

LAND, WATER, SKY, AND NATURAL INFRASTRUCTURE PLAN

2023



texas hill country
conservation network



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PREFACE

This Plan represents the voices of thousands of Texans. It defines the most critical natural infrastructure systems in the Hill Country and lays out a vision for greater investment to support those systems as the region grows. This is not intended to be a static plan but rather an adaptable set of tools, a shared vision, and a starting point for ongoing collaboration and increased collective impact.



CORE MESSAGES

The core messages of the Hill Country Land, Water, Sky, and Natural Infrastructure Plan (Plan) are:

- There is **enormous support** across Hill Country communities for **greater investment** in the region's land, water, sky, and natural infrastructure.
- The Hill Country's land, water, and sky are **deeply interconnected**, and are all part of the region's natural infrastructure.
- Natural infrastructure **sustains communities and economies** and is as important as built infrastructure.
- Natural infrastructure is **critical to everyone** throughout the region's cities and towns, its working lands, and its most remote natural places. Protecting, maintaining, and optimizing natural infrastructure is the least expensive route to helping communities thrive.
- The benefits of natural infrastructure are not equally accessible across racial, socioeconomic, and rural/urban divides. It is important to **ensure equitable access** to the benefits of natural infrastructure and to decision-making about natural infrastructure.
- **Protecting water** is the single greatest natural infrastructure priority for communities across the region.

texas hill country conservation network

The mission of the Texas Hill Country Conservation Network (the Network) is to maximize the protection of the Hill Country’s natural resources through enhanced collaboration. The Network is made up of dozens of nongovernmental organizations, businesses, universities, and government organizations. Network member organizations advocate for and work to protect the Hill Country’s clear flowing springs and fragile aquifers; its wide-open spaces and starry night skies; the abundant biodiversity throughout the region’s forests, grasslands, hills, and prairies; its working farms and ranches; its vibrant, close-knit communities and strong rural and small-town economies; its scenic country recreation and idyllic getaways; and all the wonders that characterize this iconic landscape. As our region grows, we recognize the critical need to protect these economies, lands, skies, and water. Only through collaboration can the conservation community rise to meet the challenge of the moment in the Hill Country. The Network allows us to achieve conservation successes on the ground, to shine a spotlight on existing collaborations, and to enable and support these organizations to efficiently expand and scale their ambition, activities, and collective impact.

KEY CONCEPTS

NATURAL INFRASTRUCTURE

Natural infrastructure uses, restores, or emulates natural ecological, geological, or physical processes. It expands the concept of infrastructure beyond engineered or built structures. From healthy rangelands and soils that allow rainwater to percolate into aquifers below our feet to star-filled night skies overhead, natural infrastructure in the Hill Country is complex, interconnected, and underpins our very existence and quality of life in Central Texas and beyond. Protecting and enhancing natural infrastructure provides irreplaceable and cost-effective environmental, health, social, and economic benefits.

Please see Figure 1-1 and Figure 1-2 for an illustration of the systems and features that make up natural infrastructure and for an expanded exploration of the benefits of natural infrastructure.

CONSERVATION

Conservation involves protecting, enhancing, and managing natural infrastructure for the future while serving human needs such as agricultural use, wildlife management, and outdoor recreation. Conservation includes acquisition of land and conservation easements, as well as proactive adaptive management including restoration, enhancement, remediation, and long-term stewardship. Conservation benefits local communities and local economies through promoting the health and prosperity of working lands, providing clean water and air and dark skies, protecting people from environmental harms, and supporting access where appropriate. Water is an essential part of all aspects of Hill Country conservation. The Texas Hill Country is largely privately owned. We accomplish voluntary, incentive-based conservation in partnership with willing landowners.

RESILIENCE

Resilient ecological and human communities are able to recover after disturbances. Resilient ecosystems bounce back after a disturbance without losing their essential structure or functions. Key components of ecological resilience include both high levels of diversity (biodiversity, age diversity, structural diversity, genetic diversity) and intact ecological processes such as rainwater infiltration, groundwater recharge, pollination, and carbon storage. Resilient human communities have a sustained ability to recover from adversity with strong social connections intact, vulnerable community members protected, and economies and built environments that can adapt. Ecological resilience is critical to the resilience of human communities.

EQUITY

Equity is a measure of just and fair treatment, opportunities, and outcomes across race, gender, socioeconomic status, and other identities. Achieving equity is only possible in an environment and system built upon mutual respect, human dignity, and collective responsibility—while centering the voices of those disproportionately impacted by inequities. This involves acknowledging past and prevailing policies as well as environmental and structural harms and disparities in order to remove barriers and create access to opportunities so that everyone has a fair and equal opportunity to participate and thrive. An equitable environment allows our various characteristics, strengths, and perspectives to provide a greater path to success, both personally and collectively. Equity is essential to a connected and highly functioning Hill Country human and ecological community, now and in the future.

ACKNOWLEDGEMENTS

Our deep thanks to the thousands of Texans who shared their perspectives and helped shape this Plan. Thank you especially to our Core Team, Advisory Team, and Mapping Team who spent countless hours sharing their insights and expertise. Funding for this work was generously provided by the Burdine Johnson Foundation, the Cynthia and George Mitchell Foundation, the Hershey Foundation, the Shield-Ayres Foundation, the Still Water Foundation, the Land Trust Alliance, and the Water Funder Initiative.

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Tanya Walker	Black Women Who Kayak+



EXECUTIVE SUMMARY

The window of opportunity to re-imagine how the Hill Country grows and how it values its natural infrastructure is shrinking. This Plan represents the voices of thousands of Texans. It defines the most critical natural infrastructure systems in the Hill Country and lays out a vision for greater investment to support those systems as the region grows. This plan is not a map of land use prohibitions, an effort to subvert private property rights, or an effort to supplant local planning. It presents a shared vision, an adaptable set of tools, and a starting point for ongoing collaboration. The Plan is intended to be flexible and adaptable to reflect the dynamism and diversity of the region.

CORE MESSAGE

The Plan's core messages are:

- There is **enormous support** across Hill Country communities for **greater investment** in the region's land, water, sky, and natural infrastructure.
- The Hill Country's land, water, and sky are **deeply interconnected**, and land, water, and sky resources are all part of the region's natural infrastructure.
- Natural infrastructure **sustains communities and economies** and is as important as built infrastructure.
- Natural infrastructure is **critical to everyone** throughout the region's cities and towns, its working lands, and its most remote natural places. Protecting, maintaining, and optimizing natural infrastructure is the least expensive route to helping communities thrive.
- The benefits of natural infrastructure are not equally accessible across racial, socioeconomic, and rural/urban divides. It is important to **ensure equitable access** to the benefits of natural infrastructure and decision-making about natural infrastructure.
- **Protecting water** is the single greatest natural infrastructure priority for communities across the region.

BENEFITS OF INVESTING IN NATURAL INFRASTRUCTURE

- Providing clean and abundant water
- Keeping farm and ranch lands intact and viable
- Preserving dark skies
- Providing places to recreate and exercise outdoors
- Providing places to fish and hunt
- Promoting biodiversity
- Reducing water treatment costs
- Generating tourism and recreation dollars
- Attracting new businesses
- Supporting pollination of crops and other plants
- Reducing wildfire risk
- Reducing drought intensity
- Providing wildlife habitat including rare and threatened species
- Promoting economic viability of rural and agricultural lands
- Collecting and storing water (aquifer recharge)
- Reducing the impacts of extreme weather
- Reducing intensity of flooding
- Reducing water and air pollution
- Reducing health impacts from extreme heat
- Creating and maintaining healthy soils
- Helping people connect with nature
- Increasing social connections
- Supporting early childhood development
- Providing places to play, gather, and spend time together
- Providing mental health benefits from spending time in nature
- Protecting culturally and spiritually sacred places
- Providing strong regional identity and sense of place

PARTNER AND COMMUNITY ENGAGEMENT FOR THIS PLAN

Thousands of Texans shared their perspectives during the planning process, including farmers and ranchers, elected officials, representatives of nonprofits and public agencies, and residents from big cities and small towns across the Hill Country. While we worked hard to achieve representative engagement, we fell short of that goal. Network partners have committed to not ending our engagement efforts with the publication of this report--this will be a living, breathing document and community outreach will continue in the coming months and years. Engagement to date has included:



THE TIME IS NOW: PUBLIC SUPPORT FOR FUNDING OF CONSERVATION AND NATURAL INFRASTRUCTURE

In the Plan's survey of over 2,800 Hill Country residents, nearly 85% of respondents said they would support increasing public funding for conservation. Public funding measures, including bond measures, utility fees, and sales tax measures, are among the most impactful and reliable ways to invest in conservation. Hill Country voters are exceptionally supportive of propositions that fund conservation. Since 1990, there have been 39 public funding measures in Hill Country cities and counties, and only one did not pass (in 1993). Of the 10 largest public funding measures for conservation that have passed in Texas, nine were in the Hill Country.

WHERE DO WE GO FROM HERE

The success of this Plan relies on shared implementation by members of the Texas Hill Country Conservation Network and partners, landowners, and community leaders from across the region. Succeeding will take significant new investments. The Network needs to rally local communities, public agencies, businesses, chambers, developers, landowners, city dwellers, and the agricultural community around our shared responsibility to invest in conservation and natural infrastructure before it is too late. The objectives below were identified as key areas for collective action. See Section 5 of the Plan for more details.

Plan Objectives, Areas for Collective Action:

1. Accelerate the pace of conservation through permanent protection of important lands and waters.
2. Actively support conservation-based stewardship of thousands more acres of working lands through outreach, technical and financial assistance to landowners.
3. Use additional strategies to expand and deepen focus on protecting water resources.
4. Advocate for policies, including night sky ordinances, that support key natural infrastructure priorities.

5. Expand equitable access to the benefits of natural infrastructure with a focus on public health and climate resilience.
6. Build support through outreach and education.
7. Build capacity and deepen engagement through partnerships.
8. Work to increase funding for investments in natural infrastructure.

In addition to its shared vision, the Plan includes maps of potential natural infrastructure priorities that can be used as starting points for local decision making. Importantly, the Plan also includes county-level summaries to help support local efforts. The county-level summaries can be found in the Plan appendix.

Please go to www.ourtxhillcountry.org to find more ways to get involved.

Note: This Plan builds on the work represented in the State of the Hill Country Report: Eight Key Conservation and Growth Metrics for a Region at the Crossroads.



RESUMEN EJECUTIVO

La ventana de oportunidad para reimaginar cómo crece la región del Hill Country y cómo valora su infraestructura natural se está reduciendo. Este Plan representa las voces de miles de tejanos. Define los sistemas de infraestructura natural más críticos de la región del Hill Country y expone una visión de mayor inversión para apoyar esos sistemas a medida que la región crece. Este plan no es un mapa de prohibiciones de uso del suelo, un esfuerzo por subvertir los derechos de propiedad privada ni un intento de suplantar la planificación local. Presenta una visión compartida, un conjunto de herramientas adaptables y un punto de partida para una colaboración continua. El Plan pretende ser flexible y adaptable para reflejar el dinamismo y la diversidad de la región.

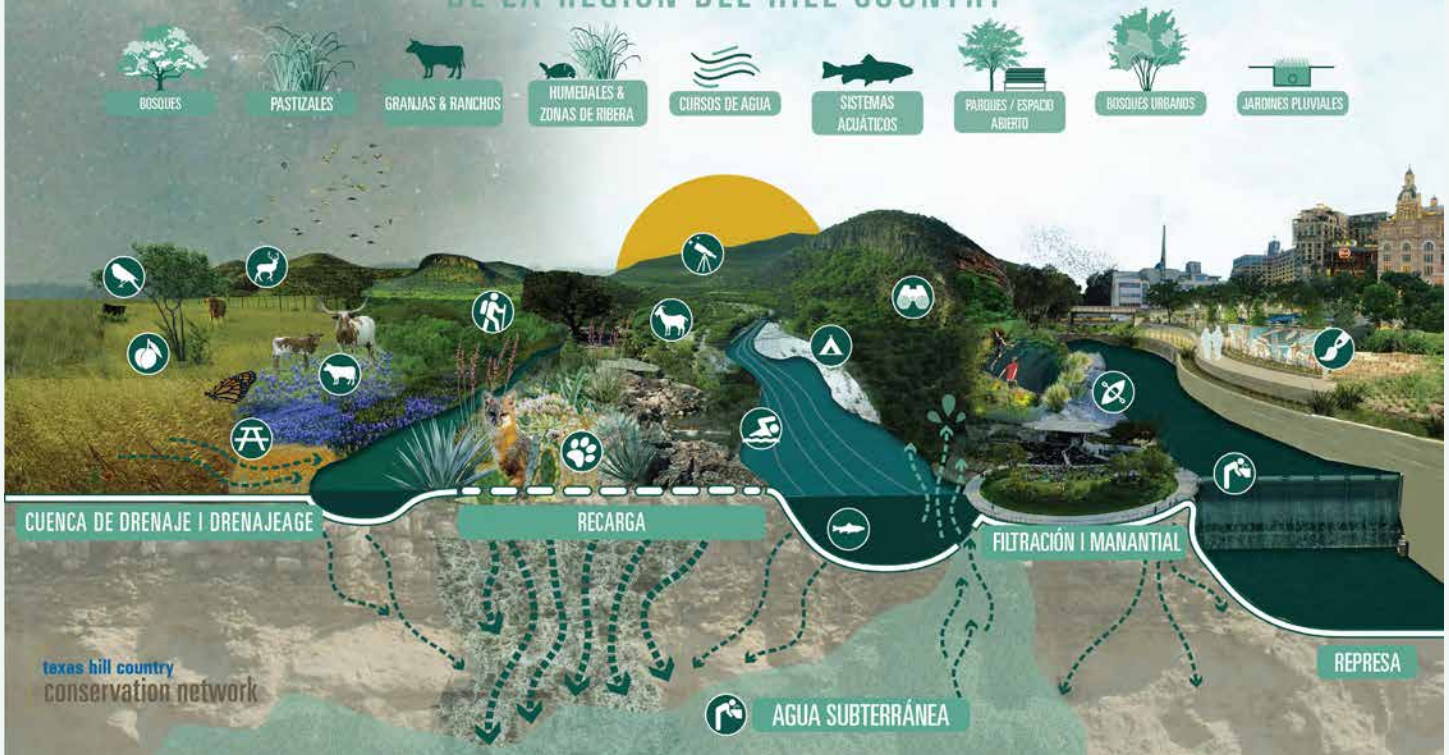
MENSAJES PRINCIPALES

Los mensajes principales del Plan son:

- Existe un **apoyo inmenso** en todas las comunidades del Hill Country a una **mayor inversión** en la infraestructura terrestre, acuática, aérea y natural de la región.
- La tierra, el agua y el cielo de la región del Hill Country están **profundamente interconectados**, y los recursos de la tierra, el agua y el cielo forman parte de la infraestructura natural de la región.
- La infraestructura natural **sostiene las comunidades** y las economías y es tan importante como la infraestructura construida.
- La infraestructura natural es **fundamental para todos** en las ciudades y pueblos de la región, en sus tierras de cultivo y en sus parajes naturales más remotos. Proteger, mantener y optimizar la infraestructura natural es la vía menos costosa para ayudar a las comunidades a prosperar.
- Los beneficios de la infraestructura natural no son accesibles por igual a través de las brechas raciales, socioeconómicas y rurales/urbanas. Es importante **garantizar**

LA INFRAESTRUCTURA NATURAL

DE LA REGIÓN DEL HILL COUNTRY



un acceso equitativo a los beneficios de la infraestructura natural y a la toma de decisiones sobre la misma.

- **La protección del agua** es la mayor prioridad en materia de infraestructura natural para las comunidades de toda la región.

¿QUÉ ES LA INFRAESTRUCTURA NATURAL?

