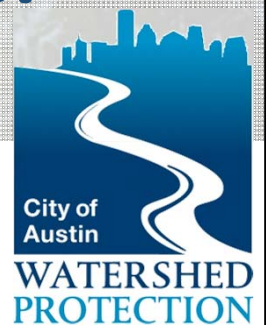




# **2018 Bond Election Advisory Task Force: Open Space Working Group**

Water Quality Protection Lands Overview

August 10, 2017



# Presentation Overview

- Policy Directives
- Green Infrastructure & Open Space
- Watershed Protection Missions
- Open Space Benefits & Water Quality Prioritization
- Program History and Background
- Other Central Texas Land Protection Programs
- 2018 Bond WPD Open Space Needs Assessment
- Coordination with PARD Needs Assessment

# Council Resolution calling for BEATF: Open Space elements

## **RESOLUTION NO. 20160811-031**

**WHEREAS**, the City has initiated and completed several studies to identify city service needs, including but not limited to the Flood Mitigation Task Force Final Report, the Austin Housing Plan, the Austin Strategic Mobility Plan, the Project Connect Central Texas Regional High Capacity Transit Plan, the Long-Range Capital Improvement Program Strategic Plan, and Imagine Austin; and

**WHEREAS**, it is vital that the City allocate and prioritize funding that will address issues such as flooding, affordable housing, mobility, high capacity transit, parks, libraries, and the capital renewal necessary to rehabilitate the infrastructure already in place; and



# Council Resolution calling for BEATF: Open Space elements

**WHEREAS**, the Imagine Austin Comprehensive Plan, through an educational and consensus-oriented process, developed a vision for how the City should develop and present a new opportunity for coordinated investment; **NOW, THEREFORE,**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:**

- (A) A Bond Election Advisory Task Force (Task Force) is established to identify and prioritize bond funding for projects that will address infrastructure needs, including but not limited to needs related to flooding, libraries, housing, mobility, transit, parks, fire stations and other planned, unfunded capital improvement needs.

[Link to  
Resolution](#)



# Imagine Austin Comprehensive Plan

The Open Space/Water Quality Protection Land (WQPL) program continues the implementation of community priorities as laid out in the Imagine Austin Comprehensive Plan.

Specifically, Imagine Austin directs the City to:

- Protect existing open space and natural resources such as creeks, rivers, lakes, and floodplains *(p97)*
- Direct growth away from the Barton Springs Zone of the Edwards Aquifer recharge and contributing zones and other water-supply watersheds *(p97)*



# Imagine Austin Comprehensive Plan

## **Conservation & Environment Priority Action** *(CE A15, p246)*

“Expand the City of Austin’s acquisition of environmentally significant land, conservation easements, and/or development rights for the protection of sensitive areas, including:

- Floodplains
- Riparian areas
- Wetlands
- Prairies
- Land that supports the recharge of the Edwards Aquifer
- Wildlife habitat and corridors
- Bottomland forests & priority woodlands
- Critical environmental features
- Agricultural land”



# Office of Sustainability

## Climate Adaptation Workshop (June 2017)

### **Recommendations:**

- Creation of the Onion Creek Resilience District that “protects natural recreational spaces, mitigates against flood risk, promotes housing affordability and inclusive growth, and improves regional multimodal connectivity and transportation.”
- Acquisition and protection of open space is critical to the health and resilience of the Lower Onion Creek area and other Austin neighborhoods in Southeast Travis County, meeting the need for environmental justice and social equity.



# What is Green Infrastructure?

## **Infrastructure** (*noun*):

- 1) *An underlying base or supporting structure;*
- 2) *The basic facilities needed for the growth and functioning of a community*

**Green infrastructure** is a strategically planned and managed network of natural lands, landscapes, and other open spaces such as parks and greenbelts that preserve natural processes including rainfall/runoff in a cost-effective manner.

# Open Space Types



- **Water Quality Protection Lands:** undeveloped and managed specifically for water quality/quantity
- **Urban & community parks:** developed with recreational facilities and associated infrastructure
- **Greenways:** mostly undeveloped with trail networks

# Watershed problems pose a recurring risk to our public safety, property, and health

**Flooding**



**Public Safety**

**Erosion**



**Property Protection**

**Water Pollution**



**Environmental Protection**



# Land Impacts: Developed vs. Undeveloped

## **Developed land:**

- Pollution in runoff
- Increases flooding
- Reduces recharge
- Decreases creek base flow
- Impacts are irreversible



