

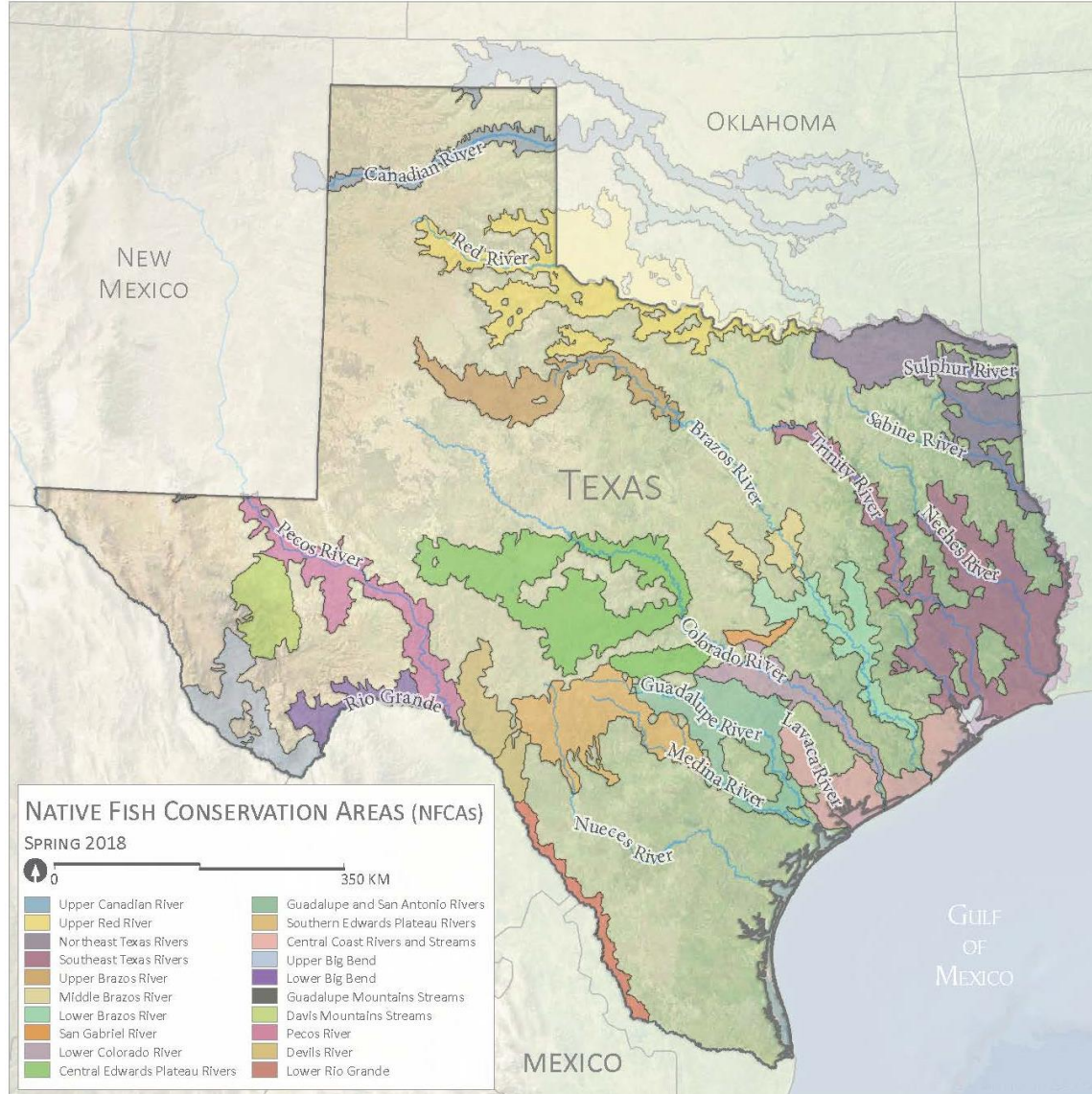


# **A Framework for Conservation in the Guadalupe Basin: Towards Conservation Action through a Geographic Prioritization Framework and Workshop Stakeholder Process with a Focus on Water Resources: Stakeholder Meeting # 1**

October 17, 2018

*Produced by Siglo Group and the Meadows Center for Water and the Environment at Texas State University with funding from Texas Parks and Wildlife and the Mitchell Foundation*

# Texas Native Fish Conservation Areas



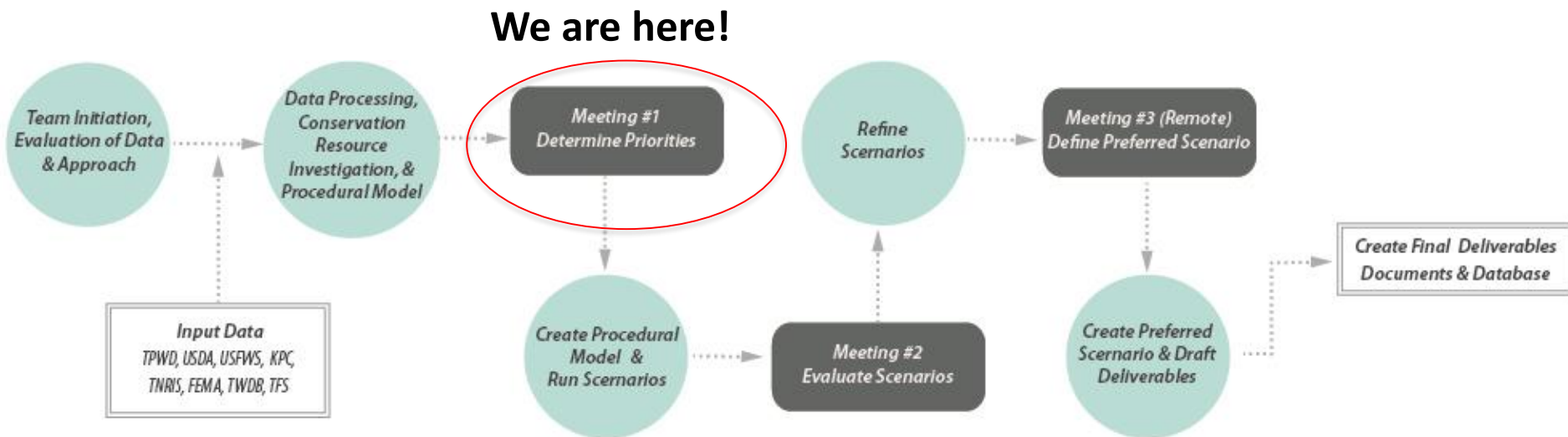
*A network of watersheds where management emphasizes conservation and restoration for long-term persistence of native fishes and other aquatic species and allows compatible uses.*

*A national NFCA system would include a network of watersheds where resource management would emphasize conservation and restoration for long-term viability of native fish communities, while identifying and allowing compatible uses.*

# Conservation Planning: Purpose of Project

## Goals of the Conservation Prioritization Phase of the Project:

- Catalyze effective and efficient conservation.
- Determine the “Critical Mass” of conservation priorities in the study area.
- Determine highest priority conservation **AREAS** based on stakeholder input and the best available data using a geographic procedural model.
- Provide information that facilitates implementation, fundraising, and education, as well as on the ground conservation and restoration activities that are the outcome of the next phase of the project.
- Instigate a project that brings together agency and non-profit conservation professionals.