La infraestructura natural utiliza, restaura o emula procesos ecológicos, geológicos o físicos naturales. Amplía el concepto de infraestructura más allá de las estructuras de ingeniería o construidas. Desde pastos y suelos sanos que permiten que el agua de lluvia se filtre en los acuíferos bajo nuestros pies hasta cielos nocturnos llenos de estrellas, la infraestructura natural de la región del Hill Country es compleja, está interconectada y sustenta nuestra propia existencia y calidad de vida en el centro de Texas y más allá. Proteger y mejorar la infraestructura

natural proporciona beneficios medioambientales, sanitarios, sociales y económicos insustituibles y rentables.

La infraestructura natural es la base de las economías prósperas y resistentes y un cimiento esencial de la salud y la seguridad de las comunidades.

Los estudios demuestran que por cada dólar invertido en conservación, se devuelven entre \$4 y \$11 en bienes y servicios naturales como aire y agua limpios y menor riesgo de inundaciones ^A. Las tierras de cultivo de Texas proporcionan \$629 por acre por año en beneficios, lo que supone un total de \$89 mil millones anuales en 141 millones de acres ^B. El acceso a espacios verdes cerca de casa reduce las tasas de enfermedades graves y mejora la salud física y mental, evitando considerables gastos de cuidado de salud.

^A Trust for Public Land. Return on the Investment From the Land & Water Conservation Fund (2011). The economic benefits of Great Outdoors Colorado and the Conservation Trust Fund: Fact Sheet (2018). The Trust for Public Land. Vermont's return on investment in land conservation (2018).

^B Putman, A. et al. Texas Ecosystem Services: A Statewide Assessment. https://nri.tamu.edu/media/3564/texas-ecosystem-services_a-statewide-assessment-oct-2022.pdf (2022).

BENEFICIOS DE INVERTIR EN INFRAESTRUCTURA NATURAL

- Proporcionar agua limpia y abundante
- Mantener intactas y viables las tierras agrícolas y ganaderas
- Preservar los cielos oscuros
- Proporcionar lugares para recrearse y hacer ejercicio al aire libre
- Proporcionar lugares para pescar y cazar
- Fomentar la biodiversidad
- Reducir los costes de tratamiento del agua
- Generar dólares para el turismo y el ocio
- Atraer nuevos negocios
- Apoyar la polinización de cultivos y otras plantas
- Reducir el riesgo de incendios forestales
- Reducir la intensidad de la sequía
- Proporcionar hábitat a la fauna salvaje, incluidas las especies raras y amenazadas
- Fomentar la viabilidad económica de las tierras rurales y agrícolas
- Recoger y almacenar agua (recarga de acuíferos)
- Reducir los impactos del clima extremo
- Reducir la intensidad de las inundaciones
- Reducir la contaminación del agua y del aire
- Reducir los impactos sobre la salud del calor extremo
- Crear y mantener suelos sanos
- Ayudar a las personas a conectar con la naturaleza
- Aumentar las conexiones sociales
- Apoyar el desarrollo de la primera infancia
- Proporcionar lugares para jugar, reunirse y pasar tiempo juntos
- Proporcionar beneficios para la salud mental al pasar tiempo en la naturaleza
- Proteger lugares sagrados a nivel cultural y espiritual
- Proporcionar una fuerte identidad regional y sentido del lugar

PARTICIPACIÓN DE LOS SOCIOS Y LA COMUNIDAD EN ESTE PLAN

Miles de tejanos compartieron sus puntos de vista durante el proceso de planificación, incluidos granjeros y rancheros, funcionarios electos, representantes de organizaciones sin ánimo de lucro y agencias públicas, y residentes de grandes ciudades y pequeños pueblos de toda la región del Hill Country. Aunque nos esforzamos por lograr una participación representativa, no alcanzamos ese objetivo. Los socios de la red se han comprometido a no dar por finalizados nuestros esfuerzos de participación con la publicación de este informe: será un documento vivo, que respira, y la divulgación comunitaria continuará en los próximos meses y años. El compromiso hasta la fecha ha incluido:

Encuesta Comunitaria

5

grupos comunitarios

El Alcance en Persona

12

lugares visitados

Encuesta Comunitaria

2815

respuestas

Encuesta de la Red

73

personas participaron

50 organizaciones

Reunión de Puertas Abiertas Virtual

28

personas participaron

Reunión de Puertas Abiertas de la Red

36

personas participaron

21 organizaciones

Grupos de Discusión

23

personas participaron

cielos oscuros (6)

promoción rura(9)

comunidad latina(8)

Talleres del Equipo Asesor

62

personas asistieron

45 organizaciones

Entrevistas

12

personas participaron

Equipo

12

Equipo de mapeo

9

Equipo Central

AHORA ES EL MOMENTO: EL APOYO PÚBLICO A LA FINANCIACIÓN DE LA CONSERVACIÓN Y LA INFRAESTRUCTURA NATURAL

En la encuesta del Plan realizada a más de 2,800 residentes de la región del Hill Country, casi el 85% de los encuestados dijeron que apoyarían el aumento de la financiación pública para la conservación Las medidas de financiación pública, incluidas las medidas de bonos, las tarifas de servicios públicos y las medidas de impuestos sobre las ventas, se encuentran entre las formas más impactantes y fiables de invertir en conservación. Los votantes de la región del Hill Country apoyan excepcionalmente las propuestas que financian la conservación. Desde 1990, ha habido 39 medidas de financiación pública en las ciudades y condados de la región del Hill Country, y sólo una no fue aprobada (en 1993). De las 10 mayores medidas de financiación pública para la conservación que se han aprobado en Texas, nueve fueron en la región del Hill Country.

¿A DÓNDE VAMOS AHORA?

El éxito de este Plan depende de la implementación compartida por los miembros de la Texas Hill Country Conservation Network (Red de Conservación de la Región del Hill Country de Texas) y los socios, propietarios de tierras y líderes comunitarios de toda la región. Para tener éxito serán necesarias nuevas inversiones significativas. La Red necesita reunir a las comunidades locales, las agencias públicas, las empresas, las cámaras, los constructores, los propietarios, los habitantes de las ciudades y la comunidad agrícola en torno a nuestra responsabilidad compartida de invertir en conservación e infraestructura natural antes de que sea demasiado tarde. Los objetivos que figuran a continuación se identificaron como áreas clave para la acción colectiva. Consulte la Sección 5 del Plan para obtener más detalles

Objetivos del plan, áreas de acción colectiva:

1. Acelerar el ritmo de la conservación mediante la protección permanente de tierras y aguas importantes.

2. Apoyar activamente la administración basada en la conservación de miles de acres más de tierras de cultivo mediante la promoción y la asistencia técnica y financiera a los propietarios.
3. Utilizar estrategias adicionales para ampliar y profundizar la atención prestada a la protección de los recursos hídricos.
4. Abogar por políticas, incluidas las ordenanzas sobre el cielo nocturno, que apoyen las prioridades clave de la infraestructura natural.
5. Ampliar el acceso equitativo a los beneficios de la infraestructura natural centrándose en la salud pública y la resiliencia climática.
6. Conseguir apoyo a través de la promoción y la educación.
7. Crear capacidad y profundizar en el compromiso a través de asociaciones.
8. Trabajar para aumentar la financiación de las inversiones en infraestructura natural.

Además de su visión compartida, el Plan incluye mapas de prioridades potenciales de infraestructura natural que pueden utilizarse como puntos de partida para la toma de decisiones a nivel local. Es importante destacar que el Plan también incluye resúmenes a nivel de condado para ayudar a respaldar los esfuerzos locales. Los resúmenes a nivel de condado pueden encontrarse en el apéndice del Plan.

Por favor visite www.ourtxhillcountry.org para encontrar más formas de participar.

Nota: Este Plan se basa en el trabajo representado en el Informe sobre el Estado de la región del Hill Country: Ocho métricas clave de conservación y crecimiento para una región en la encrucijada (State of the Hill Country Report: Eight Key Conservation and Growth Metrics for a Region at the Crossroads).



“ The Texas Hill Country is the most beautiful place in North America. Keeping its natural infrastructure should be a matter of civic pride for all Texans. Clean and sustainable water is tantamount to survival for millions of Texans in this region and the diverse wildlife. We need to do all that can be done to sustain its long-term health.”

- Survey Participant

Image Source: Thomas Park, Unsplash

MESSAGE FROM THE CORE TEAM

DEAR READER,

This Plan, the public opinion research, graphics, and maps that follow are the culmination of hundreds of hours of input and work from residents across the Hill Country. We connected with farmers, ranchers, elected officials, river enthusiasts, city dwellers, business owners, and stargazers from communities big and small to create this Plan.

Through all our conversations and across all our efforts to engage with people who live and work in the Hill Country, one thing was consistent and clear: Central Texans love the Hill Country and see the value of protecting the natural infrastructure that defines it.

On behalf of the Core Team for the Land, Water, Sky, and Natural Infrastructure Plan, thank you for your interest. We hope this Plan will inspire you to look at natural infrastructure differently in your community.

Sincerely,

The Core Team for the
Land, Water, Sky, and Natural Infrastructure Plan

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Ben Eldredge, Cibolo Center for Conservation
Frank Davis, Hill Country Conservancy
Josh Sendejar, Hill Country Alliance

Katherine Romans, Hill Country Alliance
Paul Sanchez-Navarro, Consultant
Rachael Lindsey, Hill Country Conservancy
Robin Gary, The Watershed Association

VISION

Our vision is a Hill Country where all communities are resilient in the face of extreme weather, and where everyone has sustainable access to clean water and opportunities to connect to nature—thanks to robust and protected natural infrastructure systems.

GUIDING PRINCIPLES

1. NOW IS THE TIME TO PROTECT THE IRREPLACEABLE WATERS, LANDS, SKIES, AND WILDLIFE OF THE TEXAS HILL COUNTRY.

Time is running out to protect many of the region's most special places. From working farms and ranches to flowing rivers and rolling hills, protecting open lands, clean, plentiful waters, and star-filled skies has far-reaching benefits for communities in the Hill Country and beyond. Strategic conservation will ensure access to clean water and air, healthy soils, nourishing food, and opportunities for connecting with nature—now and for future generations.

2. PROTECTING THE HILL COUNTRY'S WATER IS ABSOLUTELY CRITICAL.

We believe the Hill Country represents a unique and irreplaceable natural system for rainwater collection, filtration, and storage. We must protect and maintain our springs, creeks, rivers, wetlands, and riparian areas—and all the places that are critical to recharging our groundwater. Equitable access to clean water, at the source and at the tap, is central to ensuring that our ecosystems and our communities can thrive and be resilient in the face of climate change.

3. WE NEED A BOLD SHARED VISION FOR BALANCING CONSERVATION AND GROWTH.

Our region is growing quickly. Investments in conservation need to be at least proportional to growth. We need an ambitious plan to care for millions of acres of important lands and waters and to promote compact, low-impact development in vibrant communities. Focusing on multi-benefit conservation and natural infrastructure opportunities will help us get there. We must also support policies and planning that safeguard natural infrastructure.

4. THE PLAN NEEDS TO BE FLEXIBLE AND ADAPTABLE TO REFLECT THE DYNAMISM AND DIVERSITY OF THE REGION.

The Plan is a shared vision, but there is no “one-size-fits-all” approach to this work. Specific approaches will differ among counties, cities and towns, communities, organizations, agencies, and individuals based on their local goals.

5. OUR PLANNING NEEDS TO BE INCLUSIVE, TRANSPARENT, AND GROUNDED IN SCIENCE.

We must ensure that we include as many voices as possible in setting priorities. This means seeking and welcoming participation by marginalized and underrepresented communities. We should be clear and transparent about how we establish and evaluate our goals. It is essential for the Plan to be data-driven and informed by community engagement, the best available science, and traditional ecological knowledge.

6. OUR CONSERVATION WORK NEEDS TO CENTER EQUITY.

We must work diligently to understand the priorities and needs of communities of color, Indigenous communities, low-income communities, people with disabilities, and residents in both rural and urban areas. We need to make access to the benefits of natural infrastructure more equitable. A critical next step in planning an equitable Hill Country is addressing gentrification, displacement, and lack of affordable housing, among other barriers to achieving equity.

7. PARTNERSHIP AND COLLABORATION ACROSS SECTORS ARE CRUCIAL TO OUR SUCCESS.

We bring integrity, humility, and empathy to our collaborations, and we prioritize working with diverse partners to be as effective and impactful as possible. Approaching our collaborative efforts with openness and without partisanship means that we can work across political, cultural, and socioeconomic divides to find common purpose.

8. WE NEED TO INCREASE INVESTMENTS IN PRIVATE LAND STEWARDSHIP. THIS PLAN IS VISIONARY, NOT REGULATORY.

Because the Texas Hill Country is largely privately owned, we work to accomplish voluntary, incentive-based conservation in partnership with willing landowners.

9. WE MUST DRAMATICALLY INCREASE FUNDING FOR CONSERVATION AND NATURAL INFRASTRUCTURE IN THE HILL COUNTRY.

Succeeding in this critical work will take significant new investments. We need to rally local governments, public agencies, businesses, chambers, developers, landowners, city dwellers, and the agricultural community around our shared responsibility to invest in conservation and natural infrastructure before it is too late.



Bluebonnet Hillside Image
Source: Michael Penn Smith



1

LAND, WATER, SKY, AND NATURAL INFRASTRUCTURE PLAN: WHY AND HOW

Cacti Image Source:
Jordan Moore San Marcos
Sunset

WHAT IS THE LAND, WATER, SKY, AND NATURAL INFRASTRUCTURE PLAN?

The Land, Water, Sky, and Natural Infrastructure Plan for the Hill Country represents the voices of thousands of Texans. The Plan defines the most critical natural infrastructure systems in the Hill Country and lays out a vision for greater investment in those systems as the region grows. The Plan is not just about traditional land conservation. It's about the Hill Country's waters and skies and an expansive view of natural infrastructure across the entire region from its cities and towns to its ranchlands and remote rural areas. The acknowledgment that natural infrastructure is critical to thriving communities and economies is central to this effort. This is not intended to be a static plan but rather an adaptable set of tools, a shared vision, and a starting point for ongoing collaboration and increased collective impact.

PLANNING PROCESS GOALS

The overall goals of the planning process have been to:

1. **Create a collaborative vision** for the future of Hill Country conservation and natural infrastructure.
2. **Develop data-driven solutions** informed by extensive community engagement and the best available science.
3. **Catalyze increased funding** for the critical work of protecting, restoring, and enhancing the region's unique natural infrastructure.

TABLE 1.1

WHAT IS THE HILL COUNTRY LAND, WATER, SKY, AND NATURAL INFRASTRUCTURE PLAN?

WHAT IT IS:

A description of why the Hill Country's natural infrastructure is critical for the vitality and resilience of the region

A springboard for long-term collaboration among partners

A set of tools to help guide investments in natural infrastructure

A resource to help understand shared priorities

A way to prioritize areas for stewardship support and voluntary conservation

A way to identify potential places for high-impact investments in natural infrastructure

A resource to inform local planning

An adaptable vision for how to protect and enhance land, water, sky, and natural resources

WHAT IT IS NOT:

A map of land use prohibitions or a regulatory plan

An effort to supplant any local planning

A plan addressing built infrastructure

A complete inventory of all the Hill Country's important resources

Limited to a single map of priority areas

Limited to protecting a single type of resource or natural infrastructure

An effort to subvert private property rights

A requirement that partners, agencies, or municipalities engage in specific projects

“Humans need to love and enjoy nature. I believe that engaging with nature is a basic human need.”