## **Undeveloped land protects water resources:**

- Cleaner runoff
- Mitigates flooding
- Maintains recharge





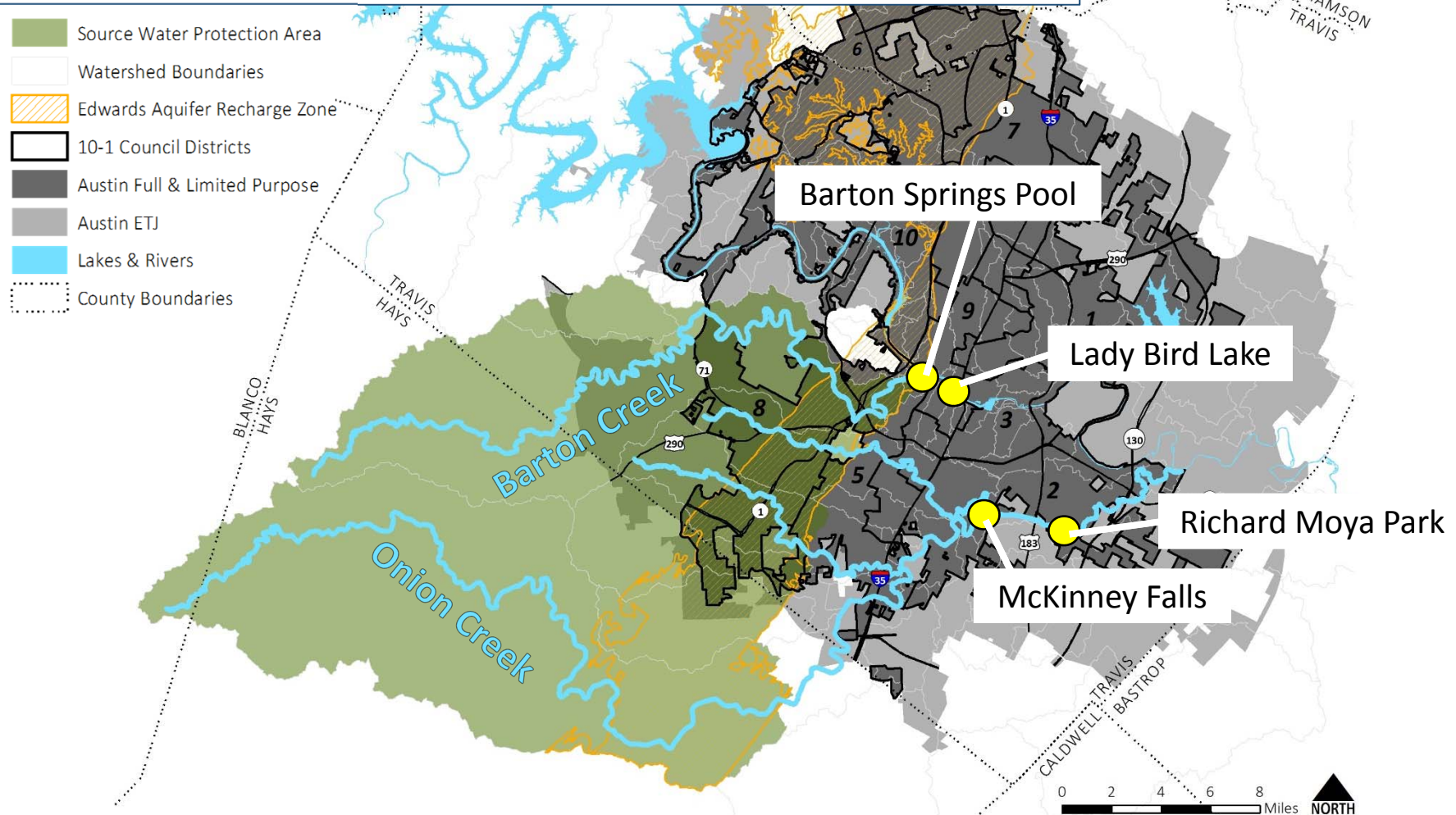
# Open Space and Clean Water

- Clean, plentiful water is a citywide priority for Austin, TX.
- As the Austin area continues to grow, the land that provides clean water is being developed.
- Water that originates west of Austin becomes drinking & recreation water for southeast, south central and southwest Austin.



# Downstream Benefits

Broad area of southern Travis and northern Hays Counties provide water for drinking, swimming, fishing and boating