# Guadalupe Conservation Planning Stakeholder Meeting #1

1

Study Area and Project Purpose

2

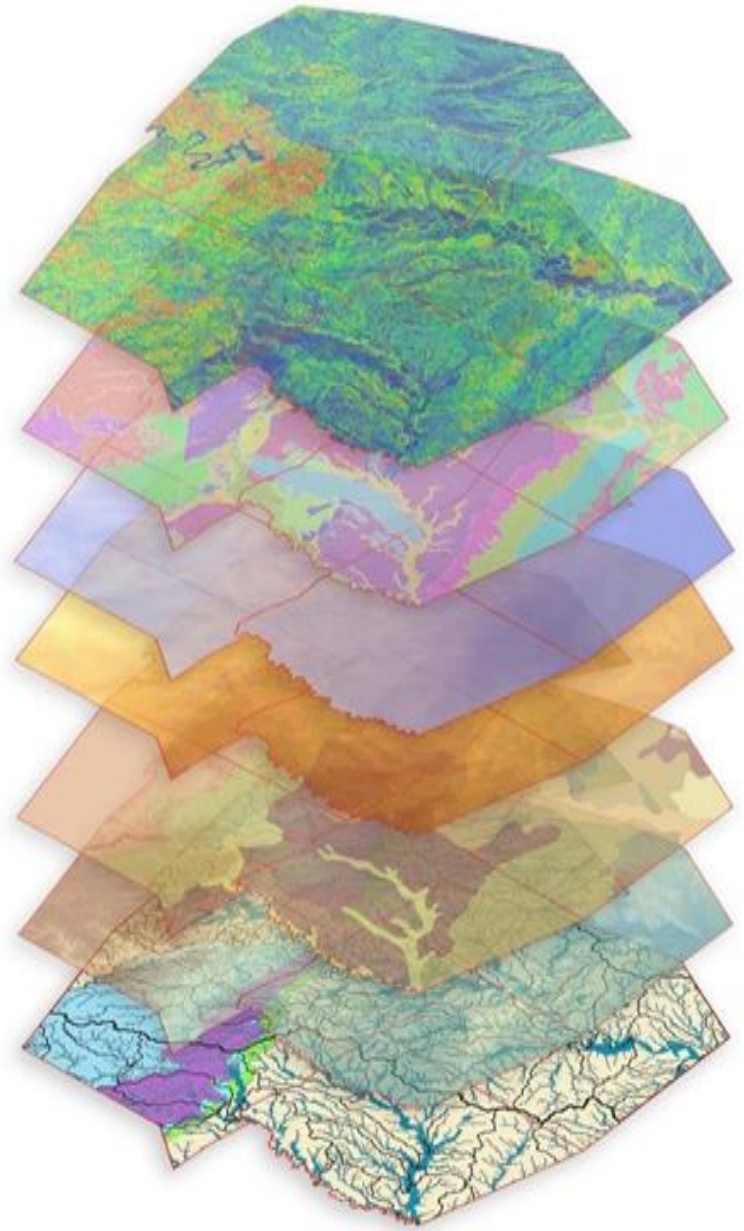
Methodology and Precedent

3

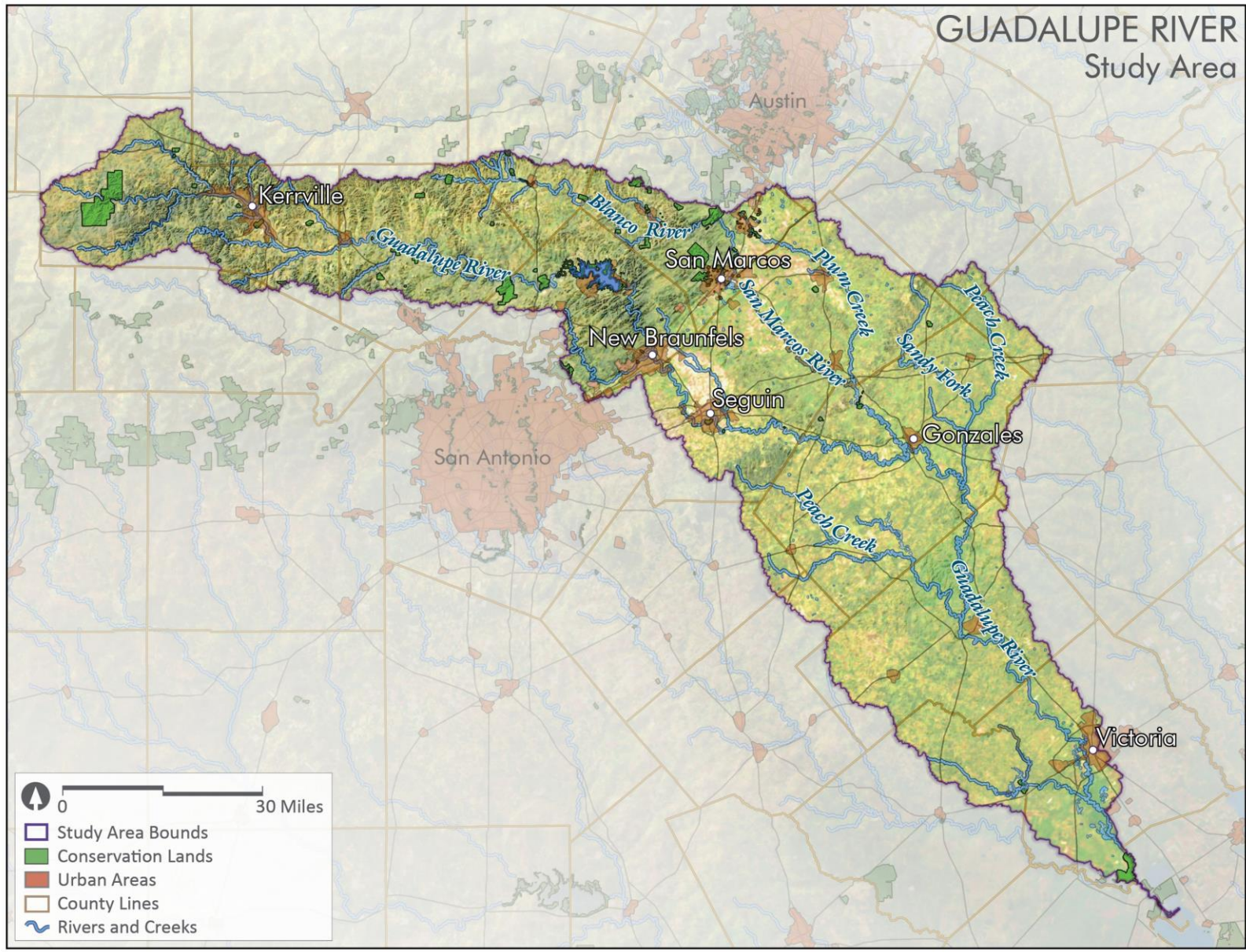
Conservation Resource Explanation,  
Review and Stakeholder Valuation

4

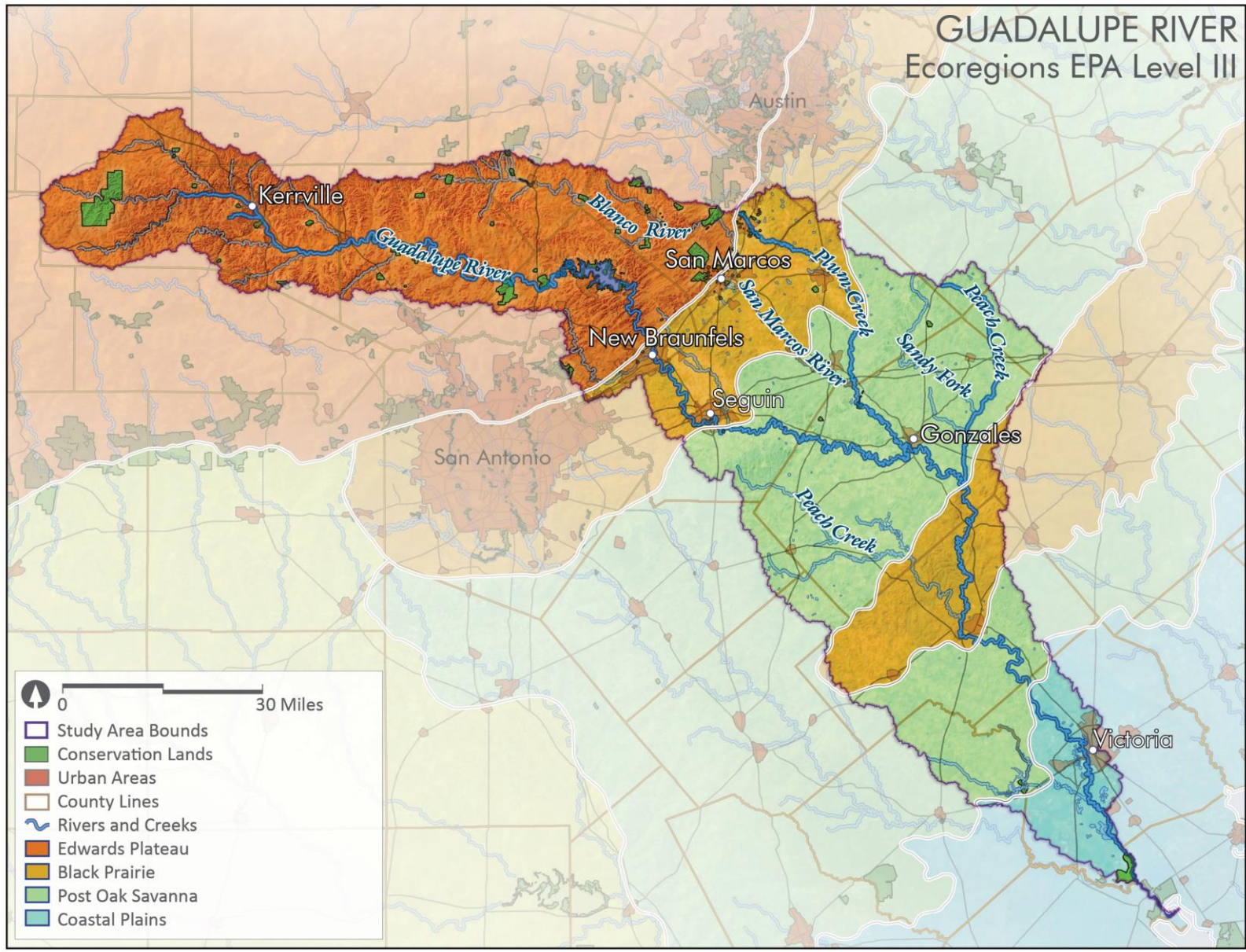
Next Steps



## Guadalupe River Basin



## Ecosystems

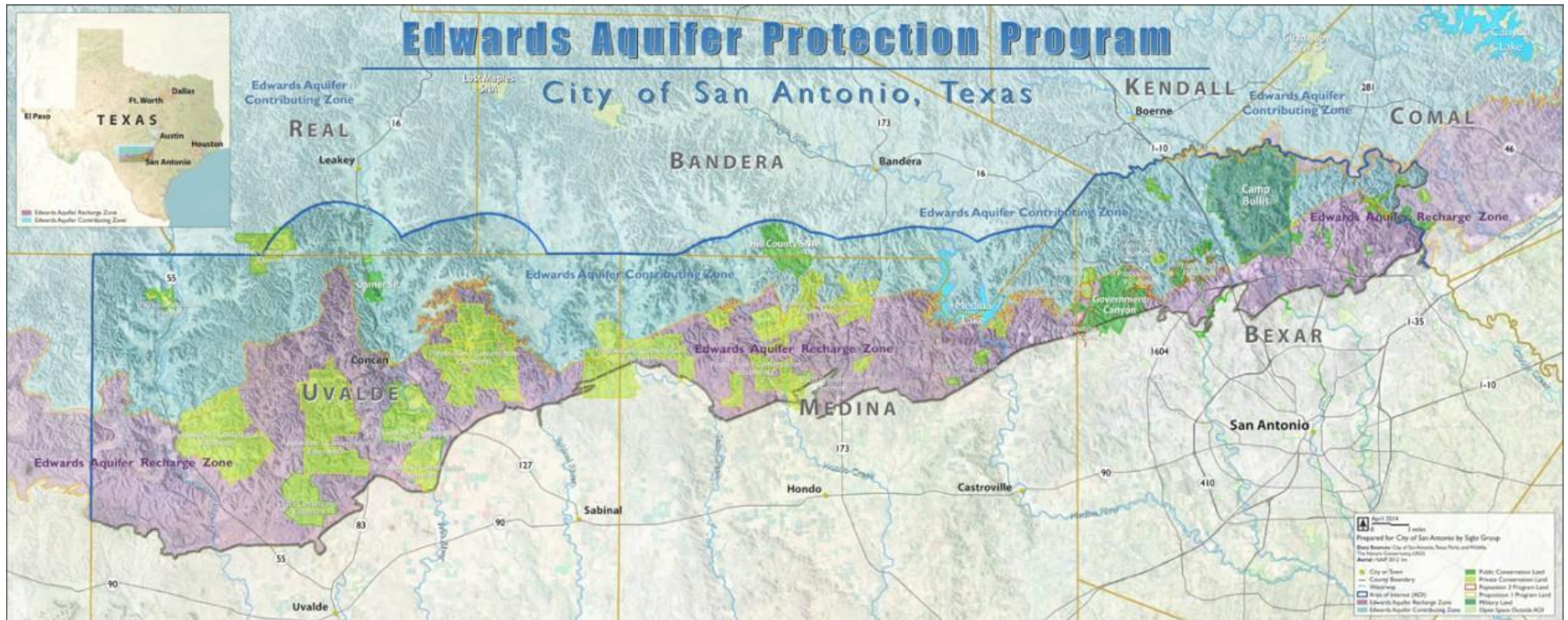


## Procedural Model for San Antonio Edwards Aquifer Protection Program

Use of spatial model to create consistent results for the prioritization of acquisition parcels for the San Antonio Edwards Aquifer Protection Program.

Program and program partners to date has conserved over 200,000 acres of land over the Recharge and Contributing Zones of the Edwards Aquifer.