-Melinda Chow,
Austin Youth River Watch

COMPONENTS OF THE PLAN

The Plan is made up of all the outcomes of the planning process, including:

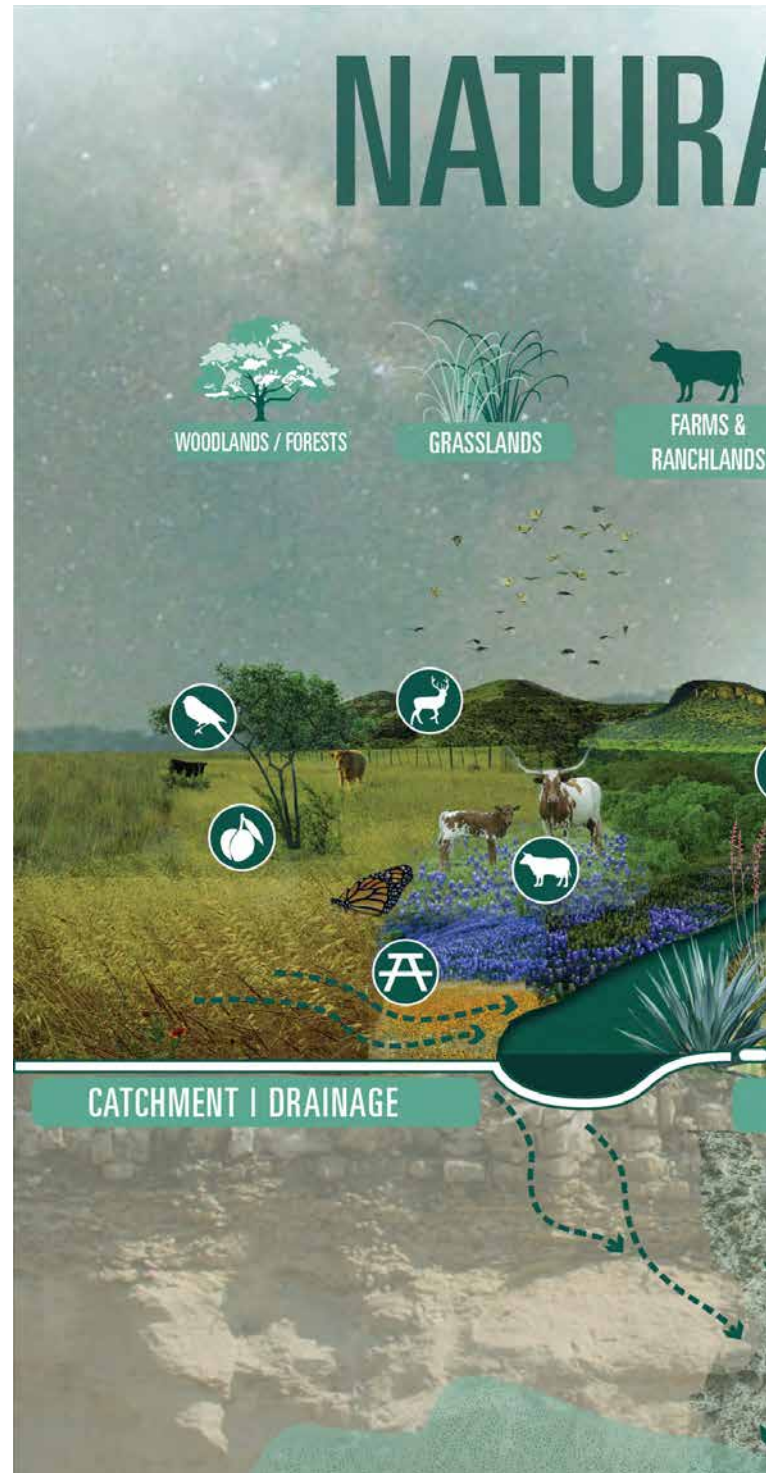
- Shared vision, principles, goals, definitions
- Collaboratively developed infographics
- Community engagement results
- Maps of potential natural infrastructure priorities
- Objectives and strategies for achieving the Plan’s vision (based on engagement and analysis for the Plan)
- County-level conservation and socioeconomic summaries (addendum to final report)
- Data hub to support ongoing planning and collaboration (separate from final report)

HOW WILL THE PLAN BE USED?

The Hill Country Land, Water, Sky, and Natural Infrastructure Plan will be used:

1. As adaptable guidance to help inform regional conservation and natural infrastructure efforts
2. As evidence to help persuade communities and funders to increase investments in conservation and natural infrastructure
3. To inform strategy development by individual organizations, agencies, and other partners

The Plan is NOT intended to commit any individual, organization, agency, or municipality to a particular priority or approach.



NATURAL INFRASTRUCTURE OF THE TEXAS HILL COUNTRY

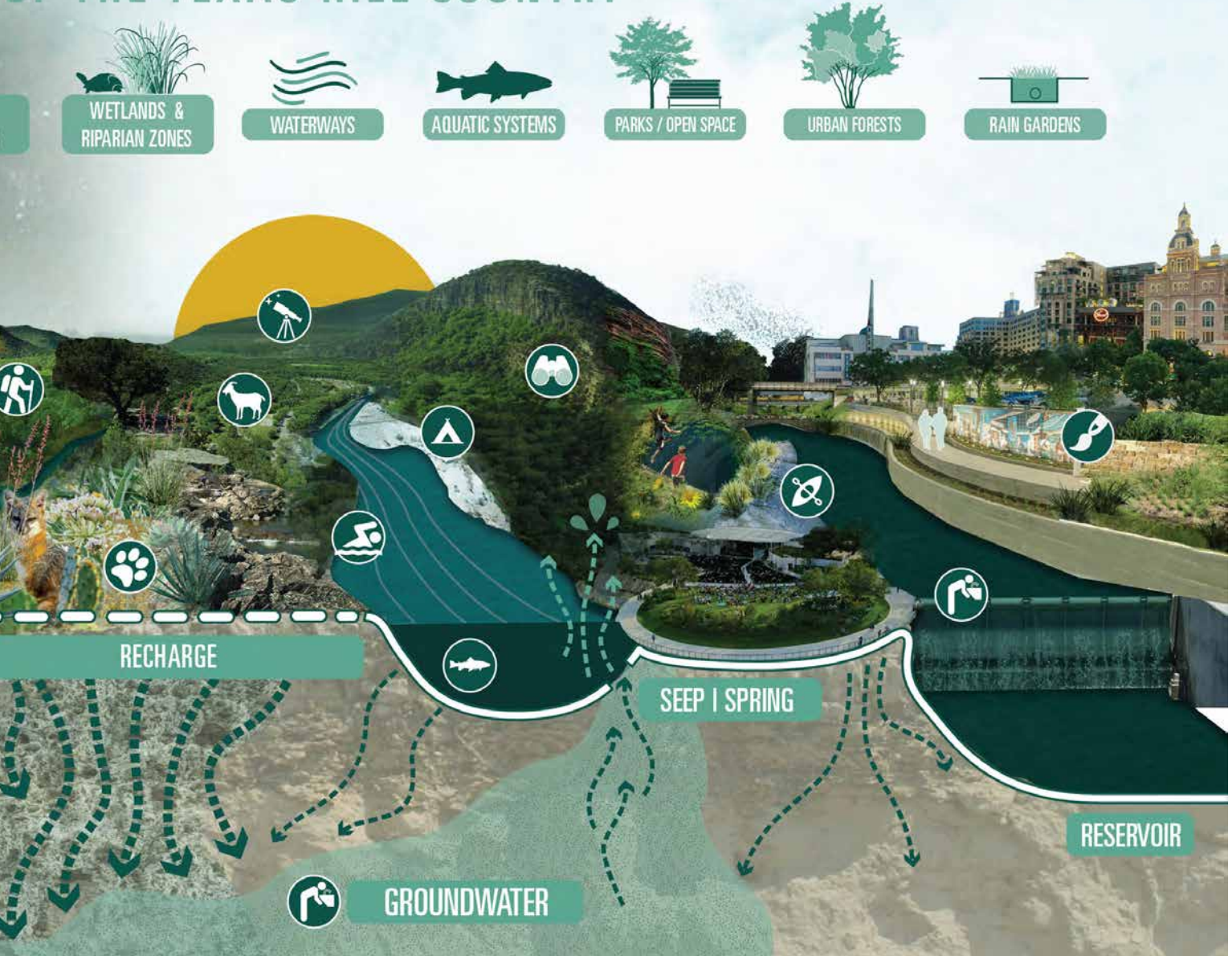


Figure 1-1 shows a simplified version of the components of natural infrastructure across the Hill Country.

WHY IS THE PLAN NEEDED?

This Plan is needed because the land, water, skies, and natural infrastructure of the Hill Country provide critical benefits to the region and far beyond—but they are facing enormous threats.

The window of opportunity to re-imagine how the region grows and how it values its working lands and other natural infrastructure is shrinking.

If development is not balanced with strategic investments in conservation and natural infrastructure, we will lose much of what makes the Hill Country special. Without collaboration and expanded funding, it will be impossible to keep pace with the enormous and costly challenges facing the region—imperiling critical water resources, agricultural lands, wildlife habitat, dark skies, opportunities to connect with nature, and our resilience in the face of extreme weather.

BENEFITS OF NATURAL INFRASTRUCTURE

Figure 1-2 shows the overlapping economic, health, social, and environmental benefits of investing in natural infrastructure. These benefits are also shown in Table 1.2

As both make clear, **natural infrastructure is the cornerstone of thriving and resilient economies and an essential foundation of community health and safety.**

Studies show that investments in conservation are cost-effective and economically beneficial:

For every \$1 invested in conservation, \$4 to \$11 is returned in natural goods and services like clean air and water and reduced risk of flooding.¹⁻³

Every \$1 invested in land conservation for water protection helps avoid \$6 in water infrastructure costs.⁴

Texas working lands provide \$629/acre/year in benefits, which totals \$89 billion annually across 141 million acres.⁵

Outdoor recreation generated \$37.5 billion in Texas in 2021, including \$2 billion generated by boating and fishing and \$1.2 billion generated by hunting.⁶

Close-to-home access to green space lowers rates of major diseases and improves physical and mental health—avoiding significant health-care costs.⁷⁻¹³

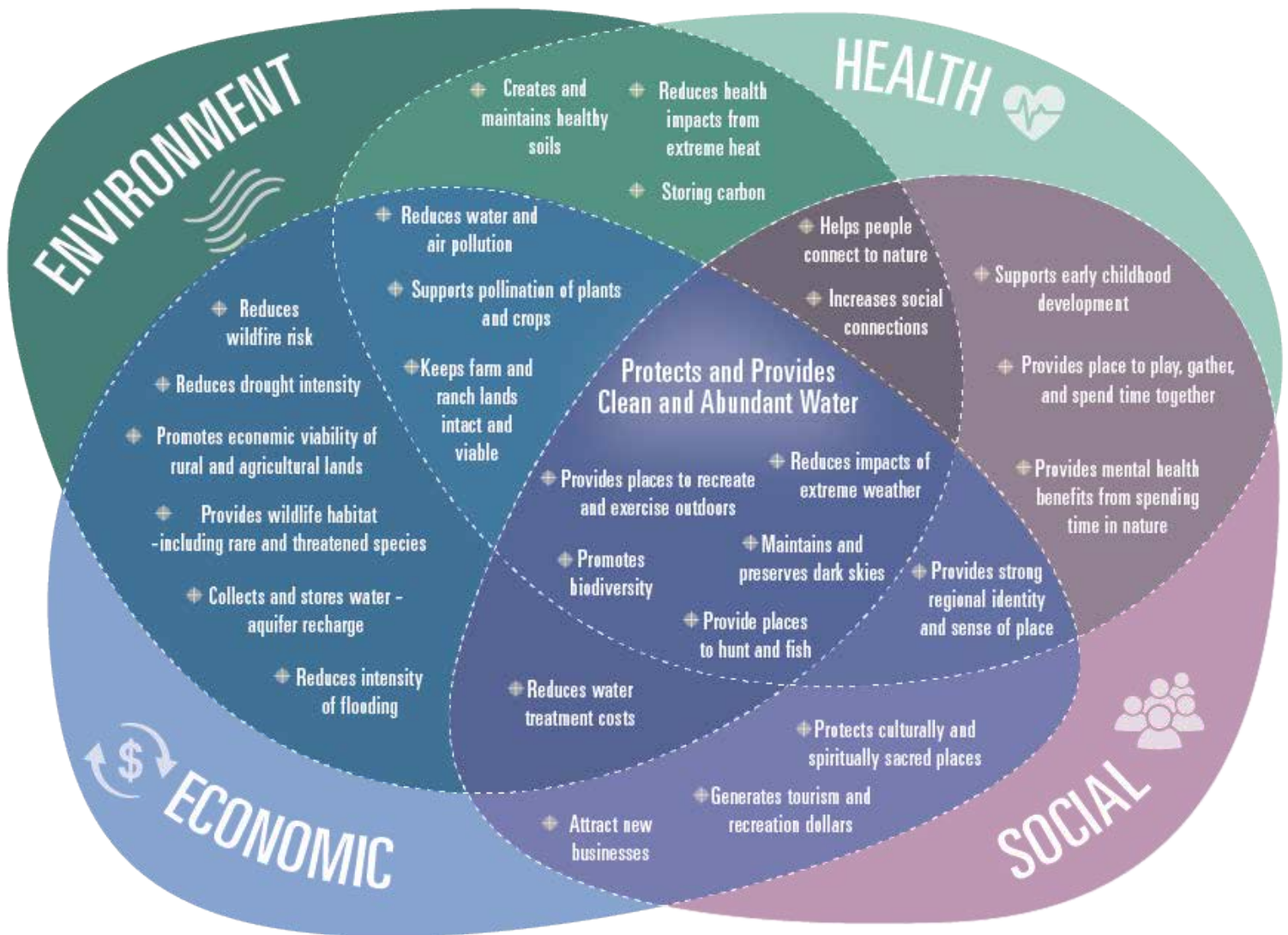
TABLE 1.2

BENEFITS OF INVESTING IN NATURAL INFRASTRUCTURE

- Providing clean and abundant water
- Keeping farm and ranch lands intact and viable
- Preserving dark skies
- Providing places to recreate and exercise outdoors
- Providing places to fish and hunt
- Promoting biodiversity
- Reducing water treatment costs
- Generating tourism and recreation dollars
- Attracting new businesses
- Supporting pollination of crops and other plants
- Reducing wildfire risk
- Reducing drought intensity
- Providing wildlife habitat including rare and threatened species
- Promoting economic viability of rural and agricultural lands
- Collecting and storing water (aquifer recharge)
- Reducing the impacts of extreme weather
- Reducing intensity of flooding
- Reducing water and air pollution
- Reducing health impacts from extreme heat
- Creating and maintaining healthy soils
- Helping people connect with nature
- Increasing social connections
- Supporting early childhood development
- Providing places to play, gather, and spend time together
- Providing mental health benefits from spending time in nature
- Protecting culturally and spiritually sacred places
- Providing strong regional identity and sense of place

NATURAL INFRASTRUCTURE BENEFITS

IN THE TEXAS HILL COUNTRY



WITHOUT NATURAL INFRASTRUCTURE, WE LOSE THESE BENEFITS.

Figure 1 -2. Natural Infrastructure Benefits in the Texas Hill Country

It's not just the numbers that are important. There are stories behind these statistics too—stories of the shared heritage of the Hill Country's special places. The long and complex natural history of the Hill Country and the ongoing story of local Indigenous peoples, the Hill Country's first inhabitants and stewards. The story of a child being taught to hunt and fish in the same hills and streams as their grandfather. The story of an East Austin family being exposed to health-threatening pollution from industrial facilities and having limited access to the benefits of green space. The story of a teenager growing up in San Antonio getting a first chance to visit Hill Country springs and understand the interconnectedness of the region's water. The story of a family's deep pride in stewarding their ranch for generations.



