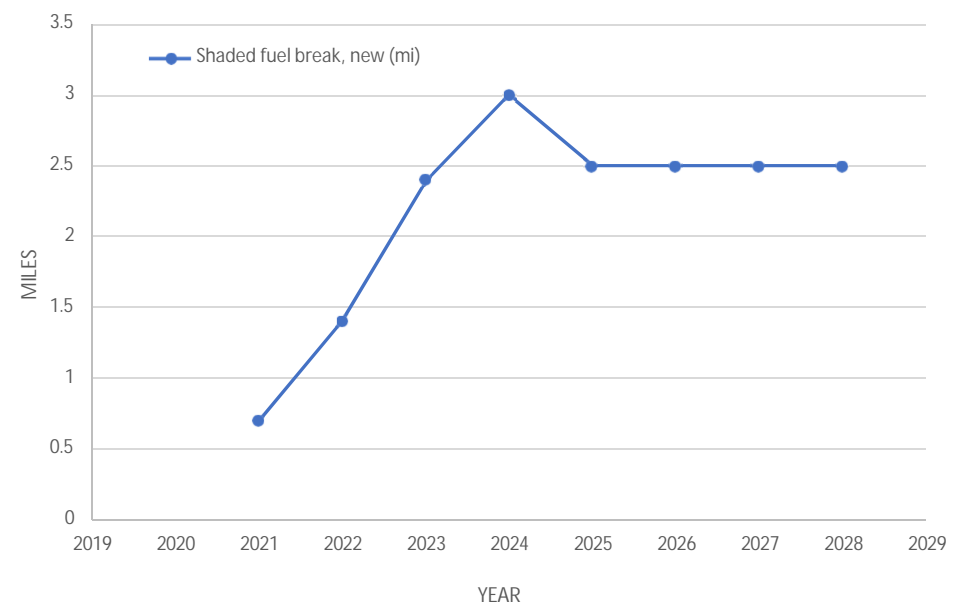
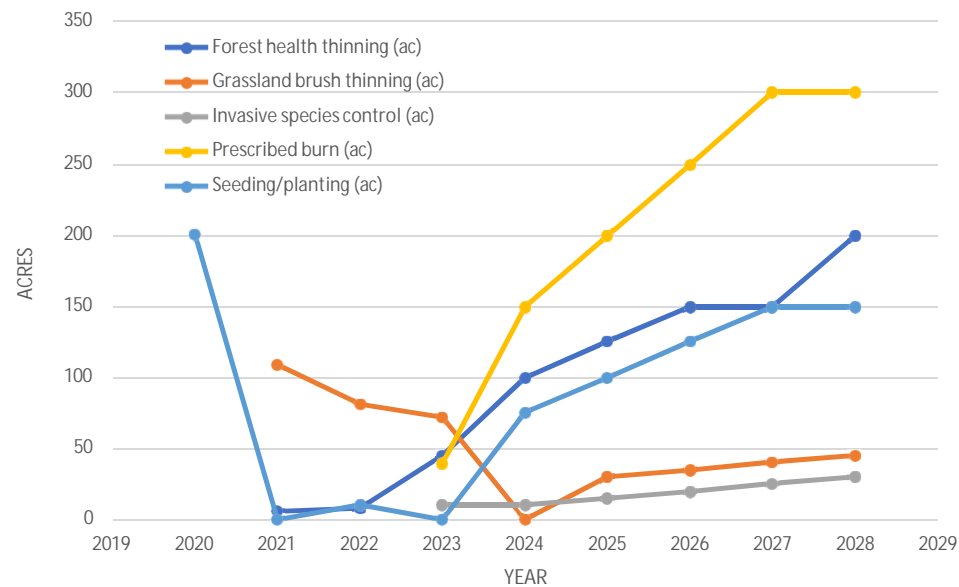
Shaded fuel break at Mary Moore Searight Metro Park. Small trees and brush are selectively removed to thin the canopy and separate surface fuels from canopy fuels. Slash is chipped and removed. The purpose is to reduce canopy fire and ember production adjacent to structures. Shaded fuel breaks are most effective when paired with other wildfire mitigation strategies on the developed/urban side as well as in nearby natural areas.

LONG TERM

- Holistic restoration and management of parkland natural areas to mitigate risk, improve resilience, and secure ecosystem services.
- Use the Land Management guiding document to guide restoration strategies.
- Engage with communities to help develop site-specific work plans.



LONG TERM IMPLEMENTATION GOALS



	2020	2021	2022	2023	2024	2025	2026	2027	2028
Woodland health thinning (ac)		6.2	8	45	100	125	150	150	200
Grassland brush thinning (ac)		108.75	80.6	72.1	0	30	35	40	45
Invasive species control (ac)				10	10	15	20	25	30
Prescribed burn (ac)				39.5	150	200	250	300	300
Seeding/planting (ac)	201	0	10	0	75	100	125	150	150
Shaded fuel break, new (mi)		0.7	1.4	2.4	3	2.5	2.5	2.5	2.5

Requested Action: Approve the PARD Climate Vulnerability Analysis and Recommended Management Strategies.