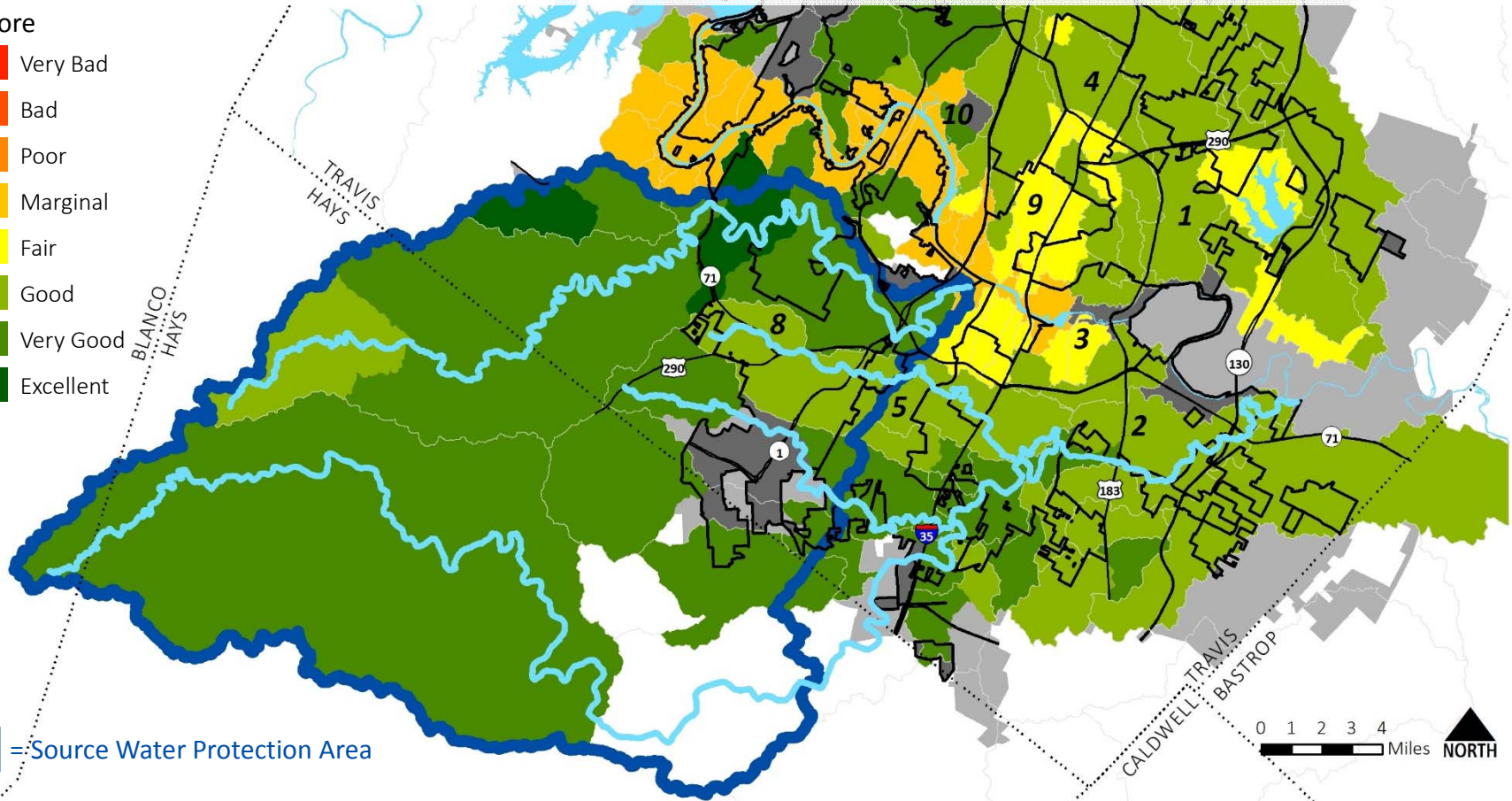
# Water Quality Prioritization

The Environmental Integrity Index (EII) is a program that monitors and assesses the chemical, biological, and physical integrity of Austin's creeks and streams.

## EII Score



 = Source Water Protection Area



# Best Practices for Water Quality Management

- Implement engineered solutions in watersheds with “fair” or worse condition
  - *Construct water quality retrofits (CIP)*
  - *Implement restoration efforts (programs, CIP)*
  - *Estimated cost-benefit: \$3-12 per pound pollutants removed*
- Protect and preserve watersheds in “good” or better condition
  - *Open space preservation*
  - *Development regulations*
  - *Educational programs*
  - *Estimated cost-benefit: \$1-2 per pound pollutants prevented*

# Benefits of Green Infrastructure to Austin Citizens

- Portion of COA future drinking water supplies
- Groundwater resources in Hays and Travis Counties
- Barton Creek Greenbelt
- Barton Springs Pool
- Lady Bird Lake – 20% of flows come from Barton Springs
- Lower Onion Creek
  - Onion Creek Metropolitan Park
  - McKinney Falls State Park
  - Richard Moya County
  - Lower Onion Flood Buyout Area
- Lower Colorado River
  - Roy G. Guerrero Park



# Barton Creek Greenbelt

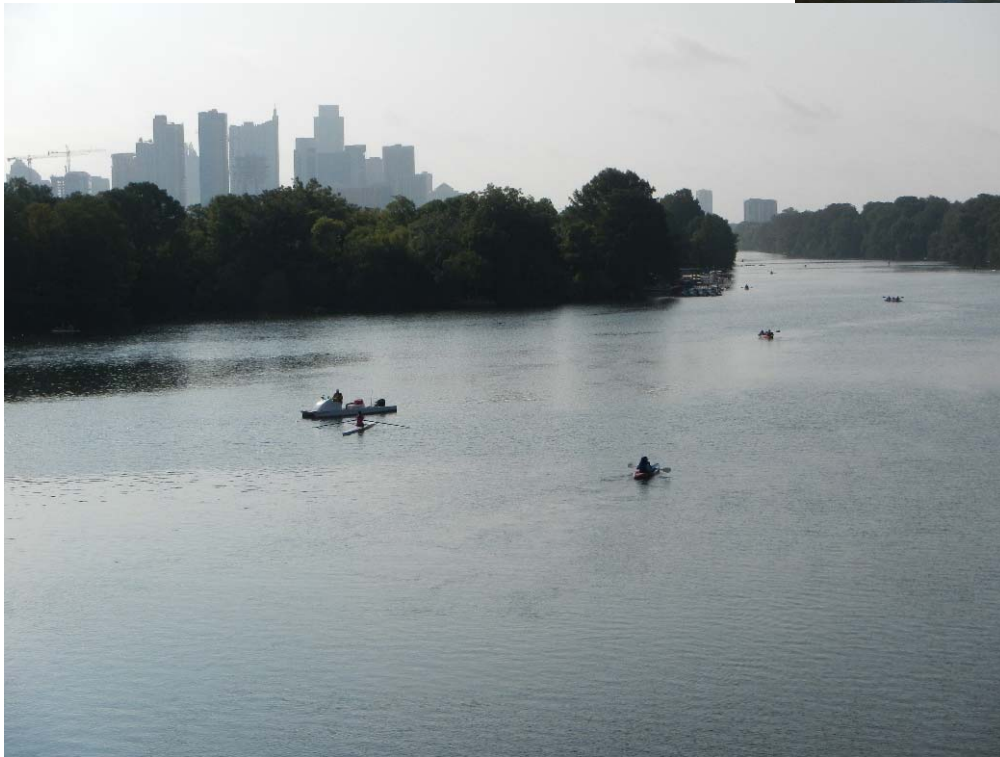
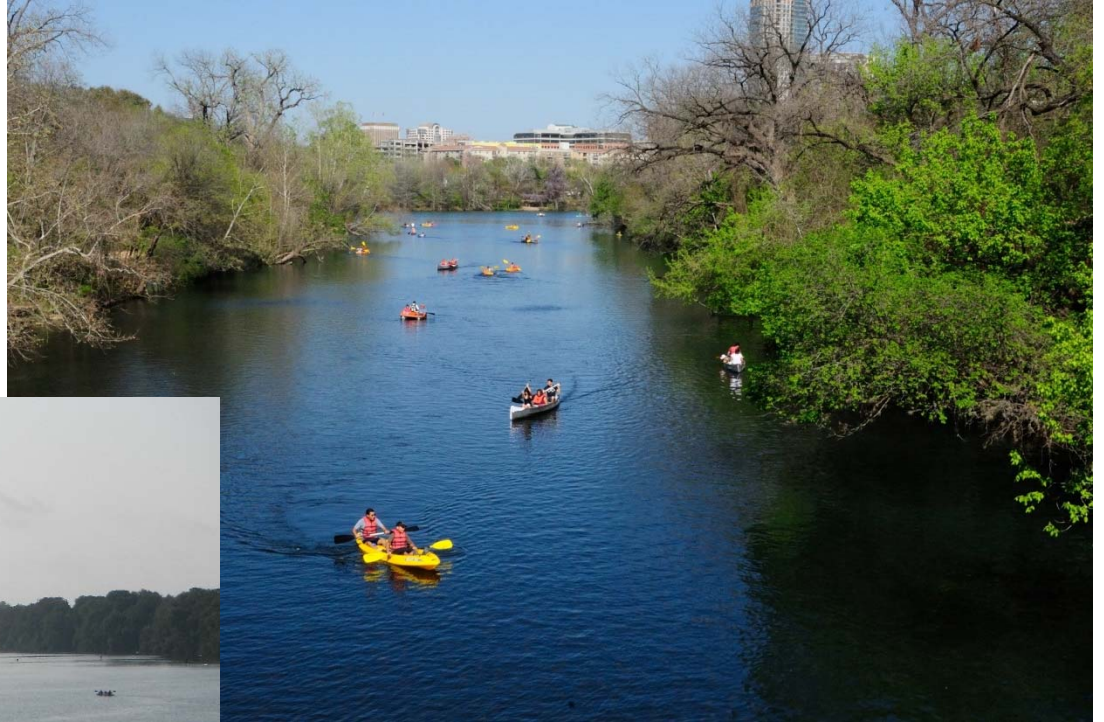