Eye contact Image Source: April Ferrino

WORKING LANDS AND ECOSYSTEM SERVICES

Working lands provide enormous benefits to Texans through supporting rural economies and providing ecosystem services. Eighty-three percent (83%) of lands in Texas are privately owned working lands—farms, ranches, and forests. Texas working lands provide \$629/acre/year in benefits, which totals \$89 billion annually across 141 million acres. Unfortunately, working lands are more threatened in Texas than in any other state. Texas lost nearly 2.2 million acres of these critical lands between 1997 and 2017. Ecosystem services provided by working lands include provisioning services (producing food, fuel, and fiber), regulating services (improving water and air quality, reducing the risk of floods and fires, storing carbon, and controlling erosion), cultural services (recreation, tourism, visual benefits, and spiritual enrichment), and supporting services (soil formation, nutrient cycling, and pollination). Adapted from *Texas Ecosystem Services: A Statewide Assessment* (2022)^{5,14}

THREATS TO NATURAL INFRASTRUCTURE

Unfortunately, the tremendous benefits provided by the Hill Country's natural infrastructure are imperiled by major challenges facing the region:

Exceptionally rapid growth. Population growth in the Texas Hill Country is extraordinary. According to the 2020 Census, two of the top ten counties in the US that grew the fastest in absolute numbers are in the Hill Country: Bexar County and Travis County. Of the ten counties with the highest percentage growth, three are in the Hill Country: Hays County (53%), Comal County (49%), and Kendall County (33%). This growth has created enormous development pressure—particularly in unincorporated areas.

Extreme weather and drought. Changing climate patterns are causing increasingly extreme droughts, floods, and high temperatures across the Hill Country. Water supplies for agriculture, for communities, and for ecosystems are imperiled by drought. Many across the region are vulnerable to extreme flooding during heavy rainfall, which is why it is known as “Flash Flood Alley.” Increasing extreme heat is particularly dangerous for low-income communities, those with health issues, and people who work outdoors. Wildfire risk, driven by more common and prolonged occurrences of drought, is increasing across the region as well.

Limited land use authority and public funding. In the face of development pressure, drought, and extreme weather, Hill Country counties and municipalities have very limited authority to direct growth in unincorporated areas in ways that protect natural infrastructure and benefit communities and the region overall. Unchecked and unbalanced development has led to loss of working lands, fragmentation of wildlife habitat, increasing pollution, and unsustainable groundwater water use. All these impacts can be countered by strategic investments in conservation and natural infrastructure.

"We need urban trails, bike paths, and sidewalks that lead to open spaces that are coming from the black and brown communities. . . Some inner-city communities do not really know some of these open spaces exist because there's no access or the access is too far for them to hold space in those areas."

-Tanya Walker, Black Women Who Kayak+

HOW

WAS THE PLAN DEVELOPED?

The Plan was developed between early 2022 and early 2023 through a combination of:

1. Deep engagement of Network partners, including development of shared vision, principles, and key concepts
2. Large-scale engagement of community members across the region to understand needs and priorities
3. Gathering and evaluating scientific data with the help of local experts
4. Mapping and analysis to identify potential priority areas for investments and key strategies for ongoing collaboration based on the above input

Strategic and collaborative protection and enhancement of the Hill Country's land, water, sky, and natural infrastructure is needed now—as is a dramatic increase in funding for this work. Network members and partners are each doing important and impactful work on their own, but together existing and future partners can catalyze the kind of change that will ensure the benefits and special places of the Hill Country are sustained for future generations.

Figure 1-3 shows an overview of the planning process and illustrates the ongoing role of gathering and incorporating input throughout engagement and analysis.

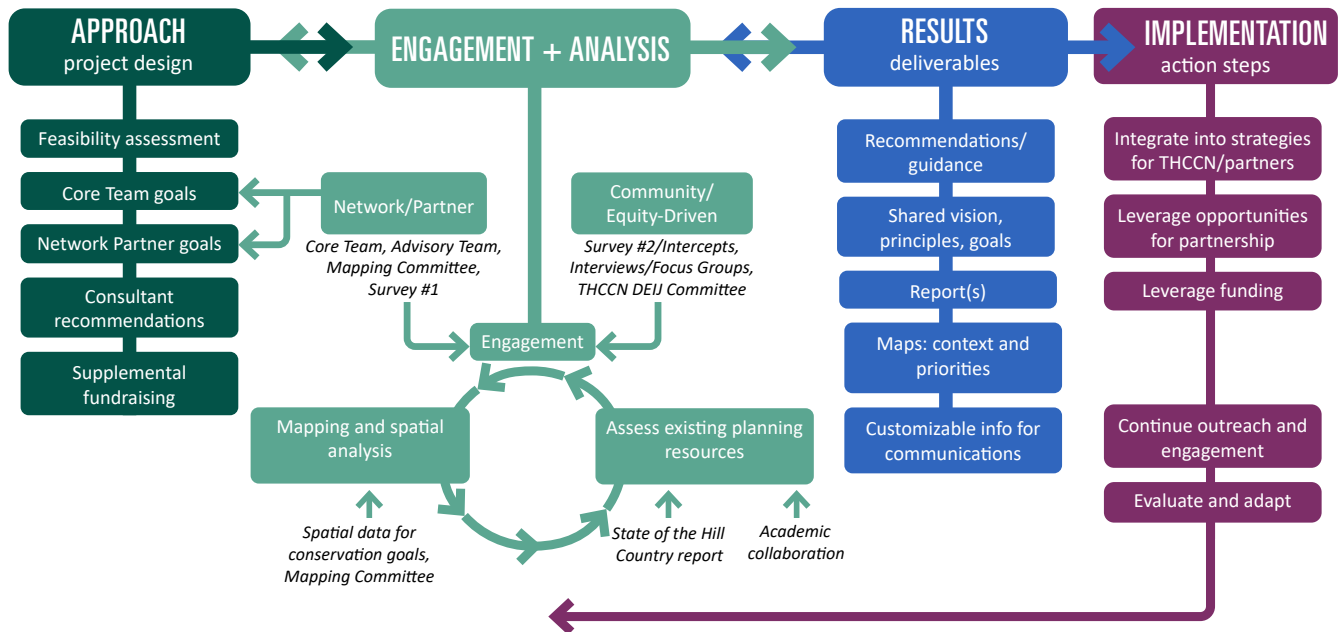


Figure 1-3 Overview of the planning process

2

HILL COUNTRY PROFILE AND PLANNING CONTEXT

"Our rivers are our treasures."

-Amanda Griffin,
Real County

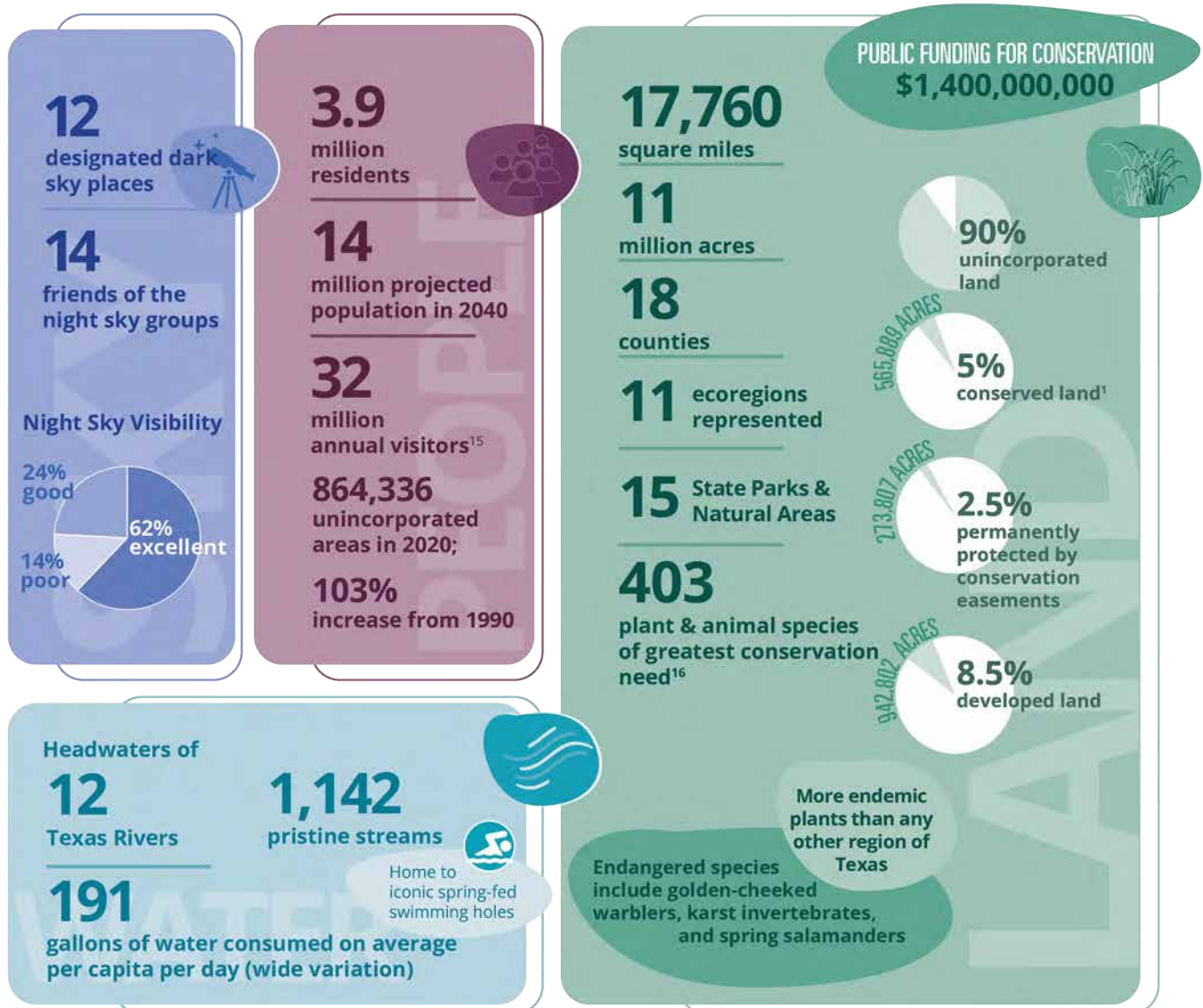
Photo by Delaney Van
Image Source: Unsplash

REGIONAL OVERVIEW

The “Hill Country” originated as a colloquial term that described the hills to the west and south of “Hill City”—the name the first European colonists gave to Austin. The Texas Hill Country as defined in this Plan encompasses more than 11 million acres across 18 counties (see Figure 2-2). It stretches from Austin south along the I-35 corridor to San Antonio west past Uvalde and Junction and north to Llano. The Hill Country is filled with booming cities, suburban communities, and small towns along with rolling hills, clear springs and streams, abundant wildlife,

dark night skies, and rural farms and ranches. The region’s more urbanized corridor in the east is deeply interconnected with the remote areas of the western Hill Country. The region’s economic engines and its most special places are inextricably linked through its water supply and natural infrastructure. The Hill Country’s natural infrastructure sustains communities throughout the region and all the way to the bays and estuaries of the Gulf of Mexico.

An overview of key information about the Hill Country is provided below. See the State of the Hill Country Report (2022) for more detail.



¹ Conserved land here includes Conservation Easements and Fee Simple ownership by land trusts along with City Parks, Municipal Parks, County Parks, County Preserves, Linear Creekways, Mitigation Banks, Municipal Preserves, National Park Land, National Wildlife Refuges, Private Preserves, Public Preserves, Public University lands, State Fish Hatcheries, State Historic Sites, State Natural Areas, State Parks, and State Wildlife Management Areas. Camp Bullis Sentinel Landscape is also included.