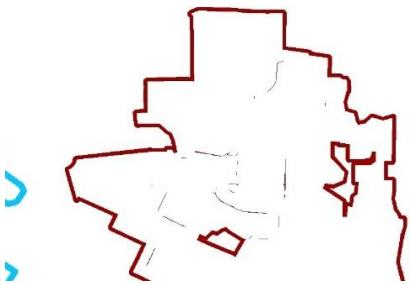
Parameters for variables were determined by a Scientific Evaluation Team appointed by the City of San Antonio— equivalent to this stakeholder group.



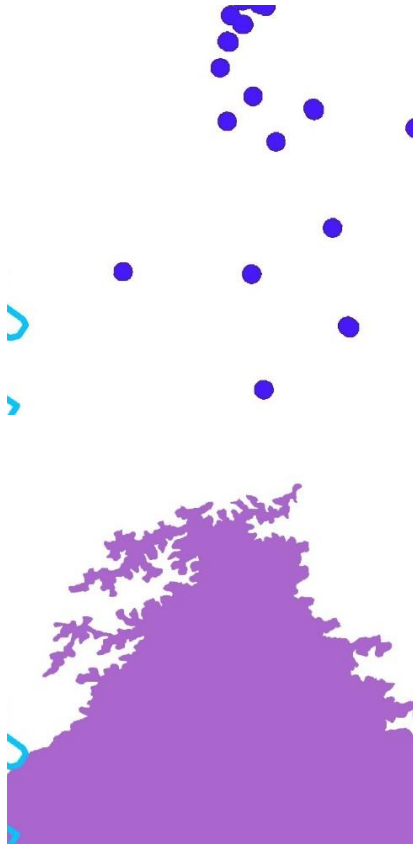
What on the landscape do we want to conserve? What will we prioritize?

## *Some of the San Antonio Examples*

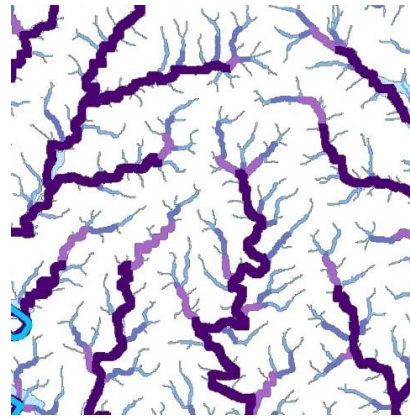
*Openspace Buffers*



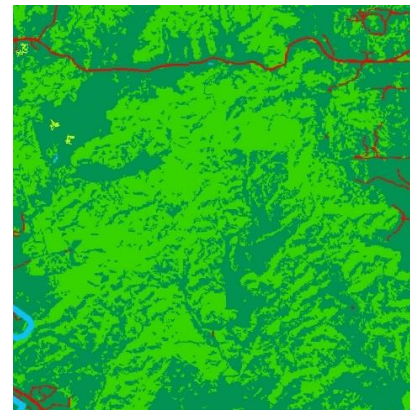
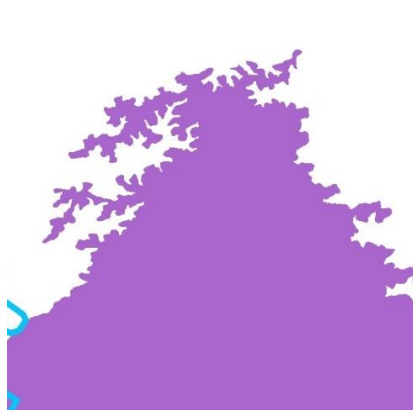
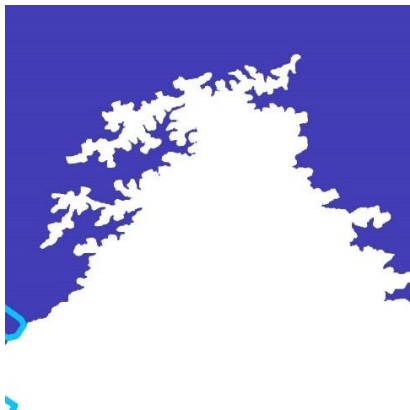
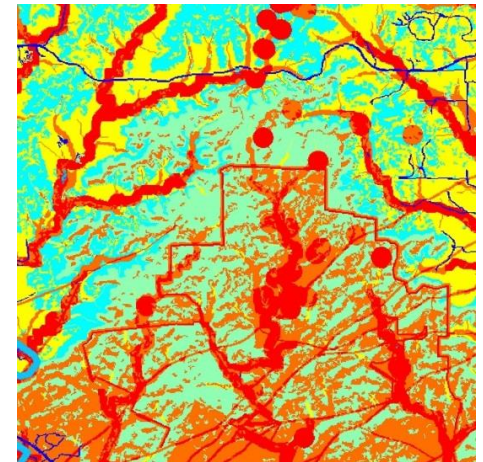
*Spring Buffers*



*Water Quality Buffers*



*Suitable Sites*



*Contributing Zone*

*Recharge Zone*

*Land Cover*



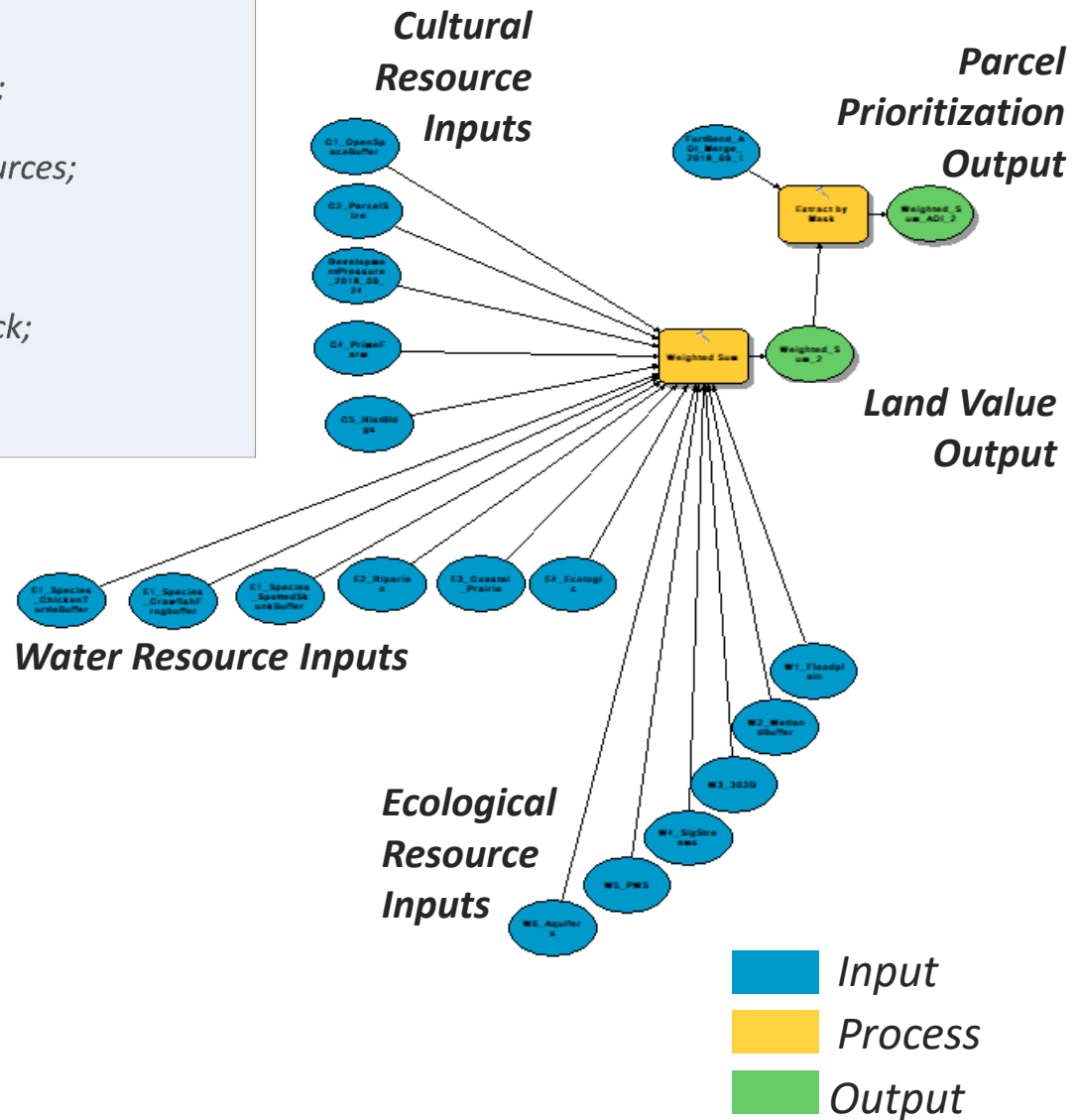
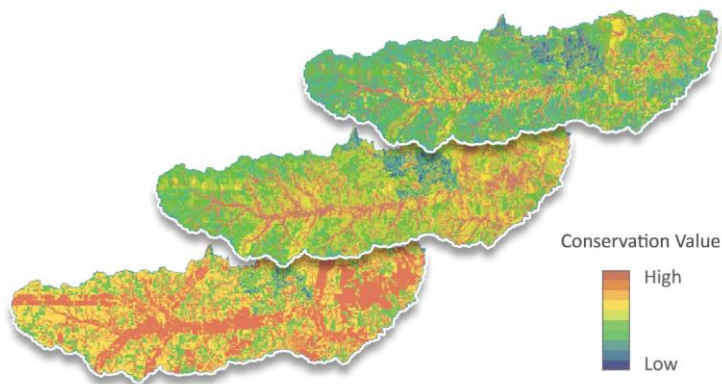
# Methodology and Precedent