# Barton Springs Pool



# Lady Bird Lake





# Lower Colorado River





# Lower Onion Creek at McKinney Falls



# Protection of Undeveloped Natural Areas

## Host of other benefits

- Outdoor recreation
- Preserve Texas heritage
- Wildlife habitat
- Clean air
- Scenic vistas
- Supports local food production
- Archeological sites
- Dark skies
- Carbon sequestration
- Educational opportunities





# Water Quality Protection Lands Program

- Focus in the Barton Springs Zone or one of Austin's Source Water Protection Zones
- Lands managed by Austin Water
- Interdepartmental team for acquisitions:
  - Austin Water
  - Office of Real Estate Services
  - Watershed Protection





# Water Quality Protection Lands Program

## How do we target purchases?

### Scoring matrix:

- ☐ Creeks
- ☐ Land condition
- ☐ Avoided pollution
- ☐ Contiguity
- ☐ Recreational value
- ☐ O&M Considerations
- ☐ Other environmental factors
- ☐ Costs\*
- ☐ **Willing seller**

\*Land costs have risen from about \$4,000/ac in 1998 to over **\$25,000/ac** in 2017

# Water Quality Protection Lands Program

## Four voter-approved bonds:

May 1998	\$65M	15,047 ac.	<i>56% vote</i>
Nov. 2000	\$13.4M	5,000 ac.	<i>66% vote</i>
Nov. 2006	\$50M	6,530 ac.	<i>68% vote</i>
<u>Nov. 2012</u>	<u>\$29.2M</u>	<u>1,777 ac.</u>	<i>56% vote</i>
<b>Total to Date</b>	<b>\$157.6M</b>	<b>28,354 ac.</b>	

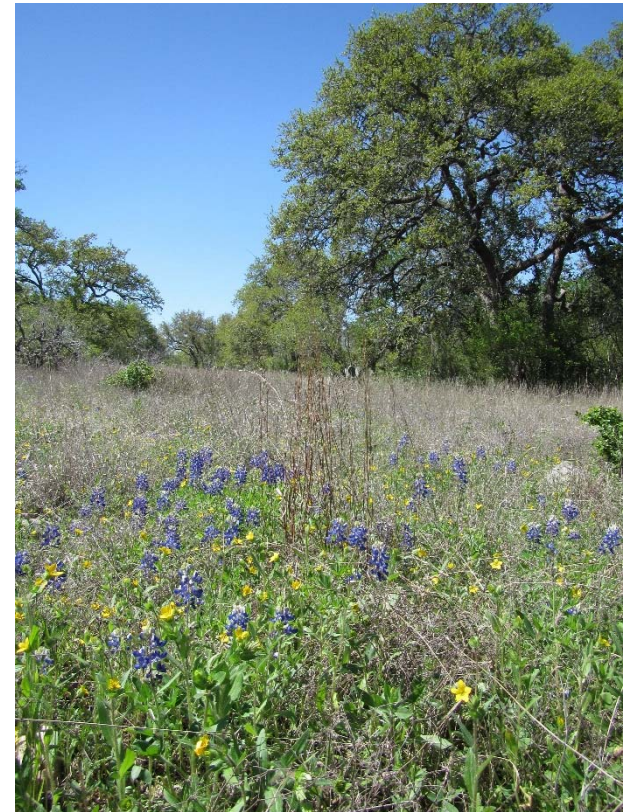
Partnership  
Contributions      \$24M

Conservation Easements	(17,513 ac.)	62% land area
Fee Simple Purchase	(10,841 ac.)	38% land area