Figure 2-1

THE HILL COUNTRY

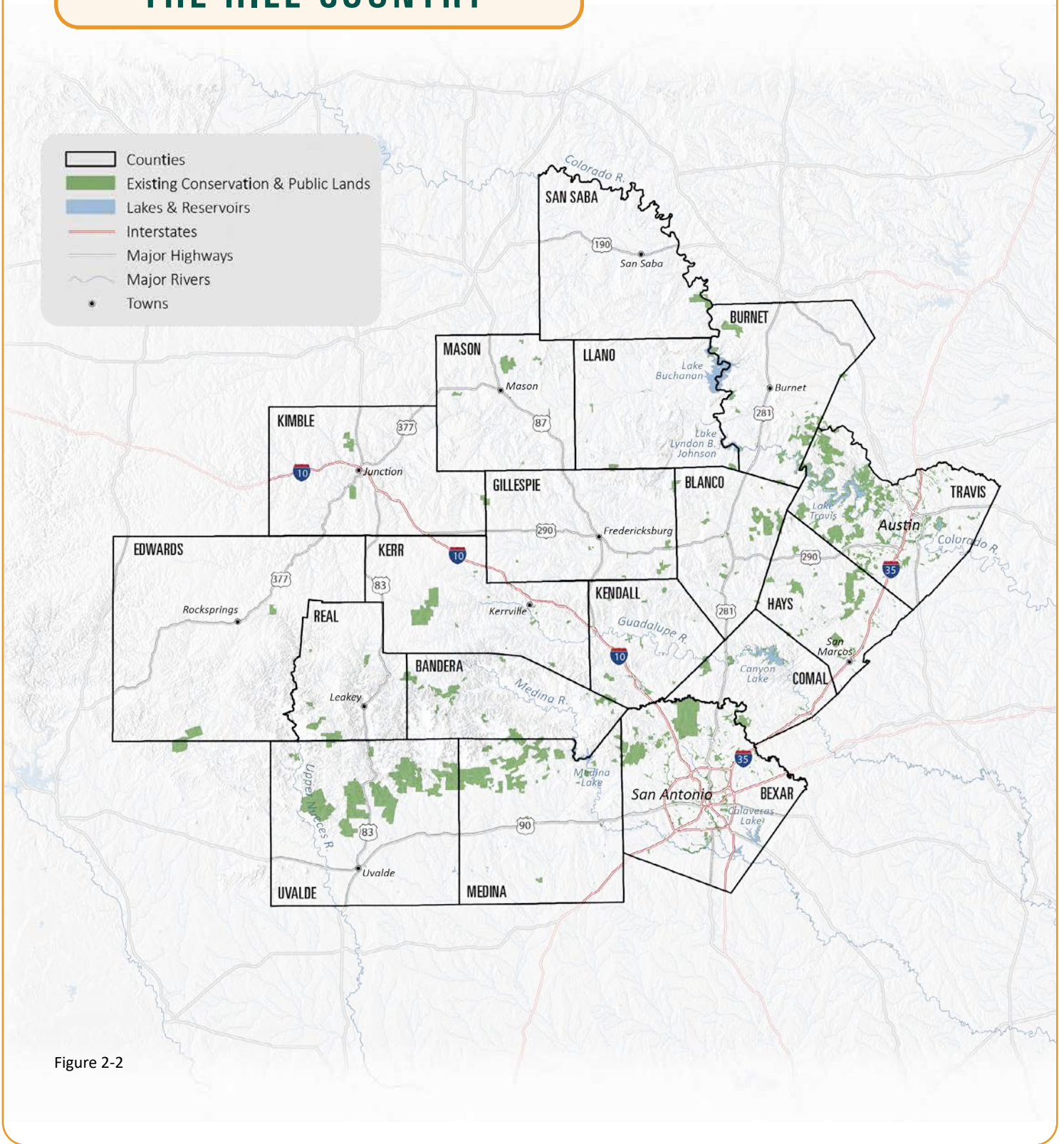


Figure 2-2

Figure 2-2

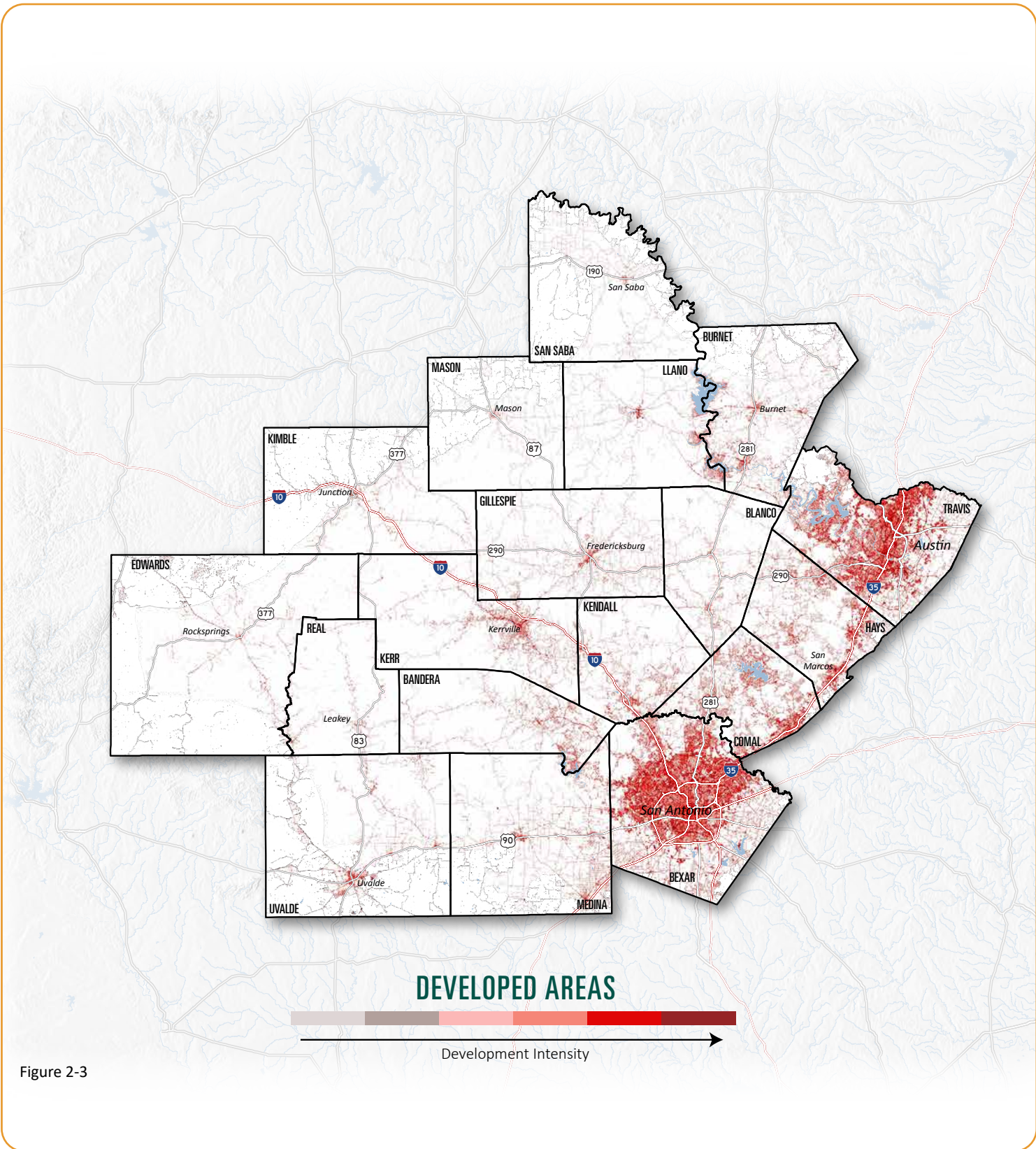


Figure 2-3

KEY POINTS

- The population of the Hill Country is growing extremely quickly. As noted in Section 1 (Threats to Natural Infrastructure), five Hill Country counties (Bexar, Travis, Hays, Comal, and Kendall) are among the fastest growing in the US.
- Conservation is not keeping pace with development. Developed lands increased by nearly 115,000 acres between just 2016 and 2019.
- The Hill Country's water resources and dark skies are unique and imperiled.
- Hill Country residents have proven over and over that they care about investing in natural infrastructure by passing 38 public funding measures totaling over \$1.4 billion investments in conservation since 1990.

PUBLIC FUNDING AND SUPPORT FOR CONSERVATION

An enormous amount of funding is needed for investments in critical natural infrastructure across the Hill Country. Public funding measures are among the most impactful and reliable ways to invest in conservation. Hill Country voters have been exceptionally supportive of propositions that fund conservation. Since 1990, there have been 39 public funding measures in Hill Country cities and counties, and only one did not pass (in 1993). Of the 10 largest public funding measures that have passed in Texas, nine were in the Hill Country.

TABLE 3.

PUBLIC FUNDING MEASURES SUPPORTING CONSERVATION INVESTMENTS (1990–2022) INFRASTRUCTURE

	NUMBER OF MEASURES	MEASURES PASSED	TOTAL FUNDING
TEXAS OVERALL	127	116 (91%)	\$2.2 Billion
HILL COUNTRY	39	38 (97%)	\$1.4 Billion

PEOPLE AND ECONOMY

Native peoples have populated the Hill Country for thousands of years. People have been sustained by the headwaters of the San Marcos River for over 13,500 years—making it one of the longest continually inhabited places in North America.¹⁷ The nomadic Lipan Apaches and Tonkawas came to the area that is now Travis County in the 14th century, followed by the Kiowas and Comanches in the late 17th and 18th centuries.¹⁸ The region also includes traditional territories of the Kickapoo, Jumanos, Coahuiltecan, Sana, and Mascogo.¹⁹

Europeans arrived in the late 17th century, displacing or killing many of the Native Americans living in the area. Eventually the Native populations that survived colonization moved into European communities and took the label of Hispanic or some mixed with non-Indigenous Hispanic settlers. Many contemporary residents who identify as Hispanic/Latinx also identify with this Indigenous heritage. As part of colonization, Spain granted land to missions, towns, and settlers. Subsequently, Mexico, the Republic of Texas, and the State of Texas all granted land to farmers and ranchers and eventually to railroads and industry.²⁰

Today there is enormous variability in demographics across Hill Country counties. Population ranges from just 1,918 people in Edwards County to 1.9 million in Bexar. Median income varies from \$36,000 in Real County to \$85,000 in Kendall County. Percent of the population with a college degree varies from 14% in San Saba to 50% in Travis, and percent Hispanic/Latinx varies from 10% in Llano to 72% in Uvalde.²¹ Generally urban areas are more diverse, younger, and higher density while rural areas are more white, older, and lower density. Poverty, income, and education level are more local with variability across neighborhoods and zip codes. Overall, about 32% of Hill Country residents are considered low income and 47% identify as Hispanic. Particularly in the eastern portion of the region, there are many communities facing environmental injustice, communities that are disproportionately experiencing harmful impacts of polluting industries and climate change without equal access to the benefits of natural infrastructure.

Along the I-35 corridor, the biggest industries in Bexar, Comal, Hays, and Travis counties are health care, retail, accommodation and food service, scientific/technical services, and education. Outside of these counties, the economy of the Hill Country is largely dominated by agriculture and tourism. A 2016 analysis estimated that 32 million people visit the Hill Country annually (about 70% visiting from within Texas). Visitors spent nearly \$9 billion in the Hill Country in 2021.¹⁵

LAND, WATER, AND SKY

The land, water, and sky of the Texas Hill Country are deeply interconnected through the cycling and movement of water, nutrients, oxygen, carbon, and life. Weather patterns, ecological communities, erosion and deposition, pollution, and permeability to rainfall all affect these interconnections.

As a result, protecting and enhancing natural infrastructure cannot stop at land conservation. The springs and rivers feed the land. The land absorbs and cleans water and recharges groundwater in aquifers. Pollution from the land impacts water and air quality. Dark skies help protect the health of the land and human and ecological communities that depend on it. Nutrients, carbon, and water cycles all pass through the land and the sky. These interconnections are critical across the Hill Country in the region's cities, its farms and ranches, and its most natural remote areas.

The Hill Country's karst geology makes it uniquely suited to collecting and storing rainwater. Fissures, caves, and sinkholes also mean that pollution from agriculture and development can be carried back down to the aquifers that support the region's groundwater. Aquifers, including the Trinity and Edwards aquifers, supply almost all the water for populations across the Hill Country. The Edwards Aquifer alone feeds the two largest springs remaining in Texas (San Marcos and Comal) and provides drinking water for over two million people.²²

“We are intricately related and interwoven with Mother Earth. Prayers and ceremonies that acknowledge sacred places are powerful ways to add to the science and facts and data that show why nature is important. All the land is sacred. All the water is sacred. Our job is to keep this water, this land, this air clean . Connecting to the land spiritually will awaken people to action.”

-Maria Rocha
Indigenous Cultures Institute

Rob Greebon - Early Fall Sunrise
over the Pedernales

ECOREGIONS

Ecoregions are major ecosystems defined by distinctive geography and climate (sun and rain). That is, ecoregions are a living expression of how the land, water, and sky come together in a particular place.⁸ These ecoregions are also shown in Figure 2-4.

The City of Austin sits at the northeastern edge of the Balcones Canyonlands ecoregion, the limestone-bottomed forested hills that form the distinct southern and eastern edge of the **Edwards Plateau** ecoregion. The Balcones Canyonlands have been broken up through erosion by springs, streams, and rivers both above and below ground. The **Balcones Canyonlands** has a high number of unique plants and more woodland than elsewhere on the Edwards Plateau. These woodlands include escarpment black cherry, Texas mountain laurel, madrone, Lacey oak, bigtooth maple, and Carolina basswood. Along major streams, there are relics of eastern swamp communities such as bald cypress, American sycamore, and black willow. Toward the west, the vegetation gradually becomes shorter and more sparse as the climate becomes drier. Much of the Balcones Canyonlands is dominated by native Ashe juniper, which is pioneering a second-growth forest following repeated historic clear-cutting.

The Balcones Escarpment is a fault zone that forms the hard edge between the thinly soiled forest of the Balcones Canyonlands to the west and the deeply soiled grasslands of the **Northern Blackland Prairie** to the east. The Balcones Escarpment generally runs just west of I-35 from Austin to San Antonio and then traverses westward into Medina and Uvalde counties. The Blackland Prairie, the ecoregion to the east of the Hill Country, includes parts of Travis, Hays, Comal, and Bexar counties and is composed of fine, dark, productive soils supporting extensive and lush prairie vegetation, including little bluestem, big bluestem, switchgrass, and eastern gamagrass. Stream bottoms in the Blackland Prairie were historically wooded with burr oak, Shumard oak, hackberry, elm, ash, cottonwood, and pecan trees. Most of the original Blackland Prairie has been converted to cropland, pasture, and urban development.

The Edwards Plateau was originally formed from marine deposits of limestone, sandstone, shales, and dolomites 100 million years ago during the Cretaceous Period when the region was covered by an ocean. The eastern two-thirds of the Edwards Plateau have a subhumid climate and have historically had enough rainfall to deeply erode limestone and support a closed-canopy forest. North of the Balcones Canyonlands in the Hill Country is the **Edwards Plateau Woodland**, which surround the Llano Uplift. The Edwards Plateau Woodland has deep sandy soils in the historic floodplains of the Pedernales, San Saba, and the North and South Fork of the Llano River. The **Llano Uplift** in some places is 1,000 feet below the elevation of the surrounding limestone escarpment. The Cretaceous geology has eroded over most of the Llano Uplift, exposing granite that is one billion years old, including Enchanted Rock, a famous granite monolith and favorite state park for residents and tourists.

The western third of the Edwards Plateau is the Semiarid Edwards Plateau. Being west of the 100th meridian, it does not receive enough rainfall to deeply erode the limestone or support a closed-canopy forest, resulting in a relatively flat plateau with sharp hills (rather than the rounded shape of limestone erosion from precipitation). Most streams in the Semiarid Edwards Plateau are intermittent. Dryland shrubs are more common in the Semiarid Edwards Plateau.

There are other ecoregions to the west and north of the Edwards Plateau. For instance, the northern portions of San Saba and Burnet counties contain Western Cross Timbers Level IV ecoregion—sandstone ridges with sandy loam soils dominated by post oak and blackjack oak canopy and a grass understory. Southern Uvalde and Medina counties contain the Northern Nueces Alluvial Plains Level IV ecoregion—mostly deep soils, but less rainfall than required for extensive closed-canopy forest. Floodplain forests in this ecoregion can contain hackberry, plateau live oak, pecan, cedar elm, willow, and cottonwood. Southwestern Uvalde County contains the Texas-Tamaulipan Thornscrub ecoregion—a convergence of the Chihuahuan Desert to the west, the Tamaulipan Thornscrub and

subtropical woodlands along the Rio Grande to the south, and coastal grasslands to the east. Composed of mostly gently rolling or irregular plains, the region is cut by arroyos and streams and covered with low-growing vegetation, commonly referred to as “Brush Country.” There are also very small portions of Southern Post Oak Savanna, Floodplains, and Semiarid Edwards Bajada ecoregions in the study area.

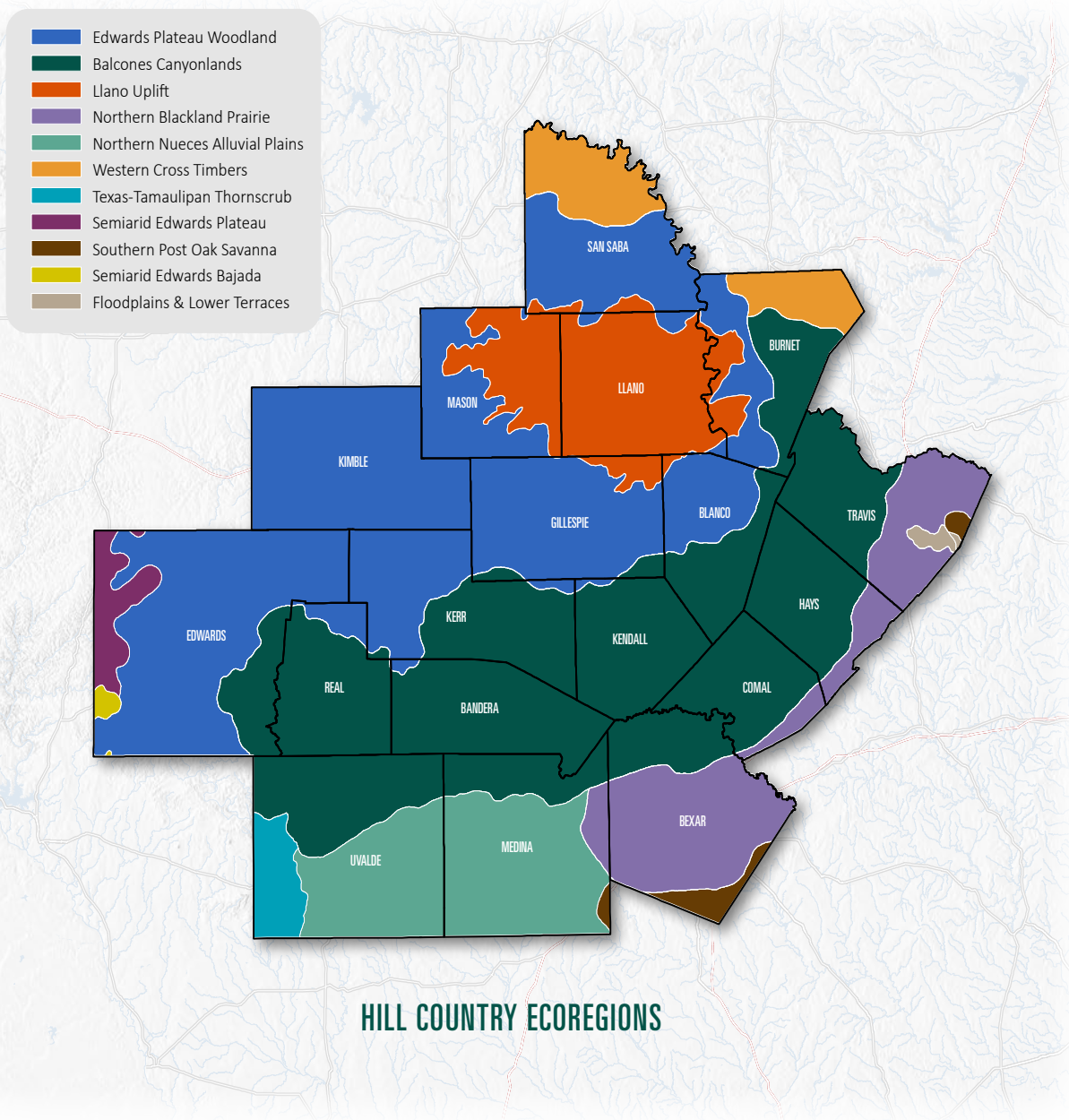


Figure 2-4

⁸ This section describes the Level III (larger) and Level IV (subregions of those in Level III) ecoregions in the Hill Country according to the Environmental Protection Agency. The Edwards Plateau is the only Level III ecoregion described in this section. See <https://www.epa.gov/eco-research/ecoregions> for more information on ecoregions.