2

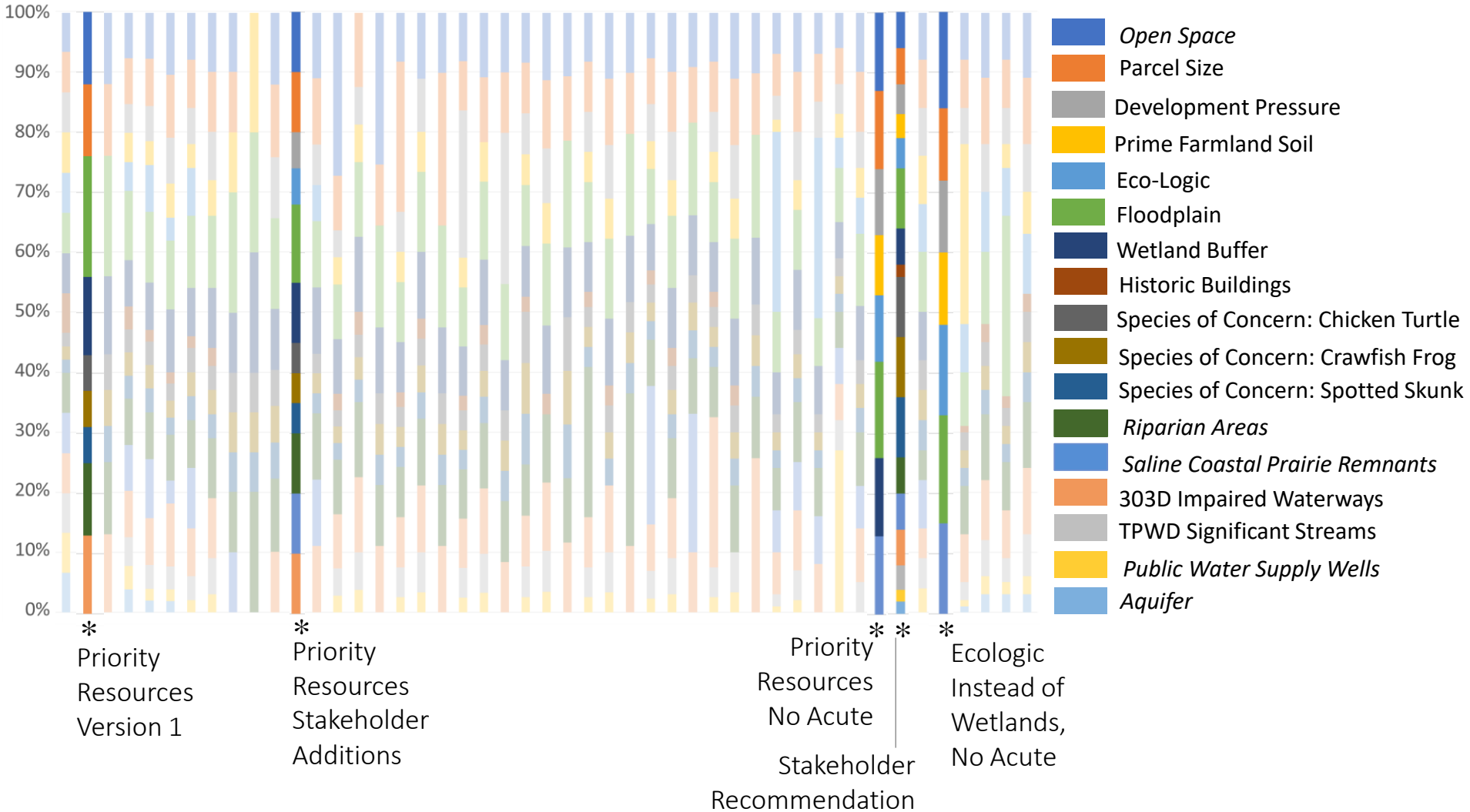
## STEPS IN RUNNING THE MODEL

1. Evaluate and adjust the existing conservation lands file as conditions change;
2. Add or delete individual conservation resources;
3. Adjust the values/weights of conservation resources;
4. Run model;
6. Evaluate results and obtain stakeholder feedback;
7. Repeat as needed.

## EXAMPLE CONSERVATION SCENARIO ITERATIONS



## Model Iterations: Feasible Weightings



## Gaps in conservation

### PLANNING GAP

Where to effectively/efficiently implement action considering:

- Evaluation of multiple landscape resources
- Inter/intra-jurisdictional decision making
- Evaluating both the conservation resource and the land use trends impacting the resource.

### IMPLEMENTATION GAP

Knowing-Doing Gap: With ISSUES, how do we ACT?

- Mechanisms?
- Partners?
- How to facilitate?

# Conservation Resources

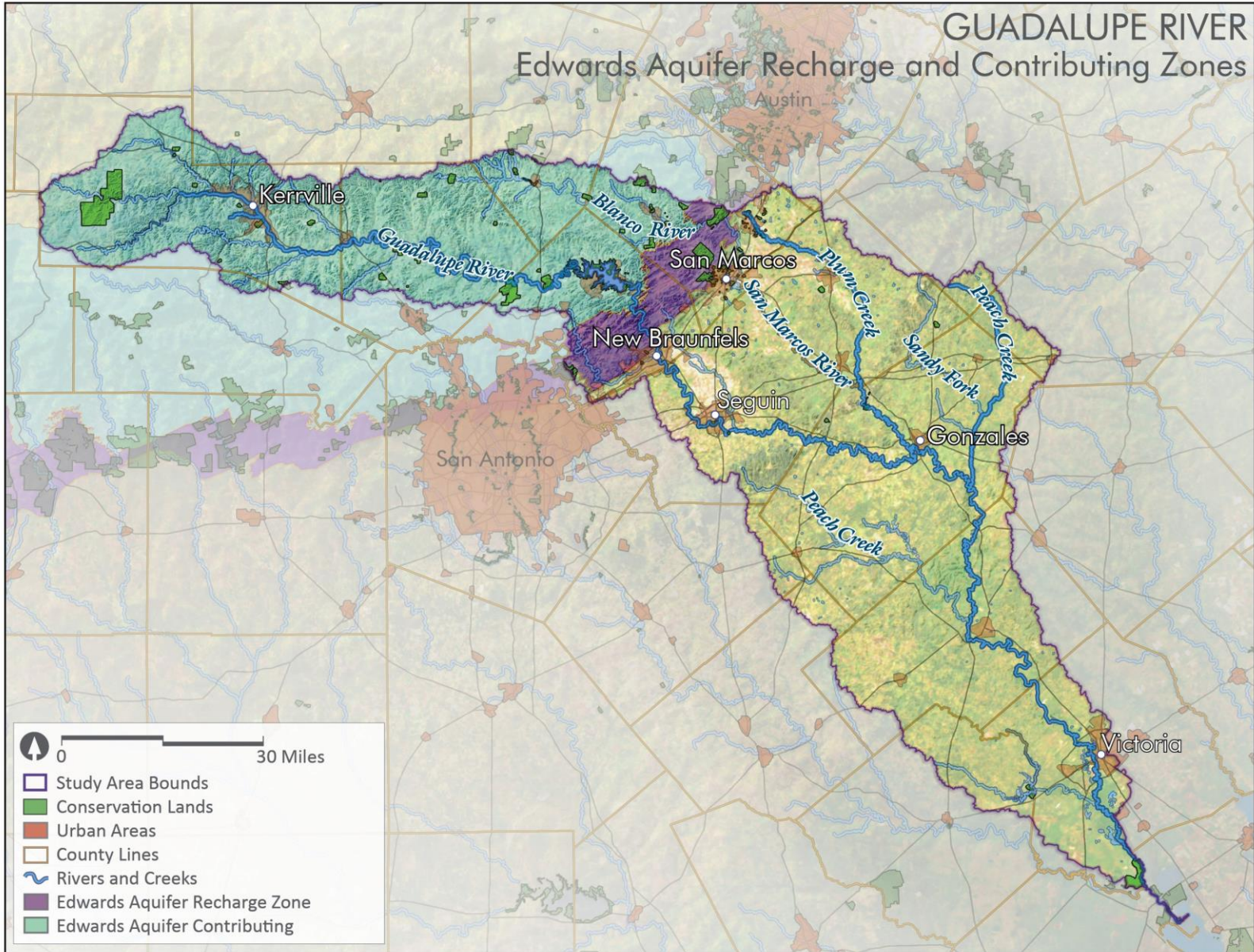
3

Water Resources
Minor Springs
Major Springs
Aquifer Contributing Areas
Aquifer Recharge Area
Karst Areas
Public Water Supply Wells
Public Water Supply Surface Intakes
Floodplain
Water Quality Buffers
303D Impaired Waterway Buffers

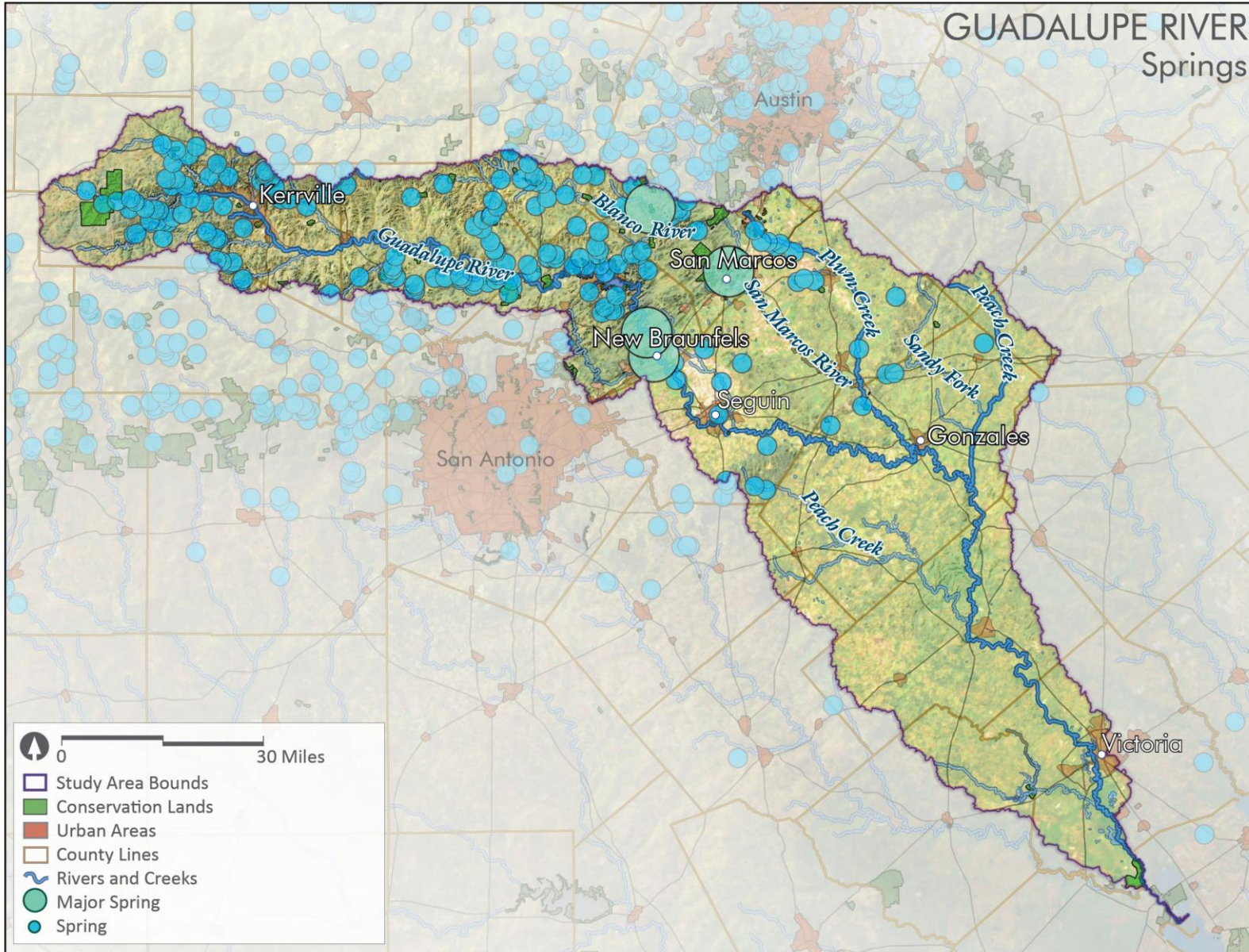
Cultural Resources
Parcel Size
Adjacency to Open Space
Development Corridors
Prime Farmland Soils
Trail and Proposed Trail Buffers