# Water Quality Protection Lands Program

## **What is protected:**

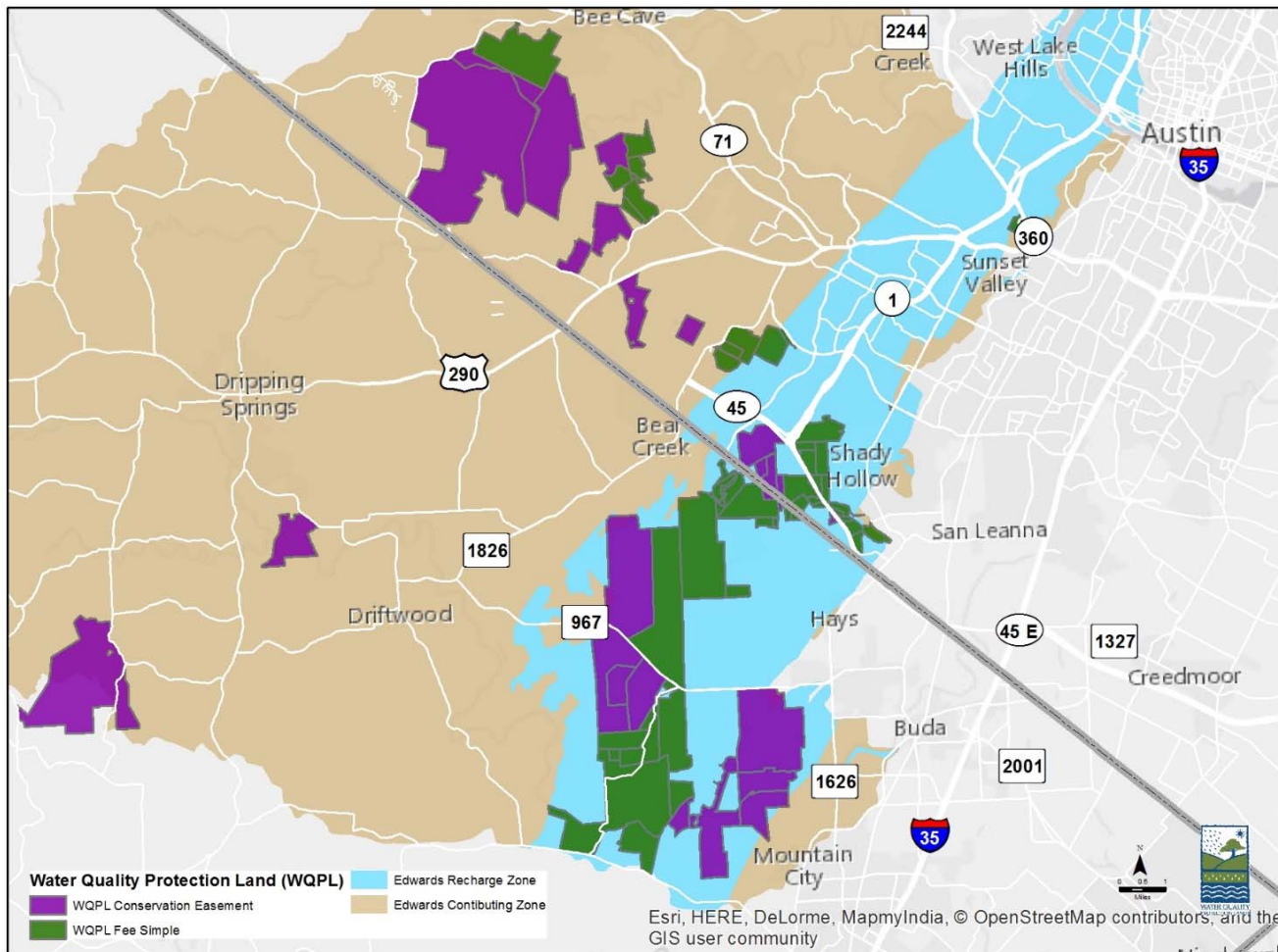
- 5+ mile reach of Barton Creek
- 4 mile reach of Onion Creek
  - Upstream end of Recharge Zone
  - Contains a number of caves in the creek channel
- 100s of recharge features
- Miles of smaller tributaries



*Prevents 350 million pounds of pollutants from entering receiving waters each year.*



# Water Quality Protection Lands Program



## Contributing Zone

- **7% protected**
- **2/3** Barton Springs Zone outside Austin's jurisdiction
- Development regulations in other jurisdictions are less protective of water quality

## Recharge Zone

- **25% protected**

Irreversible water quality impacts observed when total impervious cover exceeds 10% 27

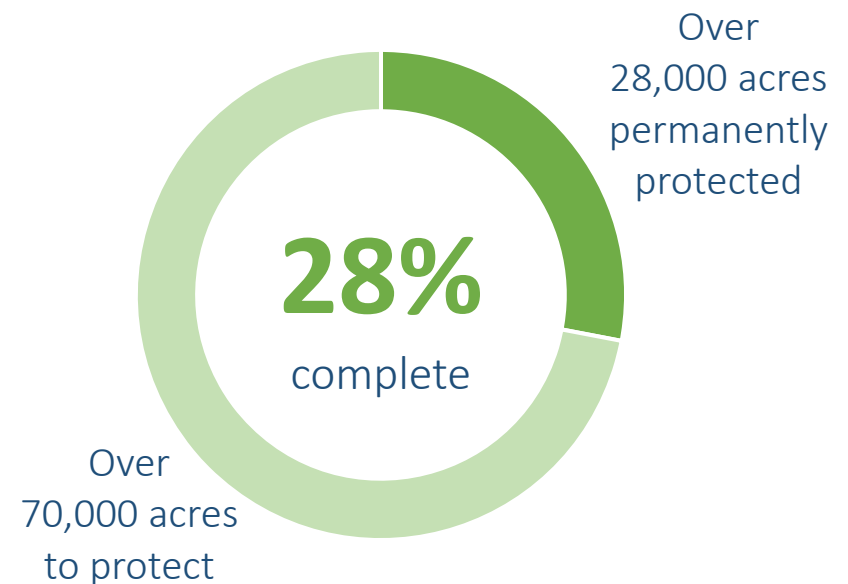
# Watershed Protection Open Space Goal

Protection of critical areas in Source Water Protection Area to preserve or mitigate water quality and quantity through the strategic acquisition of land along main channels, tributaries, and significantly large upland tracts.