PROTECTING DARK SKIES

There is growing awareness of the critical importance of protecting dark skies. Light pollution negatively impacts ecosystems, natural cycles, and the basic biological functions of plants and wildlife (especially for nocturnal wildlife). Because of its impacts on living things, light pollution impairs water, air, and soils. Light pollution also impacts human health and has been connected to increased rates of cancer, sleep disorders, and mental illness. Dark skies are a critical part of the heritage of the Hill Country and are an important driver for tourism and an important component of the region's high quality of life.²³⁻³⁸

Fortunately, as Wayne Gosnell from Blanco County Friends of the Night Sky says, "Of all the forms of pollution that mankind has foisted on this earth, light pollution is the easiest and cheapest to fix and it can be done in our own lifetimes." The five core principles of responsible outdoor lighting to protect night skies are:

1. **Useful:** All light should have a clear purpose;
2. **Targeted:** Light should be directed only to where it is needed;
3. **Low Light Levels:** Light should be no brighter than necessary;
4. **Controlled:** Light should be used only when it is needed; and
5. **Color:** Use warmer color lights where possible. Communities can help ensure dark sky friendly lighting through adopting policies and ordinances to prevent light pollution.



Image Source: Cathy Alba - Enchanted Sky

PLANNING CONTEXT

This Plan builds on, and is not intended to supplant, other planning efforts in the region. Key plans and reports reviewed for this report include:

*State of the Hill Country: 8 Key Conservation and Growth Metrics for a Region at a Crossroads (2022)*³⁹

*Water and Equity in the Texas Hill Country (2022)*²⁰

*Making the Case for Source Water Protection: Pedernales River Basin Evaluation (2022)*⁴⁰

*From the Ground Up: How Land Trusts and Conservancies Are Providing Solutions to Climate Change (2022)*⁴¹

*Edwards Aquifer Recovery Implementation Program Habitat Conservation Plan (Updated 2021)*²²

*Integrating Climate Adaptation into Land Conservation: A Climate-Smart Framework for Land Trusts (2020)*⁴²


*Guadalupe River Basin Strategic Conservation Plan (2019)*⁴³

*Pedernales Watershed Strategic Conservation Prioritization (2018)*⁴⁴

*Upper Llano River Watershed Protection Plan (2016)*⁴⁵

*Toward a Regional Plan for the Texas Hill Country (2016)*⁴⁶

*Cypress Creek Watershed Protection Plan (2014)*⁴⁷



There are few settings in the country as stunning as Texas Hill Country. From the spirits to the sunsets, people flock here in droves to take it all in. And water is a big part of the draw. It's abundant, it's beautiful, and it's also quite fragile. . . . For all its beauty, the hill country is a region prone to teetering between flooding and drought. Being aware of the water situation is key to keeping this region bustling, growing, and flowing in the right direction."

-Hill Country Runs on Water

Hector Rodriguez - The flower that isn't blue

3

ENGAGEMENT PRIORITIES

"We need to do a better job of telling stories that help all kinds of different people connect to places in the Hill Country. We also need to understand the stories of the people who are really struggling now. All people need equal access to, and to play a role in decisions made about the health of, the environment in which they live and raise their families. We need to find funding to meet the needs that communities are expressing for themselves."

Looking Toward the
Future Image Source:
Christopher Keeran

-David Buggs,
Texas Parks and Wildlife Department

ENGAGEMENT APPROACH

The goals, strategies, and principles that informed engagement for the Plan are outlined below. The planning team worked to seek diverse perspectives and reduce barriers to participation in the public engagement portion of this Plan. We did that through utilizing a variety of engagement methods (social media, in-person events, focus groups, newspaper advertisements, interviews, etc.), making materials and events accessible in both English and Spanish, partnering with community-based organizations and individuals to extend our reach, and extending outreach deadlines to provide more time for communities to respond.

In spite of these efforts, we fell short of having truly representative engagement. The need for ongoing and deeper community engagement is addressed in more detail in the strategies in Section 5 (Achieving Our Vision). For now, we recognize that the engagement that was part of this planning process is just the beginning. The Network is committed to engaging and addressing the interests of all parts of the Hill Country community—people of all races, economic classes, cultural backgrounds, and education, in urban and rural places and everything in between. We are committed to ensuring equitable access to the benefits of natural infrastructure and to decision-making about natural infrastructure. As we move forward with future versions of this Plan, more locally specific efforts, and taking this document from “plan” to “action,” we commit to achieving representative engagement across the region.

ENGAGEMENT GOALS

1. **Understand** the perspectives of, and leverage the expertise of, Network organizations and conservation practitioners.
2. **Identify** priorities, needs, skills, and concerns of broader communities throughout the Hill Country—with a special focus on understanding the needs of marginalized rural communities and communities facing environmental injustice.
3. **Reach** thousands of community members, particularly community members from

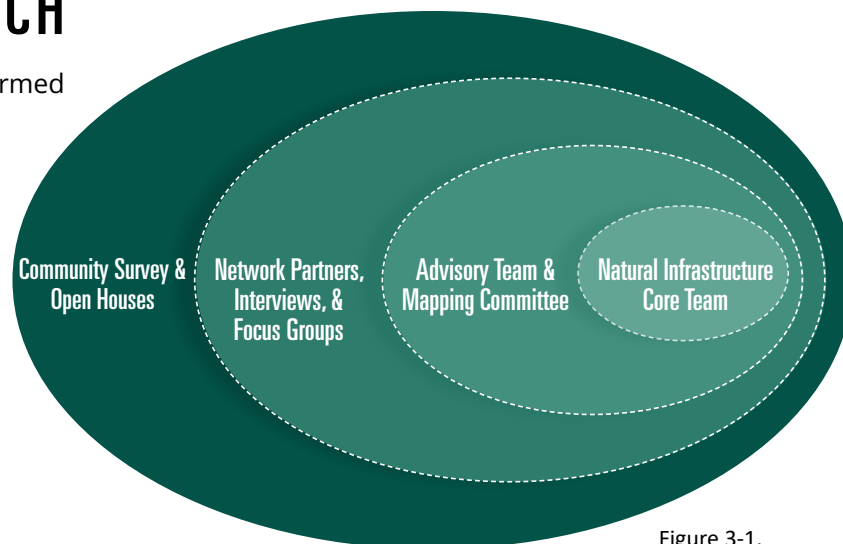


Figure 3-1.

diverse socioeconomic and ethnic backgrounds, through a combination of engagement strategies.

ENGAGEMENT STRATEGIES

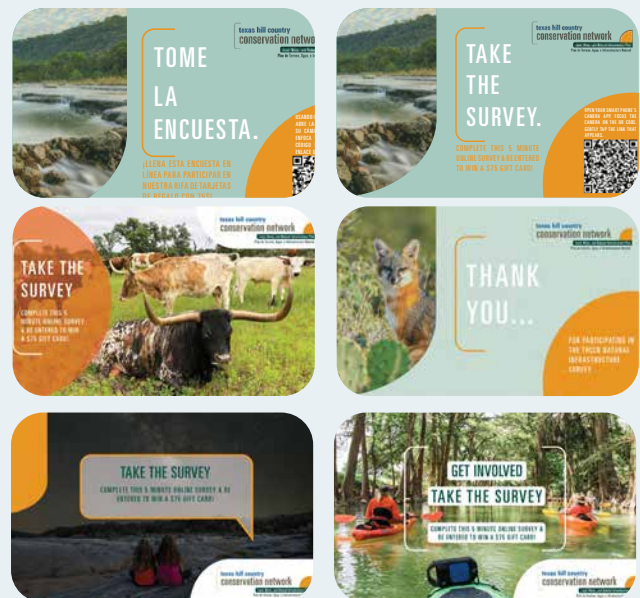
- Focus on both internal engagement of Network member organizations and external engagement of partners, decision-makers, and community members.
- Use a hybrid approach that utilizes a strong emphasis on virtual engagement (because of the size of the region and continued Covid concerns).
- Provide all materials for wider community outreach in Spanish as well as English, and work with local language justice experts on translation for events.
- Rely on Network members and equity-focused partner organizations to support outreach, particularly for the community survey.
- Use equity-related mapping (socioeconomic and environmental data) and research, along with partner expertise to inform engagement priorities and identify important groups and locations for outreach.
- Use focus groups and interviews to address rural outreach and Spanish-language outreach with a more targeted approach.

ENGAGEMENT PRINCIPLES

- Transparency and accountability are critical to building and keeping trust.
- We need to approach engagement with empathy and humility; community members are experts on their own needs.
- It is our responsibility to identify and reduce barriers to participation by expanding and tailoring approaches to engagement.
- We need to acknowledge our own implicit biases and the limits of our cultural competency.
- Coalition-building, collaboration, and partnerships are key; engagement during planning should be just a first step in building long-term coalitions, collaborations, and partnerships.
- It is important to acknowledge the inequities that conservation has created and can create; we need to look at environmental risk exposure, unequal access to nature, and concerns about gentrification, displacement, and housing affordability alongside other conservation priorities.
- We need to continually evaluate our process and be willing to change course.

COMMUNITY SURVEY OUTREACH

Extensive outreach for the Community Survey took place from late May to early August 2022. Outreach included extensive social media and email/newsletter posts by members of the Texas Hill Country Conservation Network and their partners; distributing flyers and conducting intercept surveys in San Antonio and more rural communities, including Comfort, Kerrville, Leakey, Uvalde, and Hondo; amplifying outreach through community-based organizations that were compensated for their work, including Go Austin Vamos Austin (GAVA), PODER, Indigenous Cultures Institute, Latino Outdoors, and Black Women Who Kayak+; and posting announcements in local newspapers, including the Fredericksburg Standard, Junction Eagle, Comfort News, Uvalde Leader-News, and La Prensa Texas.



WHO WAS ENGAGED?

ENGAGEMENT BY THE NUMBERS



Figure 3-2



COMMUNITY SURVEY DEMOGRAPHICS

The only engagement for which we were able to gather detailed demographic information was the Community Survey. Responses were widely distributed geographically (see Figure 3-3). Overall, Hispanic/Latinx community residents were significantly underrepresented; Black residents were slightly underrepresented; and white/non-Hispanic, Asian, and Native American residents were overrepresented. Rural residents were overrepresented, and white and rural respondents tended to be somewhat older than other survey participants. The ways in which participation was not demographically representative were taken into account in the analysis of survey data through subgroup analysis and weighting.

KEY FINDINGS

The findings below incorporate data from all the engagement for the Plan, including the Community Survey, Network Survey, intercept surveys, open houses, interviews, and focus groups.

There is VERY strong support for increasing public funding to protect the Hill Country's land, water, skies, and natural infrastructure.

Nearly 85% of Community Survey respondents said they would support increasing public funding; 12% said they might; and only 2% said they would not. The amount that residents would be willing to pay follows income levels fairly closely. Of those with household incomes of \$200,000 or more, 36% would invest \$250 to \$1,000 per year and 18% would invest more than \$1,000 per year.

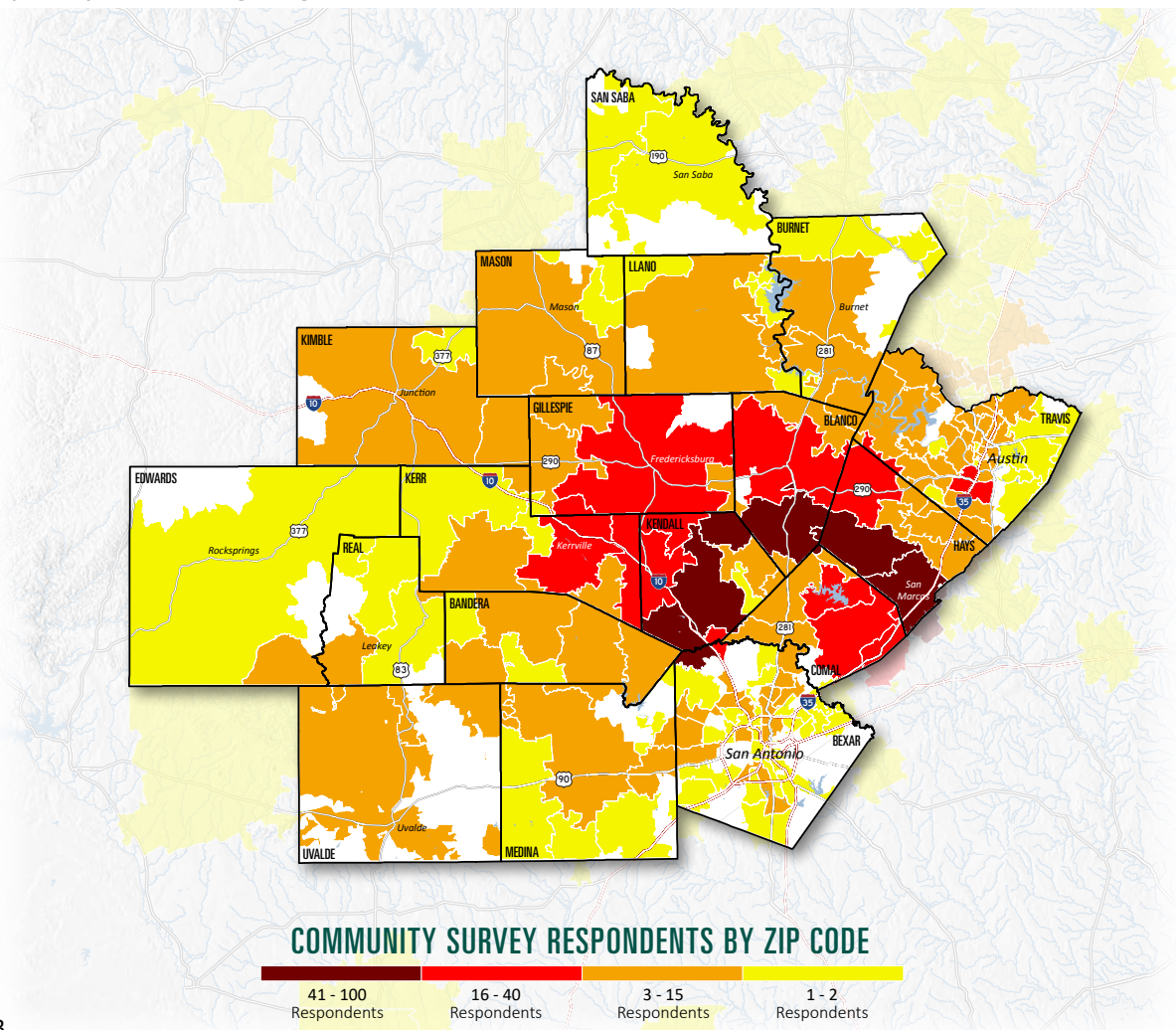


Figure 3-3

Protecting water is by far the highest-priority natural infrastructure goal.

This includes both protecting water supply (1st priority) and protecting water quality (2nd priority). There is widespread concern about drought across the region. Community members and partners emphasized that land management is central to protecting water and that it is very important to enhance soils and rainwater absorption across the region. There also needs to be more outreach related to healthy rangelands, grasslands, and riparian areas and how to manage them regeneratively. Finally, there is a major opportunity to focus on common purpose around protecting water.

There is a significant need to expand access to the benefits of natural infrastructure to socioeconomically vulnerable community members.