Ecological Resources
Native Fish Conservation Areas
Native Fish Conservation Priority Areas
Select Fish Priority Areas - Guadalupe Bass or Other
Mussel Priority Areas
Riparian Corridors
Golden Cheeked Warbler Habitat
Plant Communities
Steep Slopes

## Water Resource: Edwards Aquifer

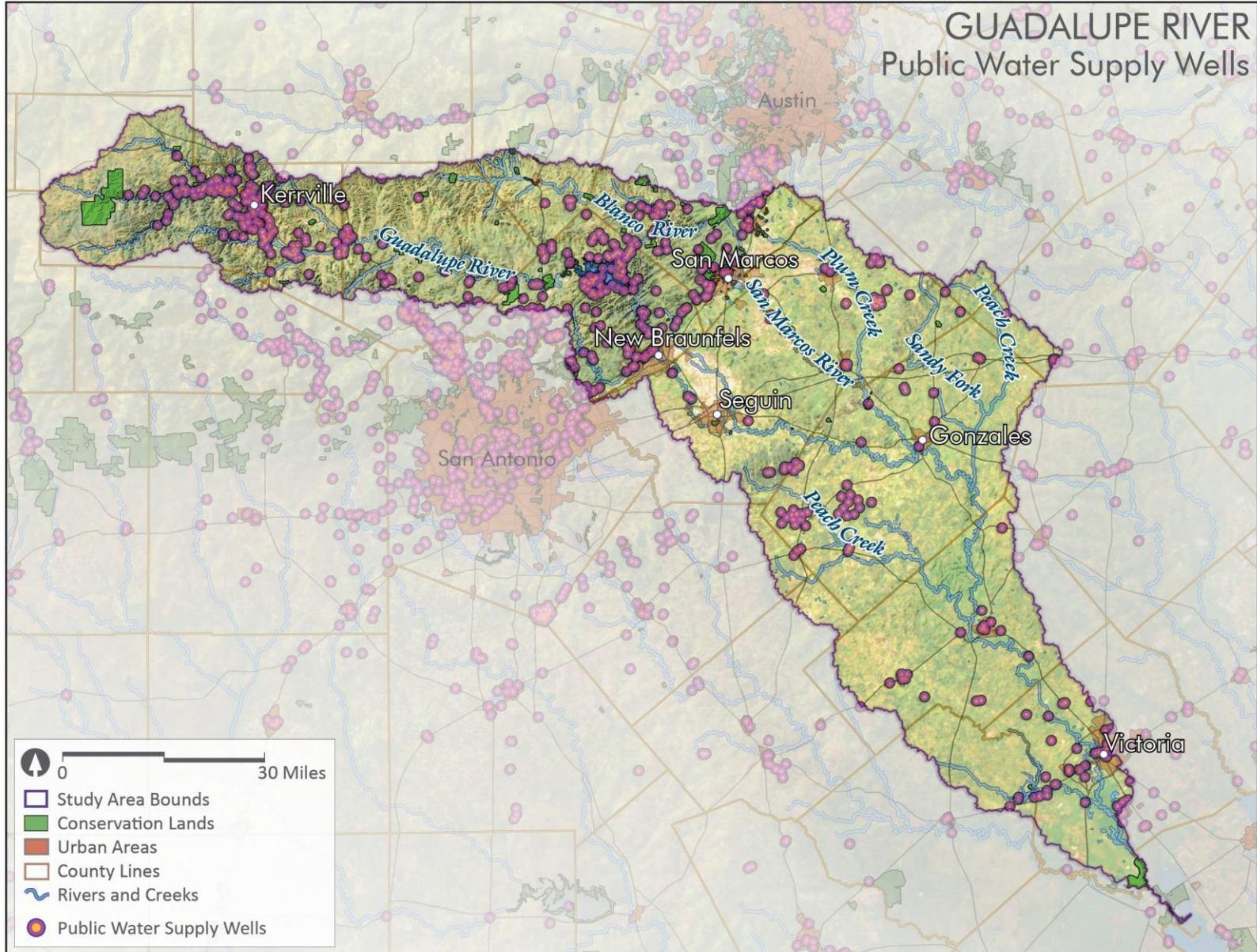


## Water Resource: Springs



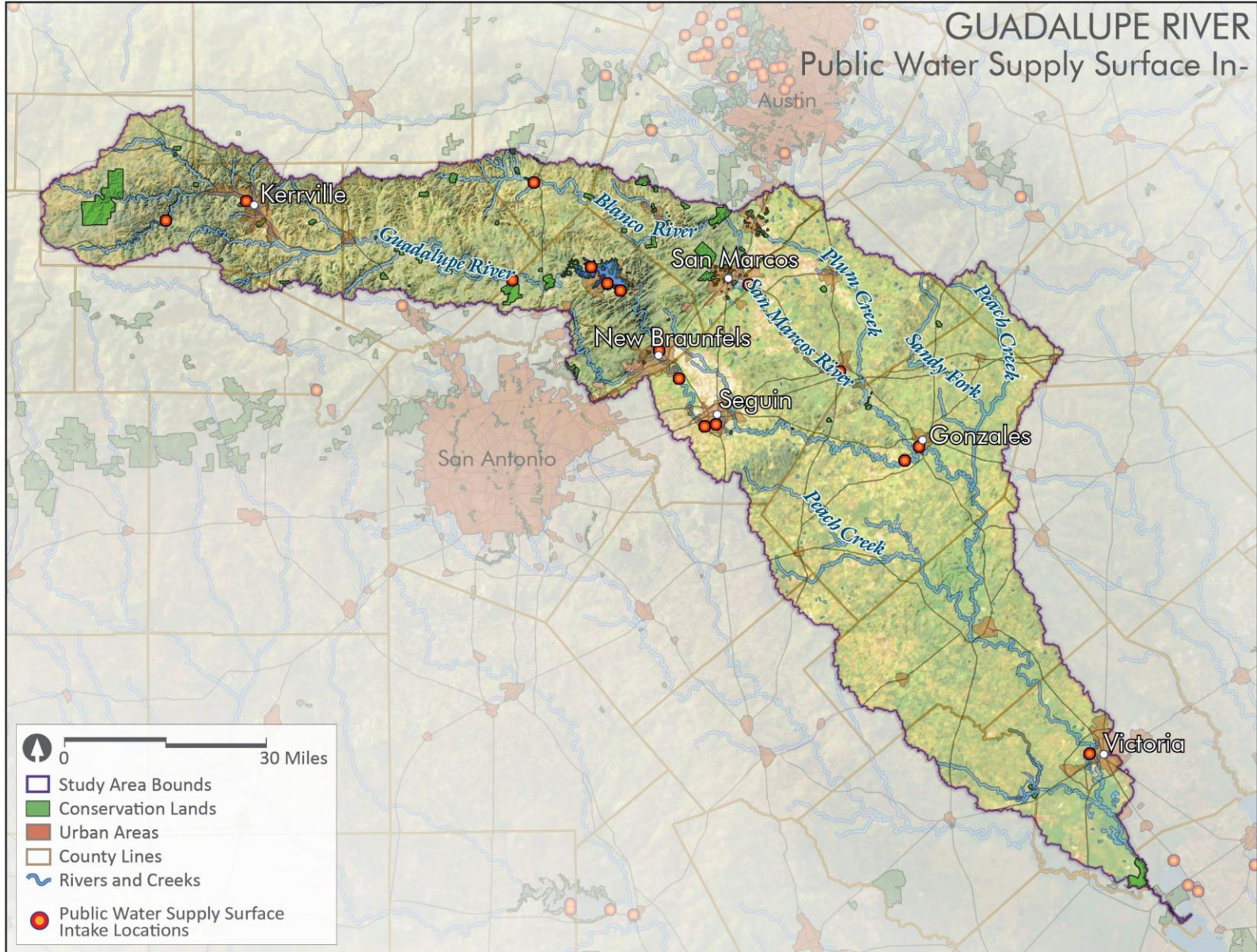
## Water Resource: Public Water Supply Wells