## **Long-Term Protection Goal:**

Maintain overall impervious cover percentage **at under 10%**

- Permanently protect up to 100,000 acres of land in the Source Water Protection Area



# Other Central Texas Open Space Programs

## **San Antonio**

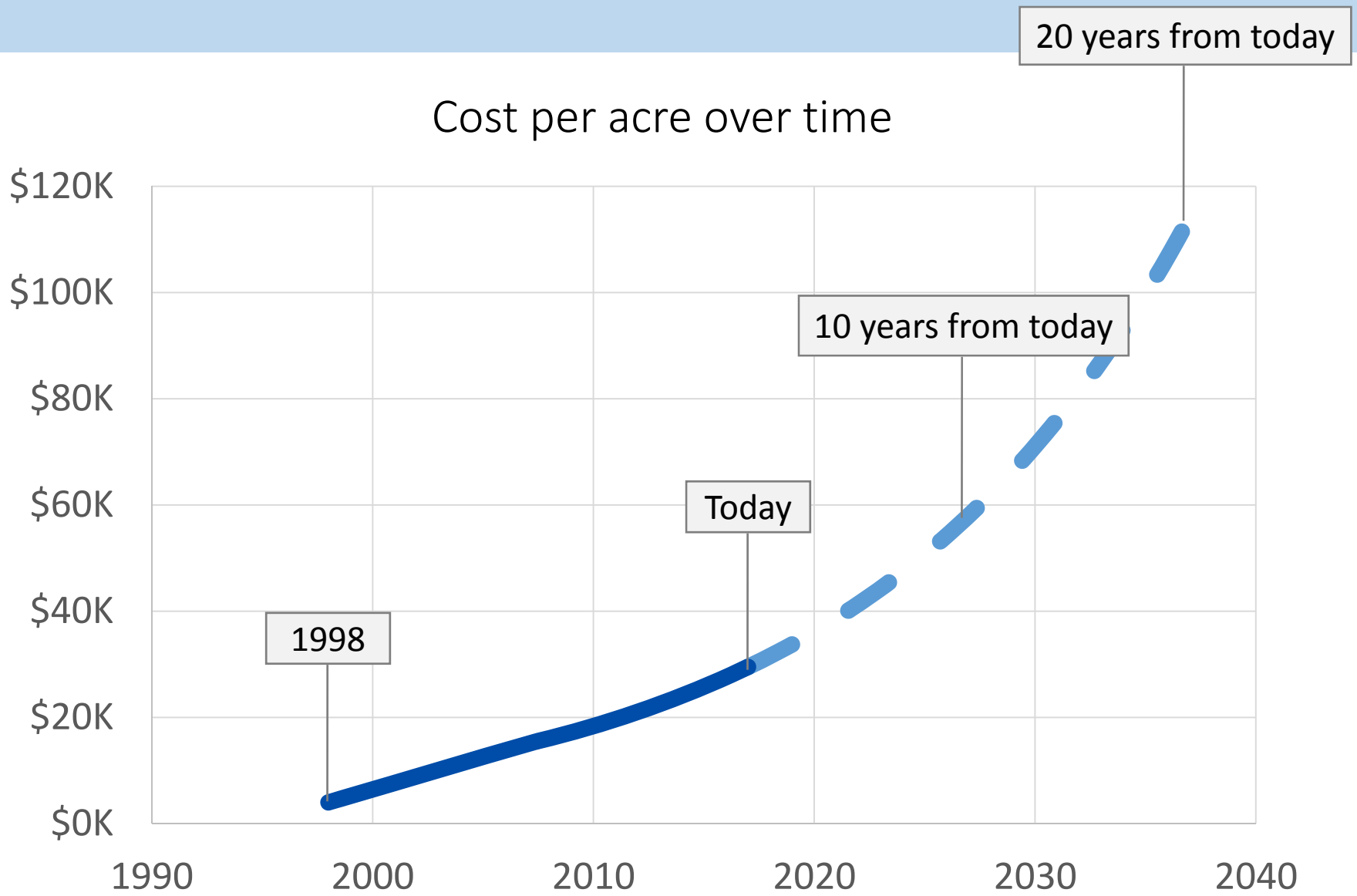
- Voter approved use of 1/8 cent of sales tax
- Elections in 2000, 2005, 2010, 2015
- \$328M for open space
- \$ for parks
- Nearly 150,000 acres protected