In many places across the region, residents in low-income areas and communities of color have much less access to the benefits of natural infrastructure, including more limited access to clean air and water. These areas are more likely to be more vulnerable to flooding and extreme heat, tend to be more impacted by siting of industrial facilities, and often have extremely limited access to green space. Expanding access to the benefits of natural infrastructure depends on building long-term trusting relationships with community-based organizations. This includes engagement with local Indigenous histories and cultures.

Most residents would like more access to outdoor recreation and nature.

Rural residents are most likely to be satisfied with their existing access to outdoor recreation and urban residents are least likely to be satisfied. Connecting with nature is the most popular reason that respondents would like access to parks, trails, waterways, and open spaces (followed by exercise, relaxation, and recreation). Rural residents are more likely than those in more urban areas to value access to hunting and fishing and urban residents are more likely than others to value access to exercise.

There is a lot of room for education and consensus building regarding what constitutes natural infrastructure.

Slightly fewer than 46% of respondents indicated that all the options presented in the Community Survey represented natural infrastructure.

Hispanic/Latinx respondents were most likely to see all the options presented as aspects of natural infrastructure (59%). Rural residents were by far the most likely to identify “well-managed rangeland” as natural infrastructure (51% of rural respondents versus 29% of urban respondents).

There is significant community concern about preventing light pollution and preserving night skies.

Concerns about light pollution were mentioned over 100 times by Community Survey participants. Survey participants noted the need to preserve dark skies in the Hill Country to protect human health, ecological health, and the aesthetic and economic benefits of dark skies. Protecting dark skies was also a clear priority in open houses and focus groups.

There are some notable differences in the ways that various demographic groups see conservation goals.

Importantly, Hispanic/Latinx residents rated each of the conservation goals as more important than other ethnic/racial groups did. Rural survey participants and Black and Native American survey participants are more likely than others to say that preserving rural working lands is one of their top two priorities. Climate resilience goals (preventing flooding, wildfire, and extreme heat) were generally higher priorities for lower-income survey participants and those in urban areas. The increased vulnerability of communities of color to climate risks was a major concern for the participants in the Spanish-language focus group.

Some rural Hill Country communities are really struggling with how to grow while maintaining rural character and natural beauty.

Some communities are reluctant to embrace tourism but have very limited alternatives for providing for economic needs. Focus groups and interviews made clear that landowners and tourists are both very important constituencies in the more rural areas of the Hill Country, but reaching the two groups requires very different messaging. Partners see the priorities of western Hill Country landowners and resource concerns as being relatively overlooked in current conservation work.

SPECIAL PLACES MENTIONED IN THE COMMUNITY SURVEY

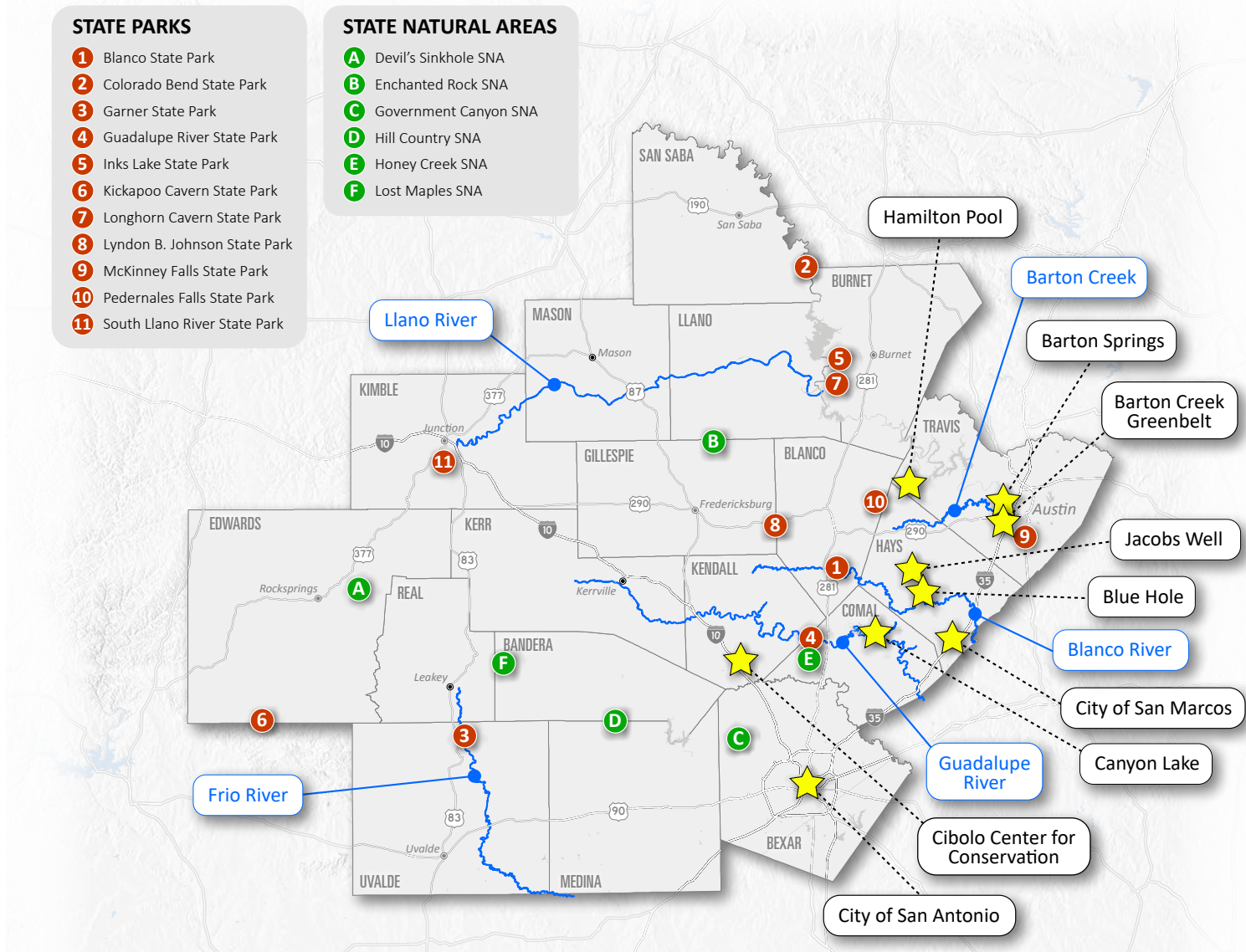


Figure 3-4



Al Braden - Indian Blanket Dancing in the Sun



4

MAPPED PRIORITIES

“
The magic envelops you. There’s something about the Texas Hill Country. Right now, for many Latino families it’s a matter of not seeing themselves in those spaces. Many do not feel part of it yet. We need to make sure everyone feels comfortable.”

-Josie Gutierrez,
Latino Outdoors

MAPPING

The maps included in this section are tools that can be used to help identify the best ways to meet local and regional needs. This section shows potential priority areas for investments in natural infrastructure. High-priority areas as depicted in these maps are not intended to be inclusive of the many important and impactful places for investment, as conservation should be based on accomplishing specific goals at an appropriate scale under constantly changing circumstances. Instead, these maps are intended to be only a snapshot of potential priorities today and a starting point for planning conservation investments and actions.

There are three different kinds of mapping in this section.

1. **Conservation Goal Mapping:** These maps illustrate six key conservation goals. More detail about what they represent and how they were developed is provided in the following section.
2. **Night Skies Mapping:** Because protecting dark skies emerged as an important community priority after the conservation goal mapping process was already underway, this map shows dark skies and designated dark sky places across the Hill Country to help illustrate key opportunities for dark skies protection.
3. **Urban Corridor Mapping:** Because conservation priority areas, based on survey responses, generally did not highlight areas in the I-35 corridor, these maps highlight important places in the corridor for natural infrastructure investments to address the timely threats of flooding and extreme heat in more urban areas.

NATURAL INFRASTRUCTURE WORKFLOW AND PRIORITIZATION PROCESS

Natural Infrastructure Opportunities and Process Using Geospatial Data Analyses

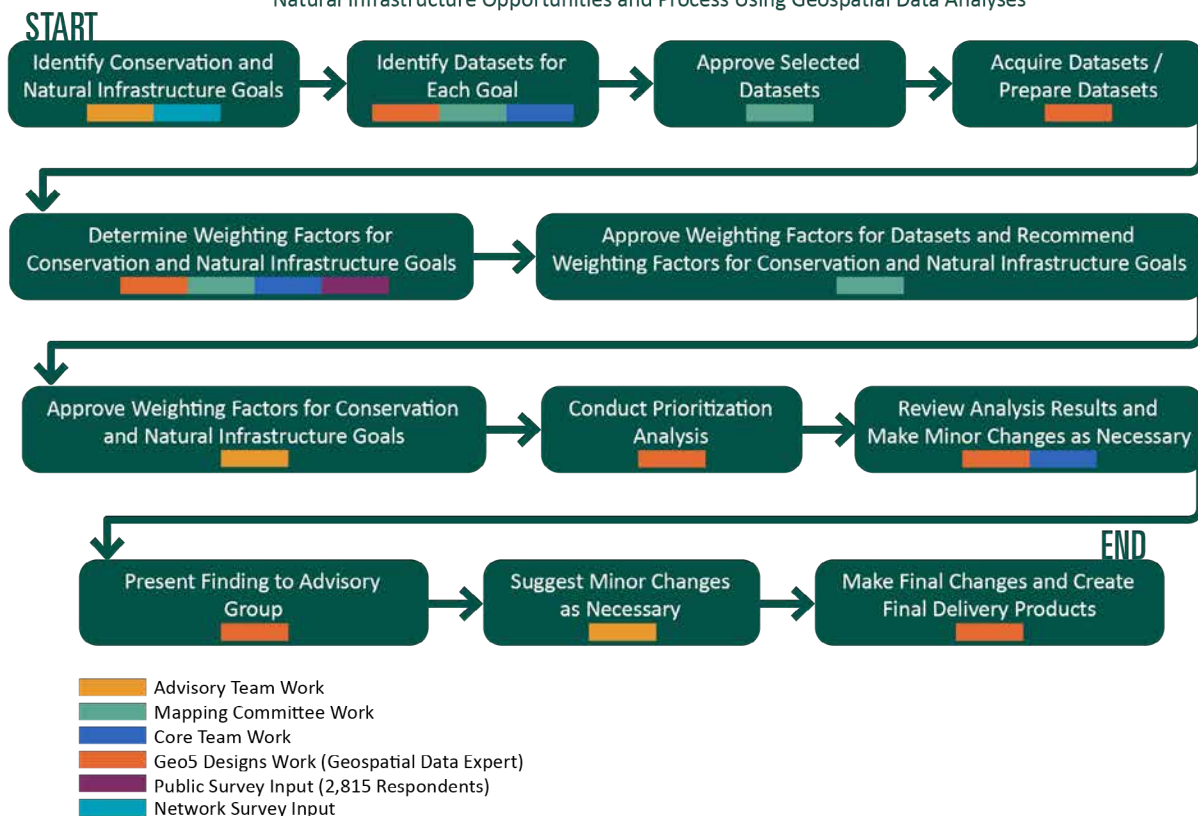


Figure 4-1

CONSERVATION GOAL MAPPING

The mapped conservation goals are shown below. These goals were determined through questions asked in the Network Survey in February 2022 and were weighted based on the results of the Community Survey (May to August 2022). The specific data layers used to reflect each conservation goal were selected and weighted by the Mapping Team (see details in Appendix 3). Figure 4-1 shows the process for developing these maps and Figure 4-2 shows how the goals were combined in the overall map.

1. Preserve water supply.
2. Protect water quality.
3. Increase climate resilience.
4. Provide wildlife habitat and connectivity.
5. Preserve rural working lands.
6. Expand access to outdoor recreation and nature.