3



## Water Resource: Public Water Supply Surface Intakes

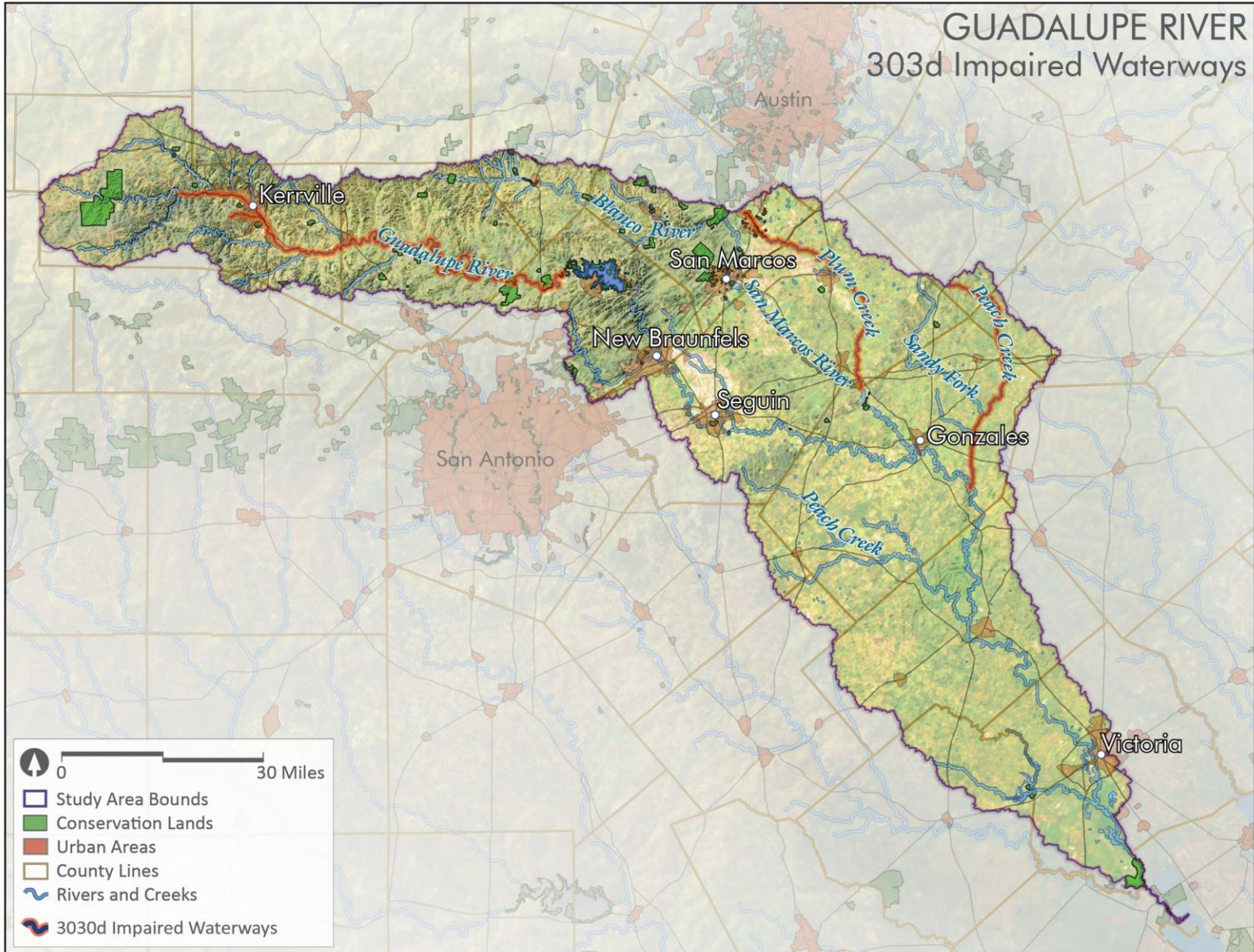
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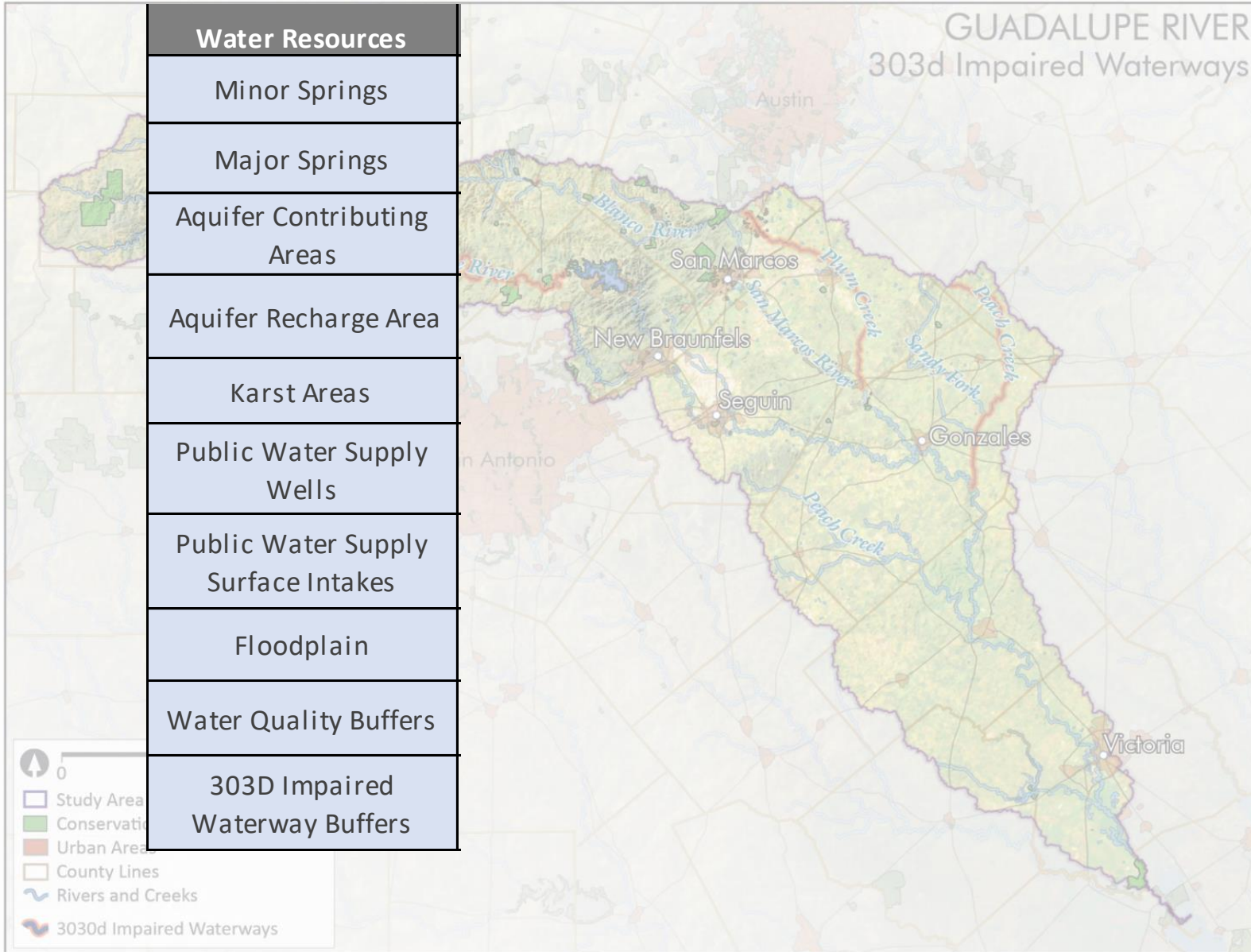