## **Travis County**

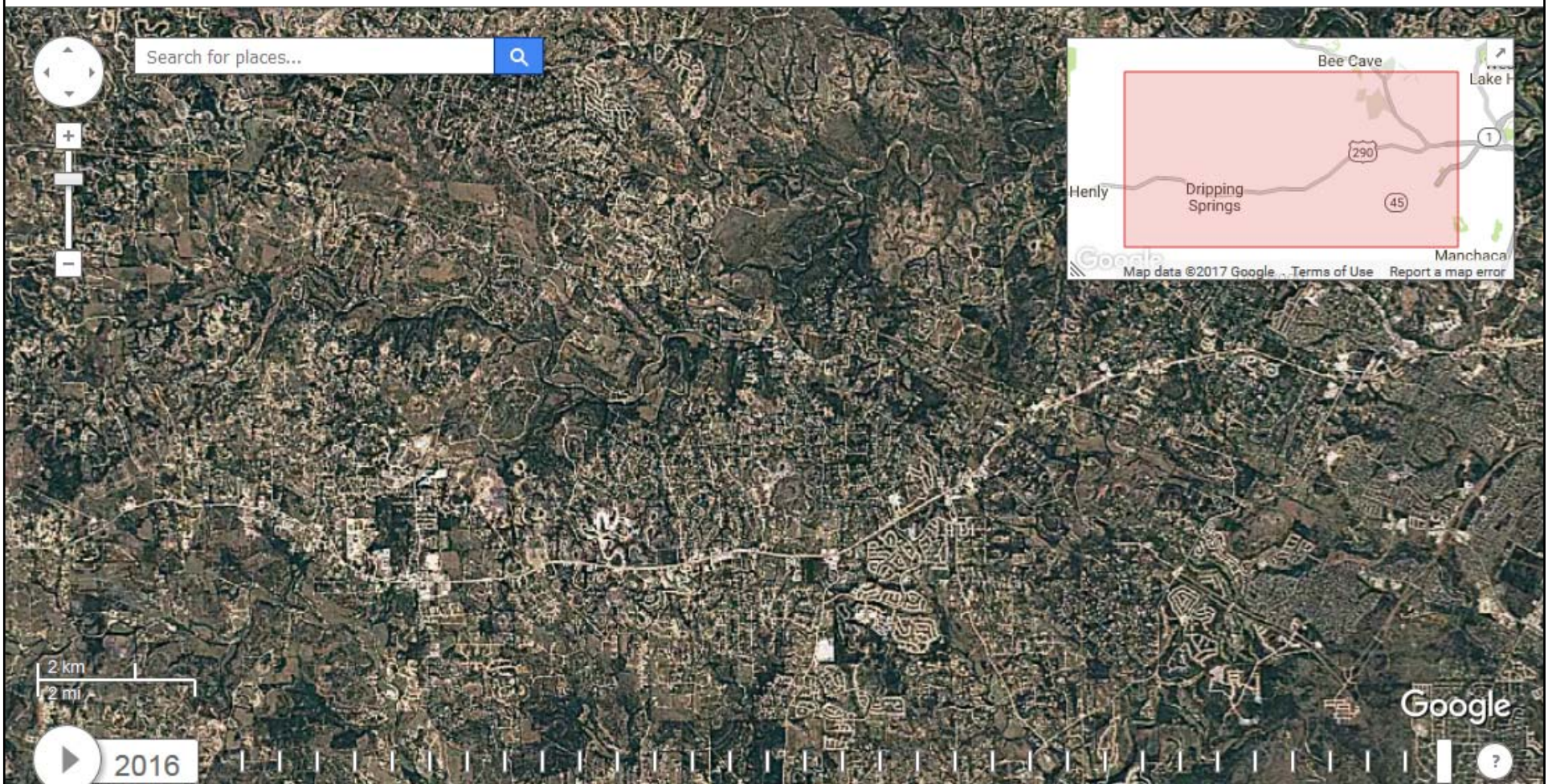
- 2011 Resolution
- 2011 bond for \$8M
- Proposed 2017 bond \$15M
- For conservation easements only



# Urgency: Rising Land Costs



# Urgency: Diminishing Open Space Availability



[Link to Google Earth Engine Timelapse - W 290 Hwy corridor](#)





# 2018 Bond Needs Assessment



# 2018 Bond Needs Assessment: Watershed Protection Open Space

## **\$150M WPD near-term unfunded need**

- Identified in the FY17 Rolling Needs Assessment in the Long-Range CIP Strategic Plan (10-year timeframe)
- 3,000 ac fee simple and 6,000 ac conservation easement  
**= 9,000 acres permanent protection**

## **\$50M WPD recommendation for 2018 Bonds**

- based on immediate opportunities, urgency, and previous allocations
- 1,000 ac fee simple and 2,000 ac conservation easement  
**= 3,000 acres permanent protection**

## **\$20M “Starting Point” for 2018 Bonds**

- Presented to BEATF & Council in June
- Represents a single 800 ac fee simple transaction  
**= 800 acres permanent protection**