## Water Resource: 303D Impaired Waterways

3

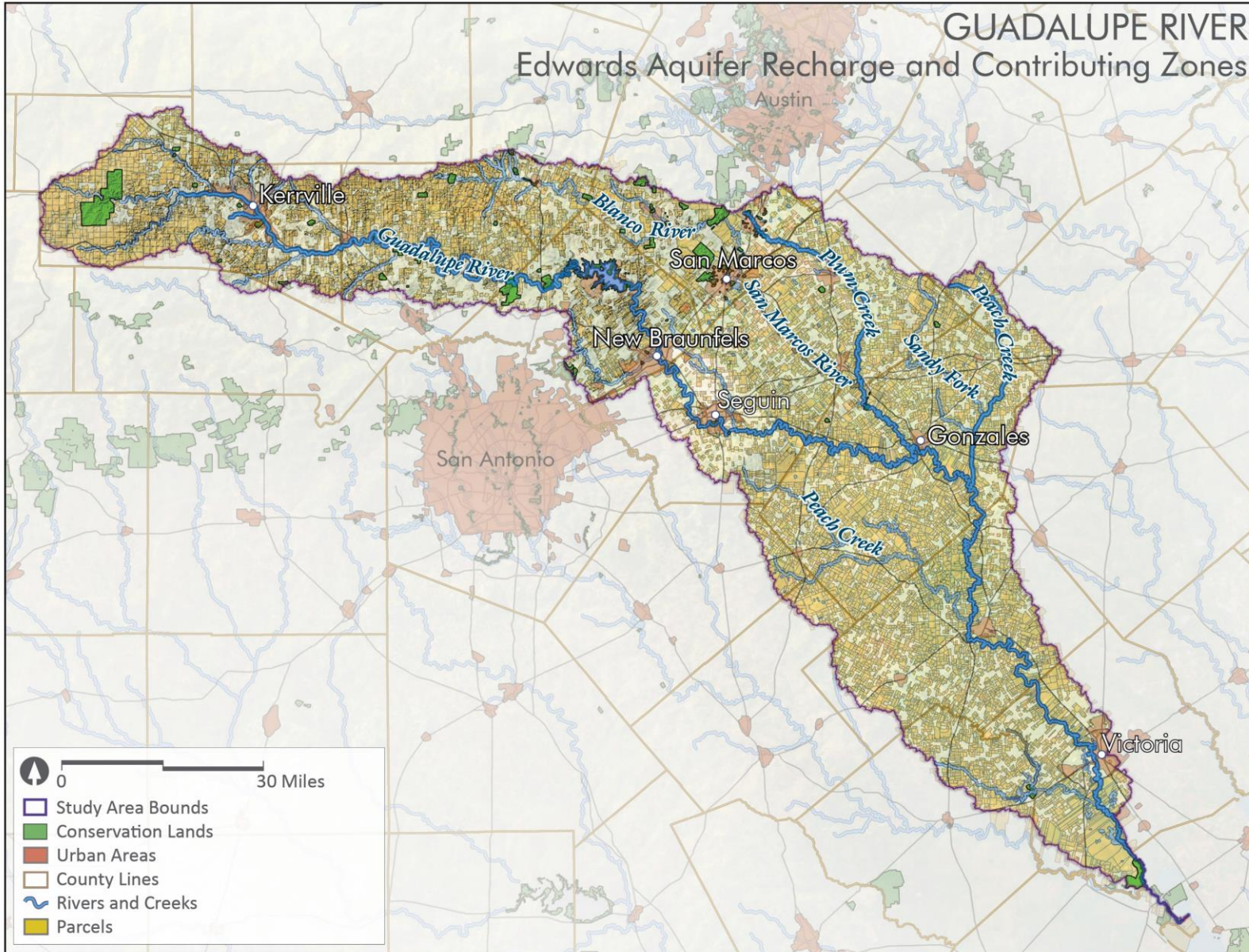


## Water Resource



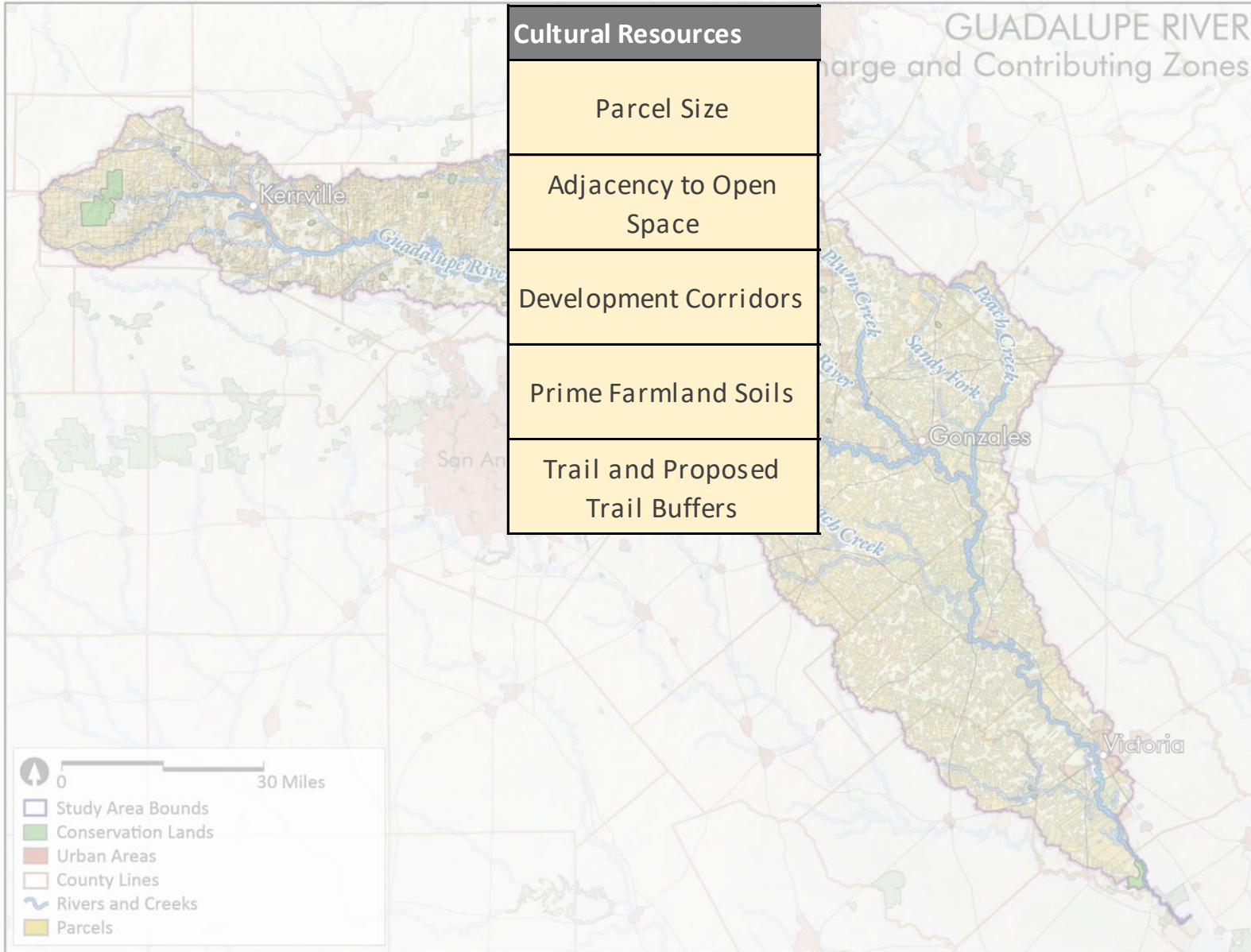
## Cultural Resource: Parcel Size

3



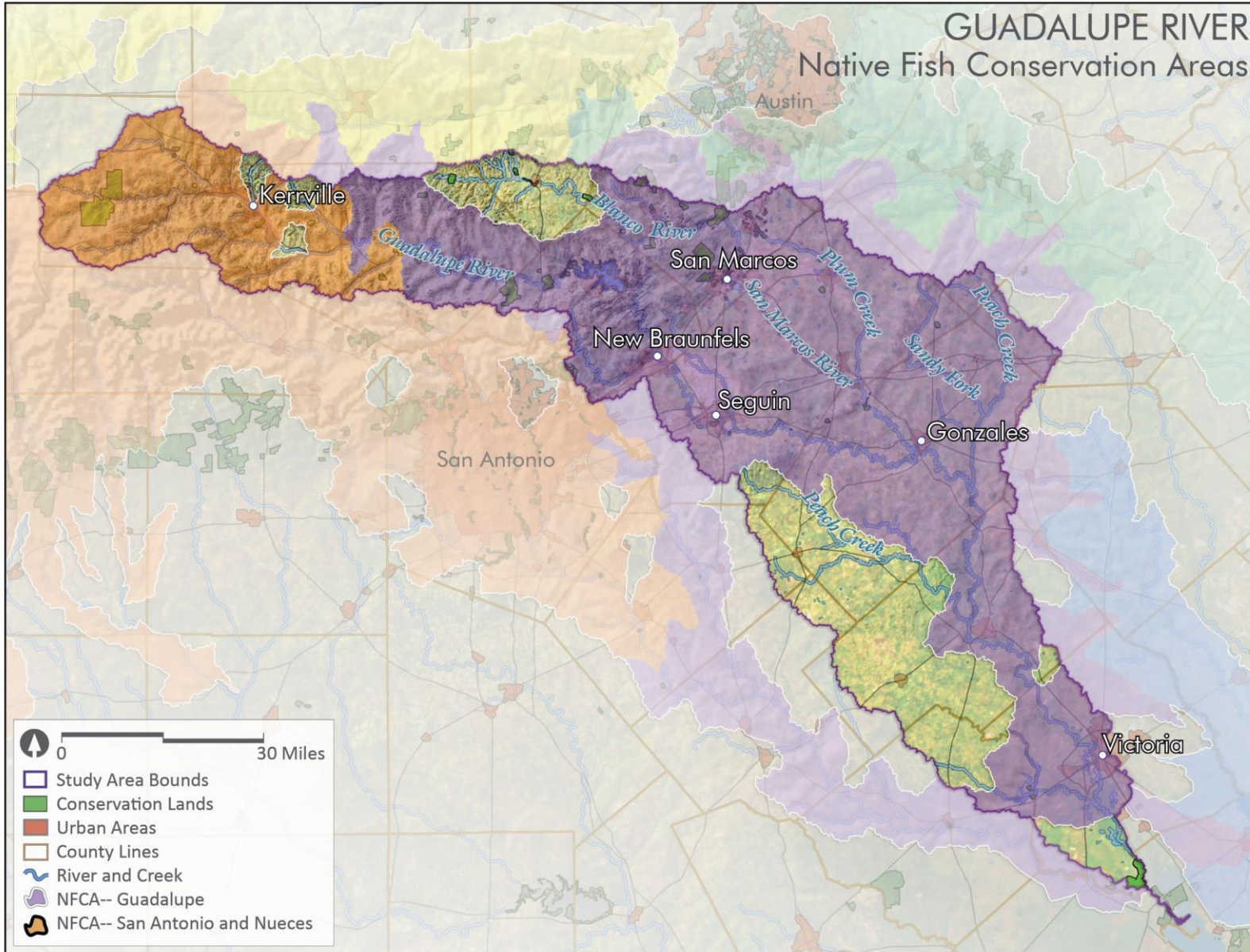
## Cultural Resource

3



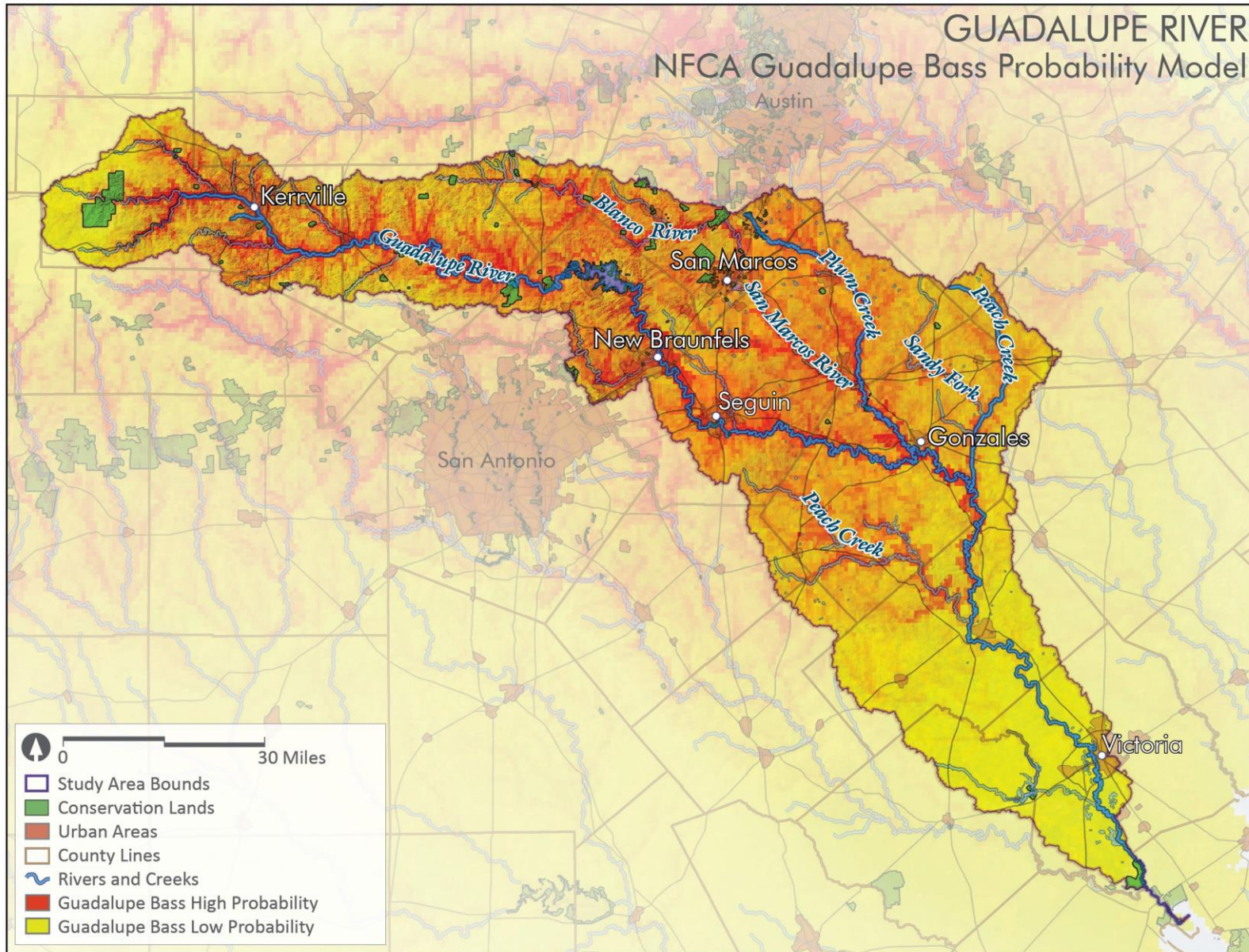
## Ecological Resource: Native Fish Conservation Areas