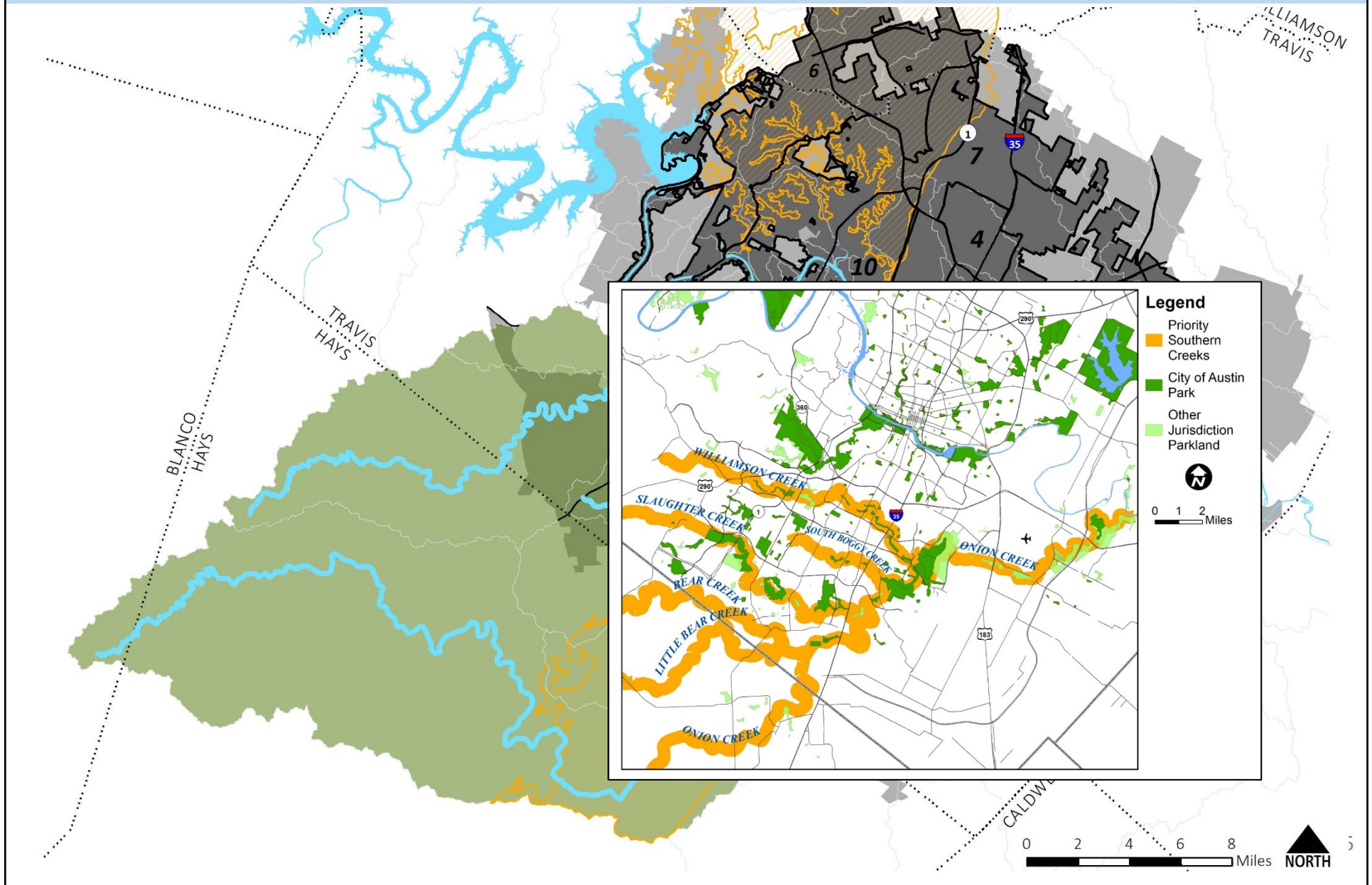
# Summary and Closing

- As the Austin area continues to grow, the land that provides clean water is being rapidly developed.
- Once developed, the natural benefits of this land are irreversible.
- The Open Space Water Quality Protection Lands Program continues the implementation of community priorities as laid out in the Imagine Austin Comprehensive Plan.



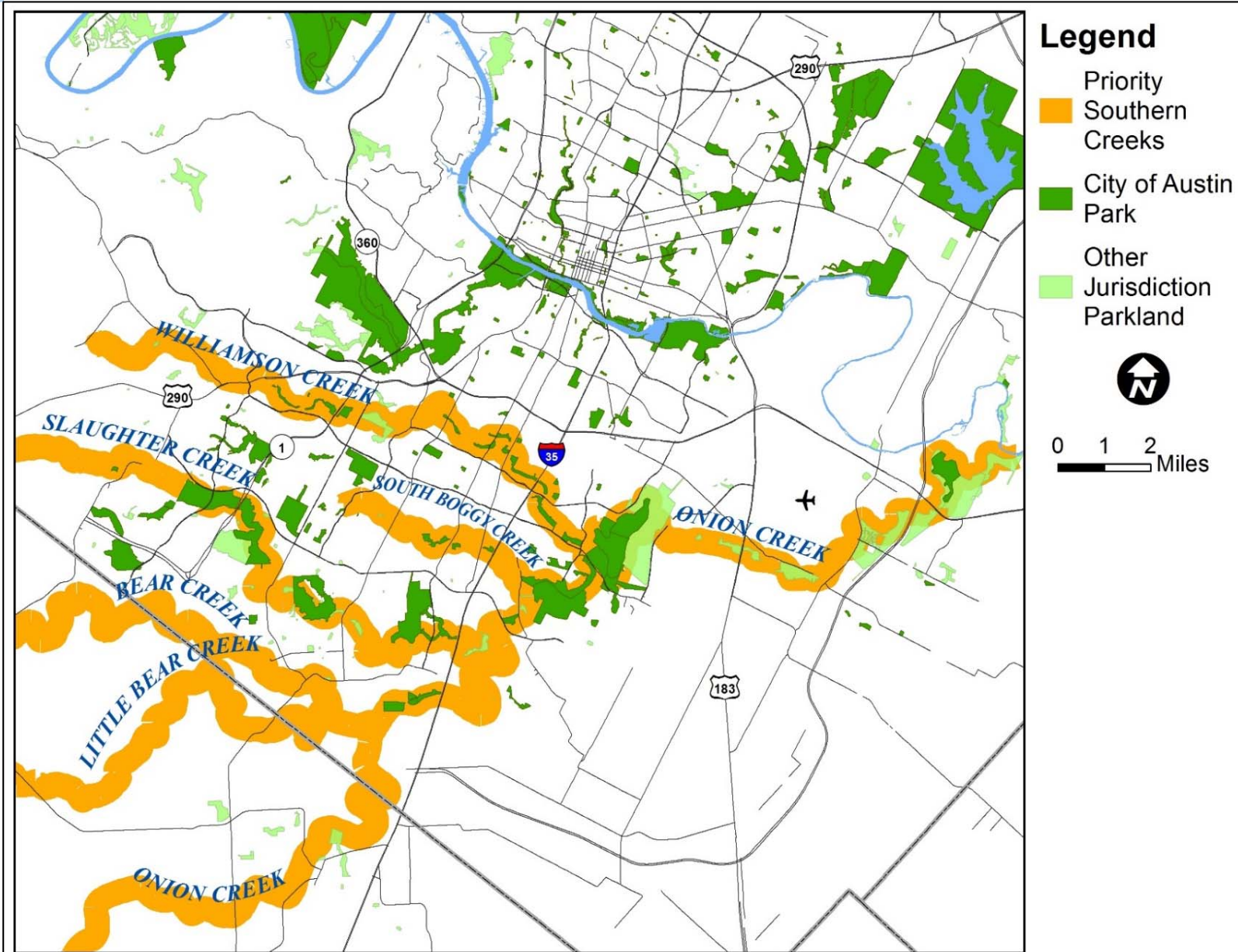


# Coordination with PARD Infrastructure Priorities





# Coordination with PARD Infrastructure Priorities



# Questions?

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