3



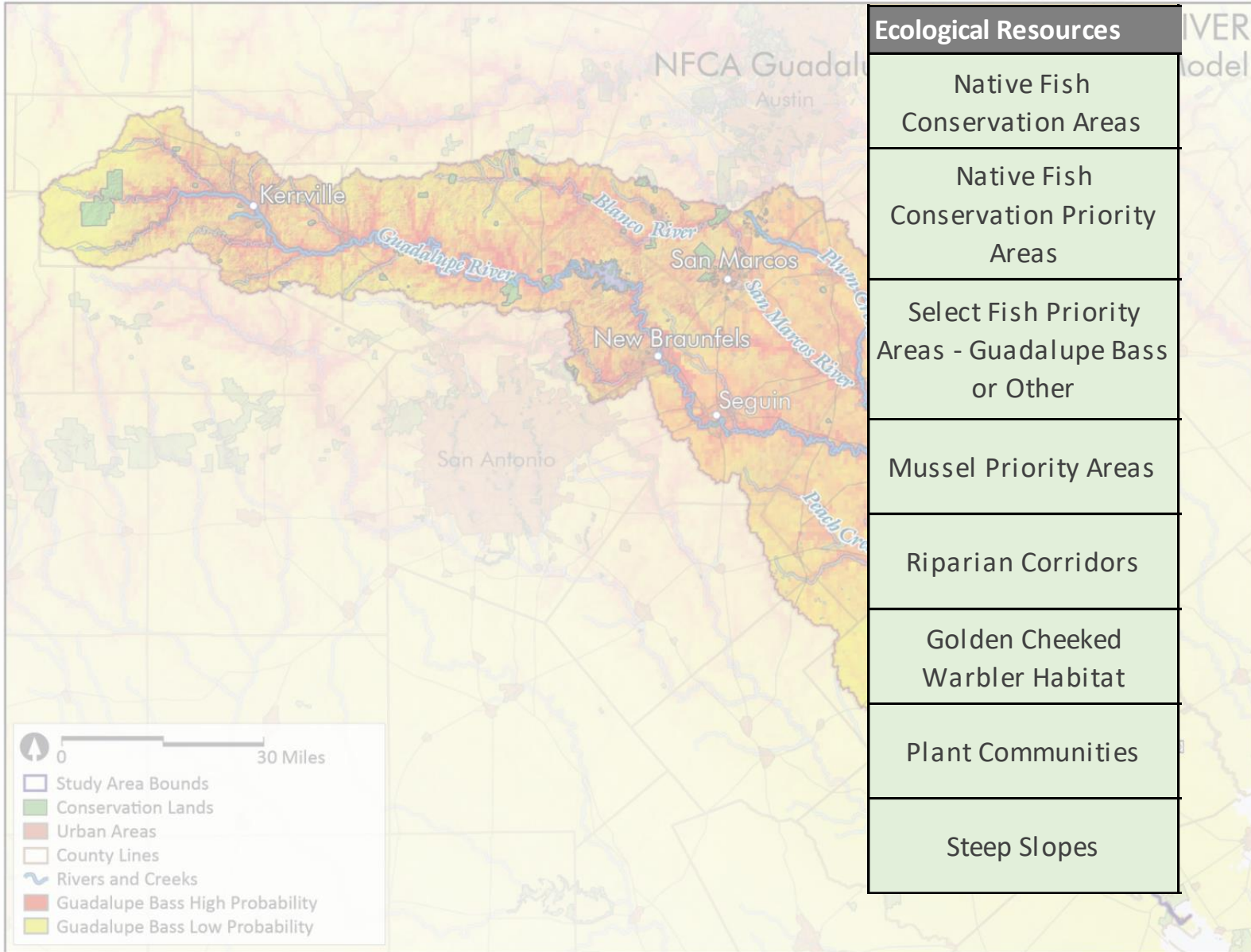
## Ecological Resource: Native Fish Conservation Area Species Data

3



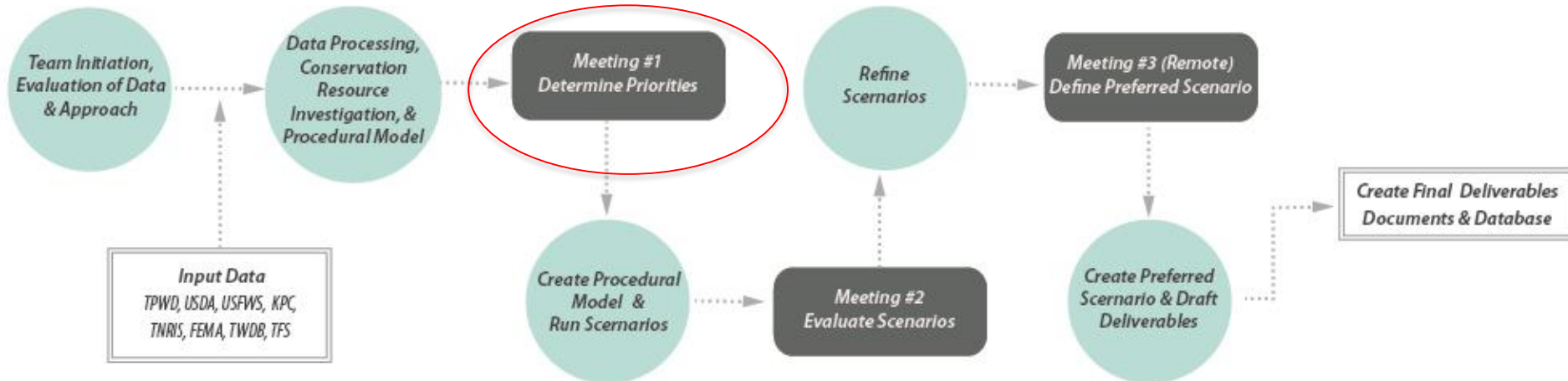
## Ecological Resource

3



## Conservation Planning Process

We are here!





# Gaps in conservation

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## PLANNING GAP

Where to effectively/efficiently implement action considering:

- Evaluation of multiple landscape resources
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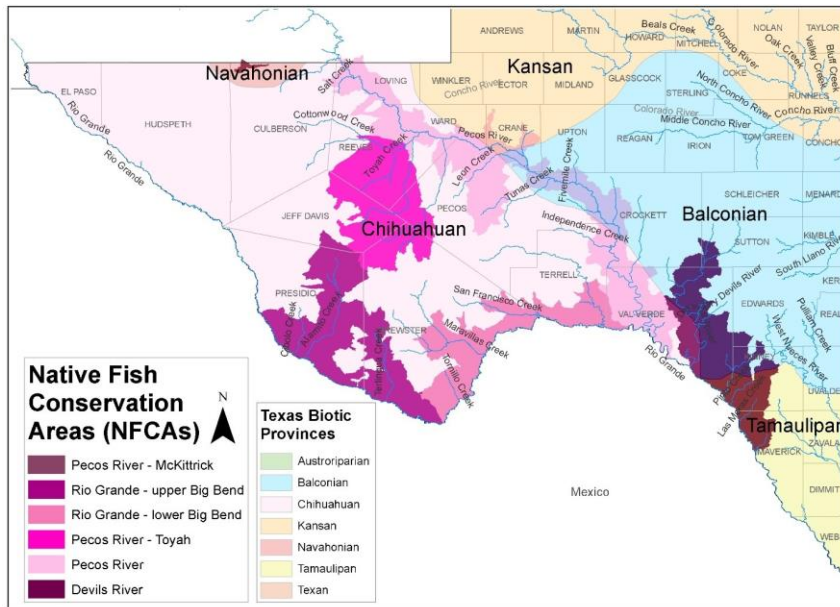
## IMPLEMENTATION GAP

Knowing-Doing Gap: With ISSUES, how do we ACT?

- Mechanisms?
- Partners?
- How to facilitate?

# Framework for implementation of funding and research and action

## SPATIAL FRAMEWORK (WHERE)



## THEMATIC FRAMEWORK (WHAT)

Protect & Maintain  
**HABITAT**

Develop Conservation  
**DEMONSTRATION**

Restore Impacted  
**HABITAT**

Conduct **RESEARCH** to  
Fill Gaps

Restore **CONNECTIVITY**

Conduct **MONITORING**  
to evaluate, adapt, &  
refine actions

Mitigate effects of  
**INVASIVE SPECIES**

Organize networks of  
**LANDOWNERS**

Adaptive management &  
reporting

## Workshops Process

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Advisory Council/ Stakeholders  
Planning Framework  
Implementation Guidelines



Project  
ideas



Action Plan &  
Science Agenda

# Workshops Process

## Project idea form

## Reviewable spreadsheet

Timestamp	Project Description	NFCA	Project Location	NFCA objective
	Examine flow-ecology relationships of Guadalupe Basin, Blue sucker, and other focal fishes, and explore opportunities to adopt/refine current flow prescriptions in the Lower Colorado River Authority's Water Management Plan to support natural flow patterns that meet the needs of native aquatic communities	Colorado	Longhorn Dam to City of	Habitat Restoration
	Complete an analysis of existing water rights and patterns of water use to identify available water and explore opportunities for water leases, water rights acquisition, and voluntary incentive-based programs to achieve flow restoration targets	Colorado	Lower Colorado River NFI	Habitat Restoration
	Determine use by focal species	Colorado	Altair to Bay City	Research
	Assess dynamics of fish populations at the fresh and estuarine interface	Colorado	Altair to Bay City	Research
	Assess Alligator Gar populations	Colorado	Altair to Bay City	Research
	Determine influence of Dam on fish passage, accessibility? (considering the Altair dam and the one in Bay City)	Colorado	Altair to Bay City	Research
	Assess Macrobrachium populations	Colorado	Altair to Bay City	Research
	Identify habitat use patterns by Blue Sucker	Colorado	Longhorn Dam to City of	Research
	Assess Guadalupe Basin populations and flow-ecology relationships	Colorado	Longhorn Dam to City of	Research
	Assessment American Eel populations and barrier impacts	Colorado	Longhorn Dam to City of	Research
	Examine use of tributary streams by Species of Greatest Conservation Need (this can apply throughout Lower Colorado)	Colorado	Longhorn Dam to City of	Research
	Complete a study of the annual economic impact of paddling, angling, and other water-based recreation in the lower Colorado River and specifically the Guadalupe Basin Fishery and the Texas Paddling Trails network	Colorado	Lower Colorado River NFI	Research
	Collaborative with the Rises and Prairies Land Trust to enhance management of the river access area at the Colorado River Sanctuary (immediately upstream of Takliian Village) for use as a riparian conservation demonstration area	Colorado	City of Bastrop to Plum P.	Conservation Demands
	Promote trophy Guadalupe Basin fishery to garner public support for conservation of the lower Colorado River, with a particular emphasis on the value of prescriptive releases of flows into the lower Colorado River from the Highland Lakes (consistent with the Lower Colorado River Authority's Water Management Plan)	Colorado	Longhorn Dam to City of	Conservation Networks

## Explore map & Website



# Assessment → Planning → Action

*Bridging the 'Knowing-Doing' Gap in Native Fish Conservation*

FIND OUT MORE



CONSERVATION ASSESSMENT	<a href="#">GREAT PLAINS NFCN</a> 
CONSERVATION PLANNING	TEXAS NFCN
CONSERVATION PLANS	
INTERACTIVE MAP	
CONSERVATION ACTIONS	

# Assessment → Planning → Action

*Bridging the 'Knowing-Doing' Gap in Native Fish Conservation*

FIND OUT MORE





## Interactive NFC Project Map

Outcomes of the Watershed-Based Conservation Planning Workshops – As of April 2016, watershed-based conservation planning workshops have been conducted for the Native Fish Conservation Areas in the Brazos, Canadian, Colorado and Red rivers.

Over 60 subject-matter experts participated in the workshops. Workshop participants recommended more than 150 project-level actions to conserve freshwater biodiversity in these priority watersheds. Top tier projects are presented.

- Adaptive management and reporting
- Conduct monitoring to evaluate conservation action
- Conduct research to fill critical information gaps
- Develop conservation demonstration areas
- Mitigate effects of invasive species
- Organize networks of public and private landowners
- Protect and maintain intact, healthy habitats
- Restore impacted habitats
- Restore stream and habitat connectivity

**QUESTIONS?  
GIVE US YOUR FEEDBACK SHEETS!**