Figure 4-2

CONSERVATION GOAL MAPPING

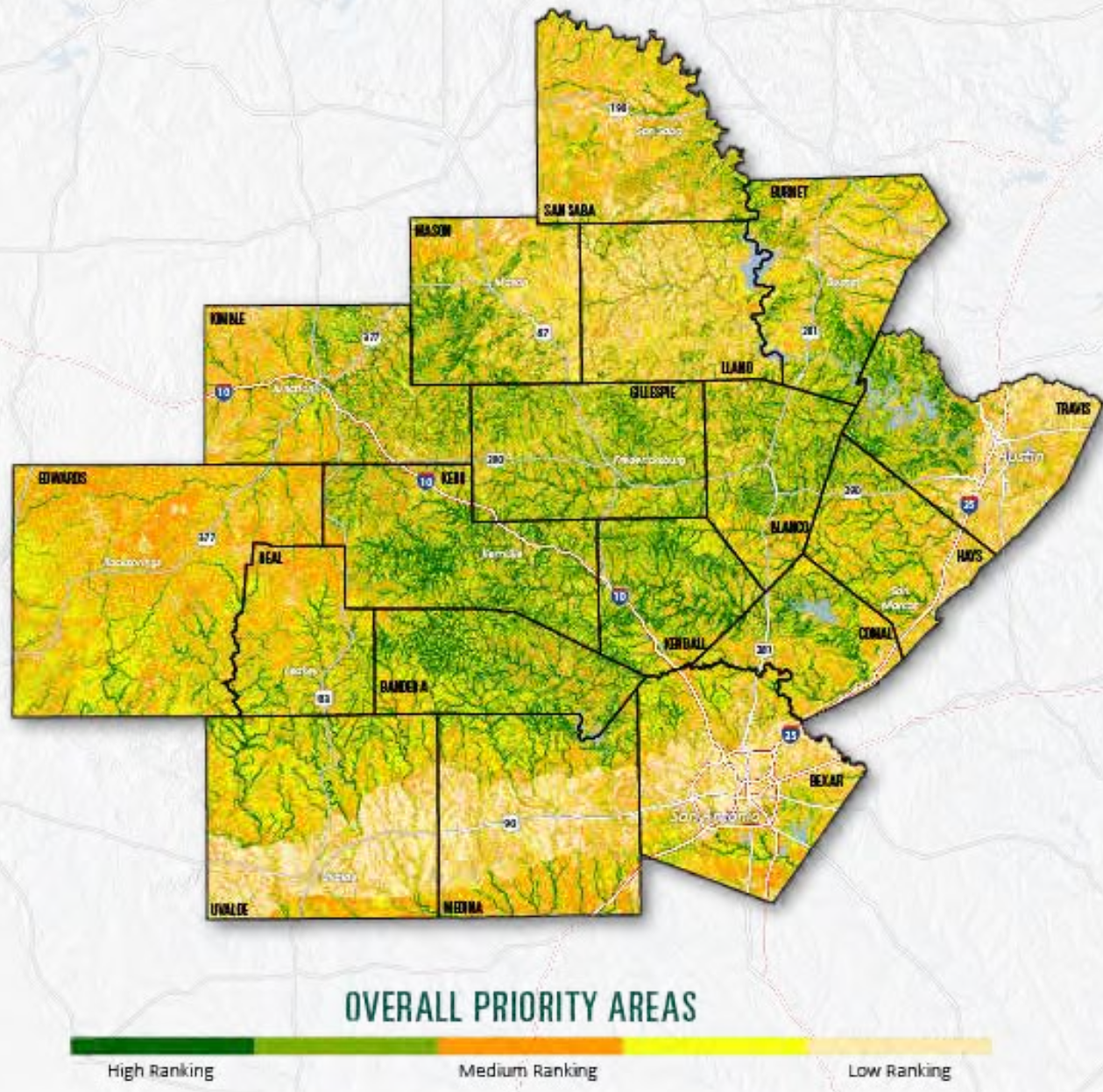


Figure 4-3

CONSERVATION GOAL MAPPING

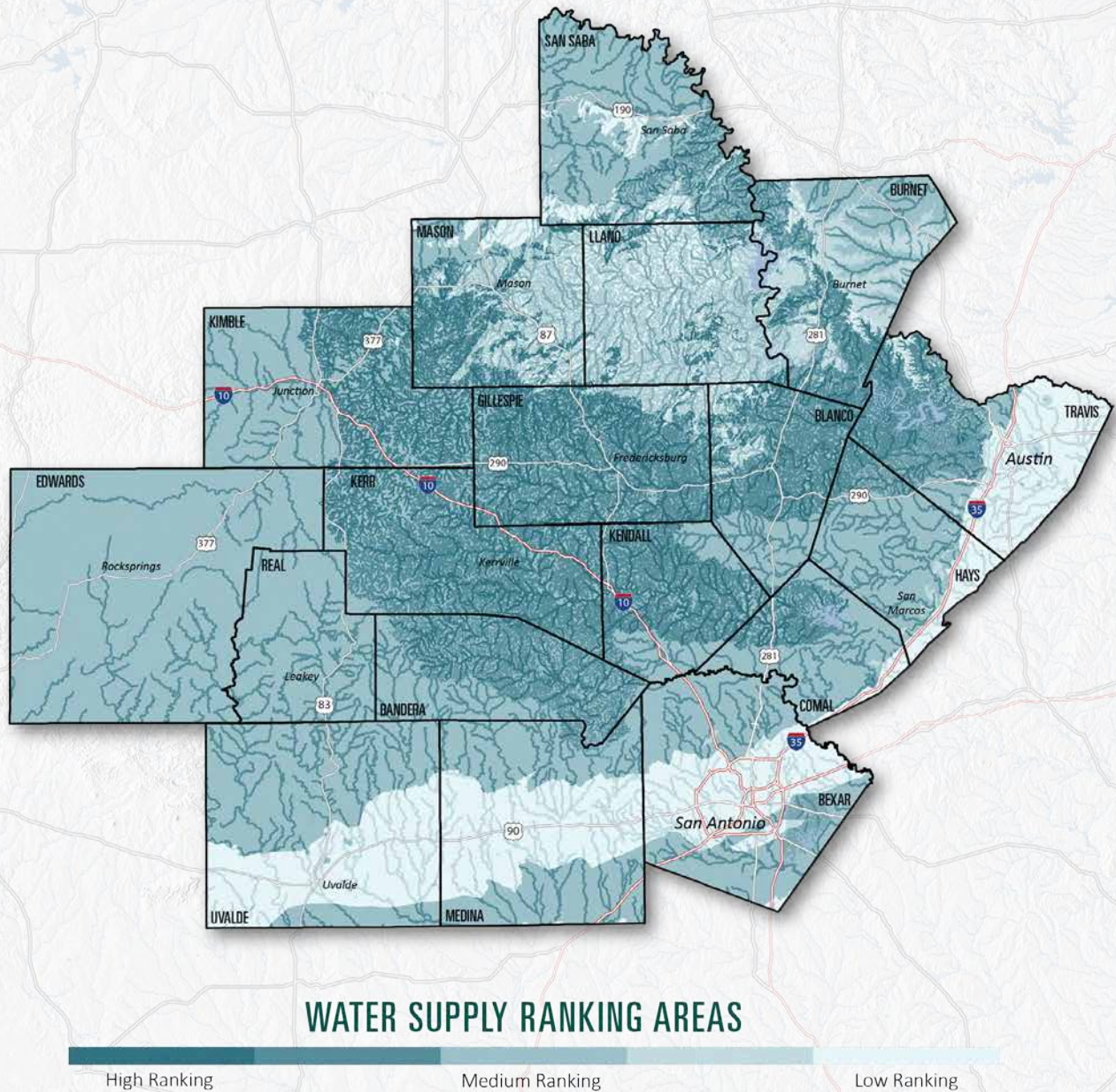


Figure 4-4

MAP NOTES

Water Supply Map: Lower scoring in urban areas, along the I-35 and Highway 90 corridors, and the Llano Uplift (in the north central portion of the study area) relates to lands that do not contribute directly to aquifer recharge and contributing zones that are intricately connected to regional drinking water supplies. However, this effect is mitigated somewhat by including a surface water analysis that emphasizes overall length of streams and size of watersheds that contribute to public water supplies. The same applies to the Overall Priority Areas Map.

CONSERVATION GOAL MAPPING

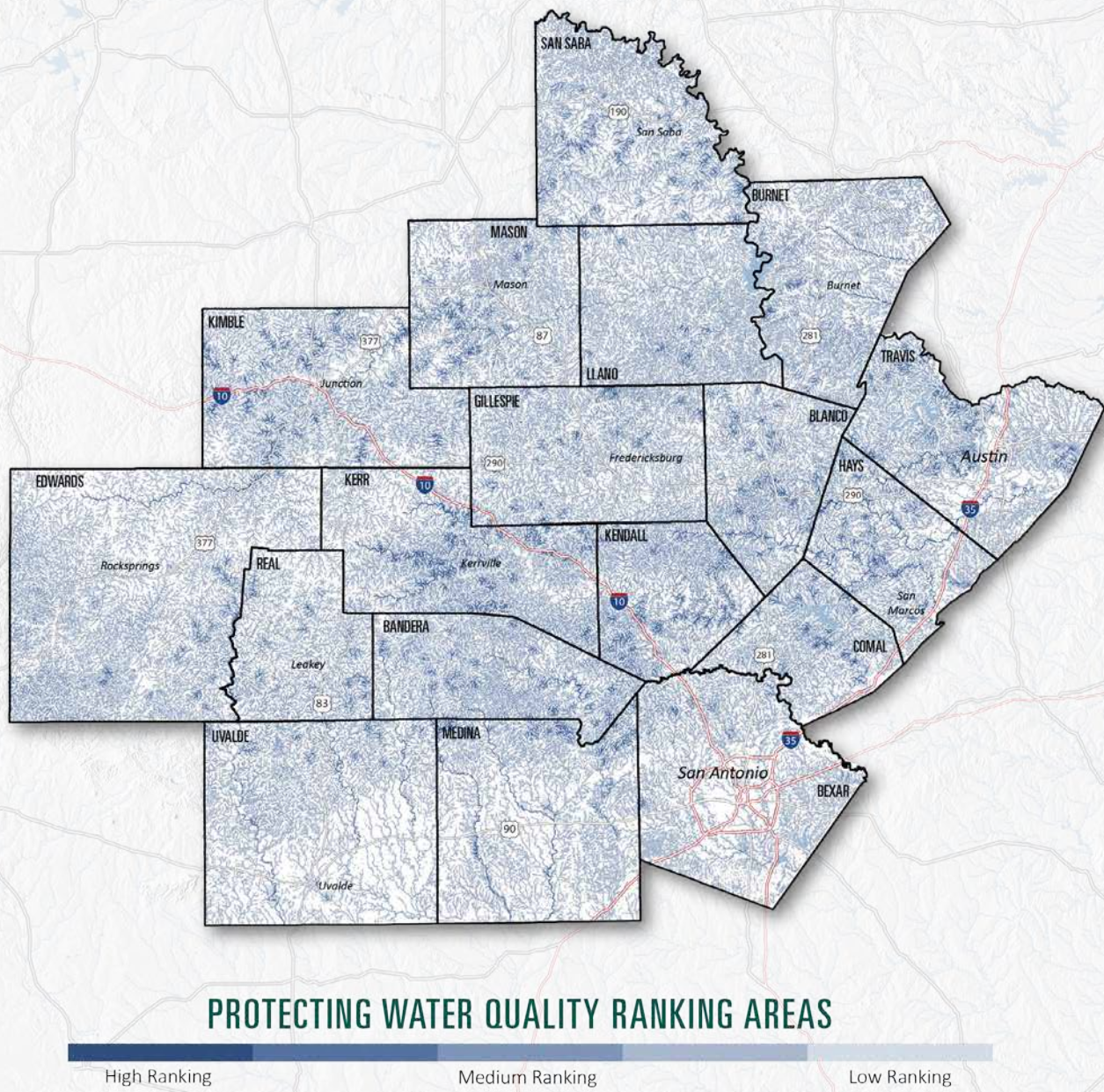


Figure 4-5

CONSERVATION GOAL MAPPING

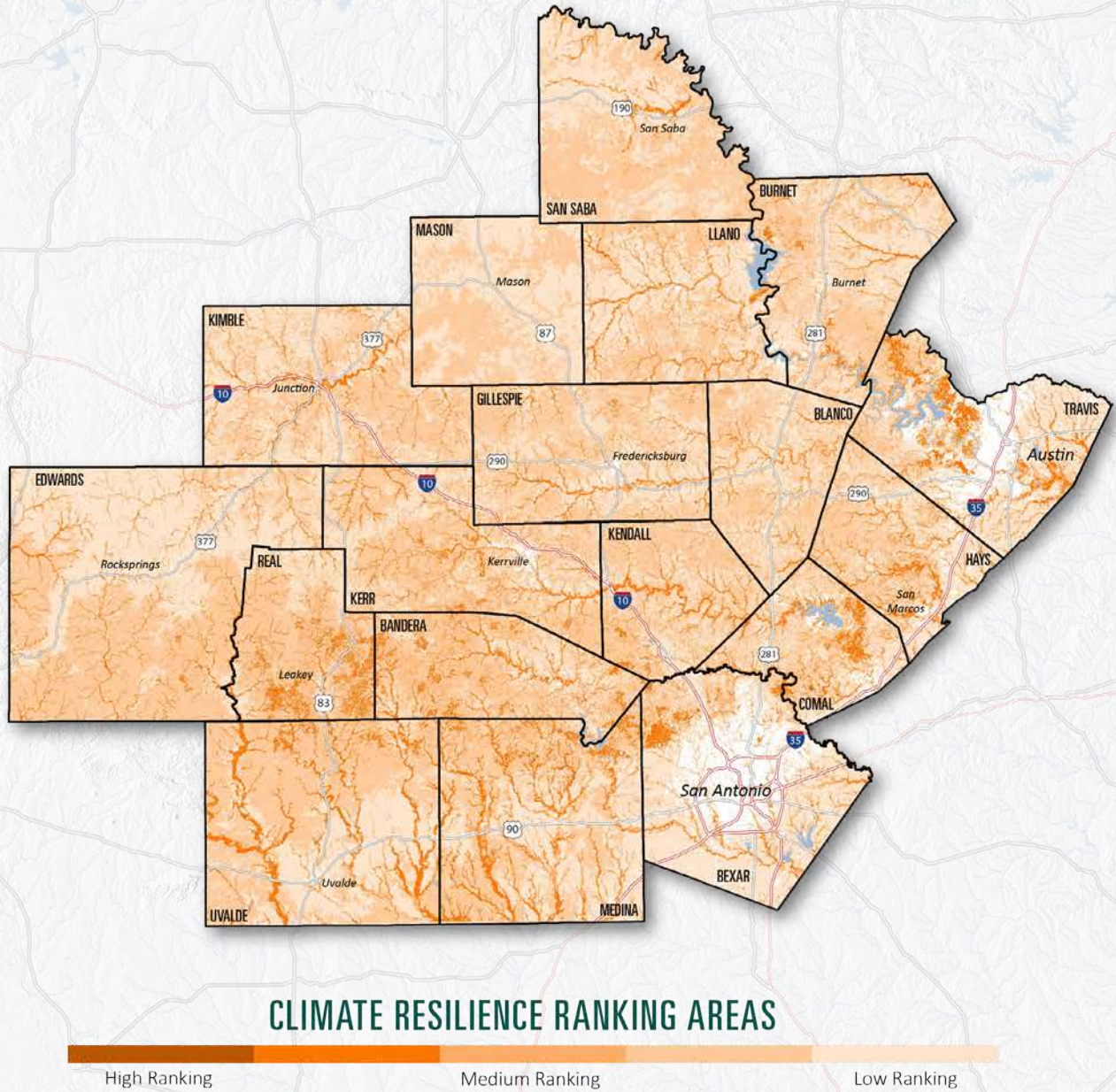


Figure 4-7

CONSERVATION GOAL MAPPING

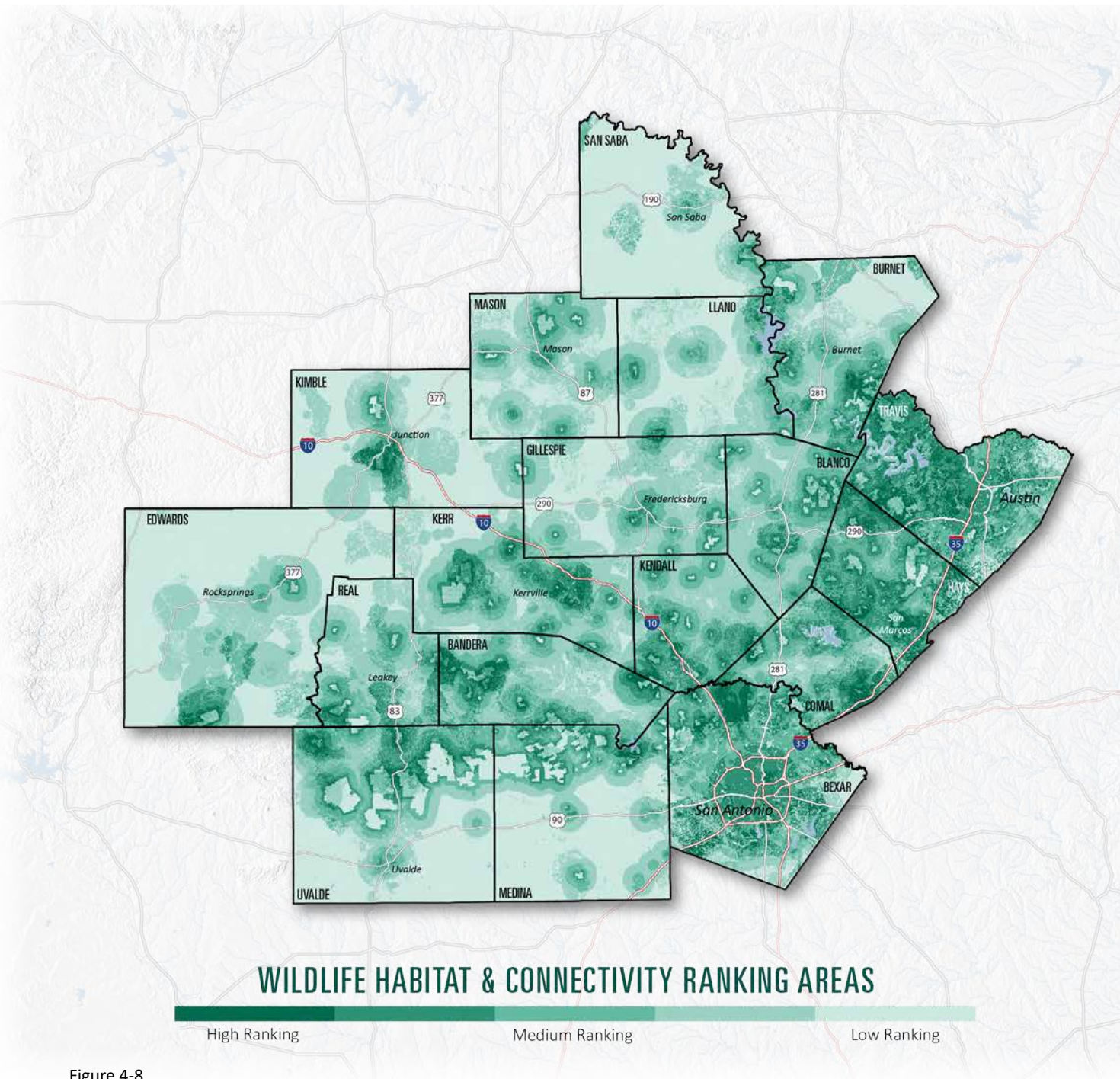


Figure 4-8

MAP NOTES

Conservation Goal Map: Already conserved lands show up as low ranking but the adjacent lands rank highly for connectivity

CONSERVATION GOAL MAPPING

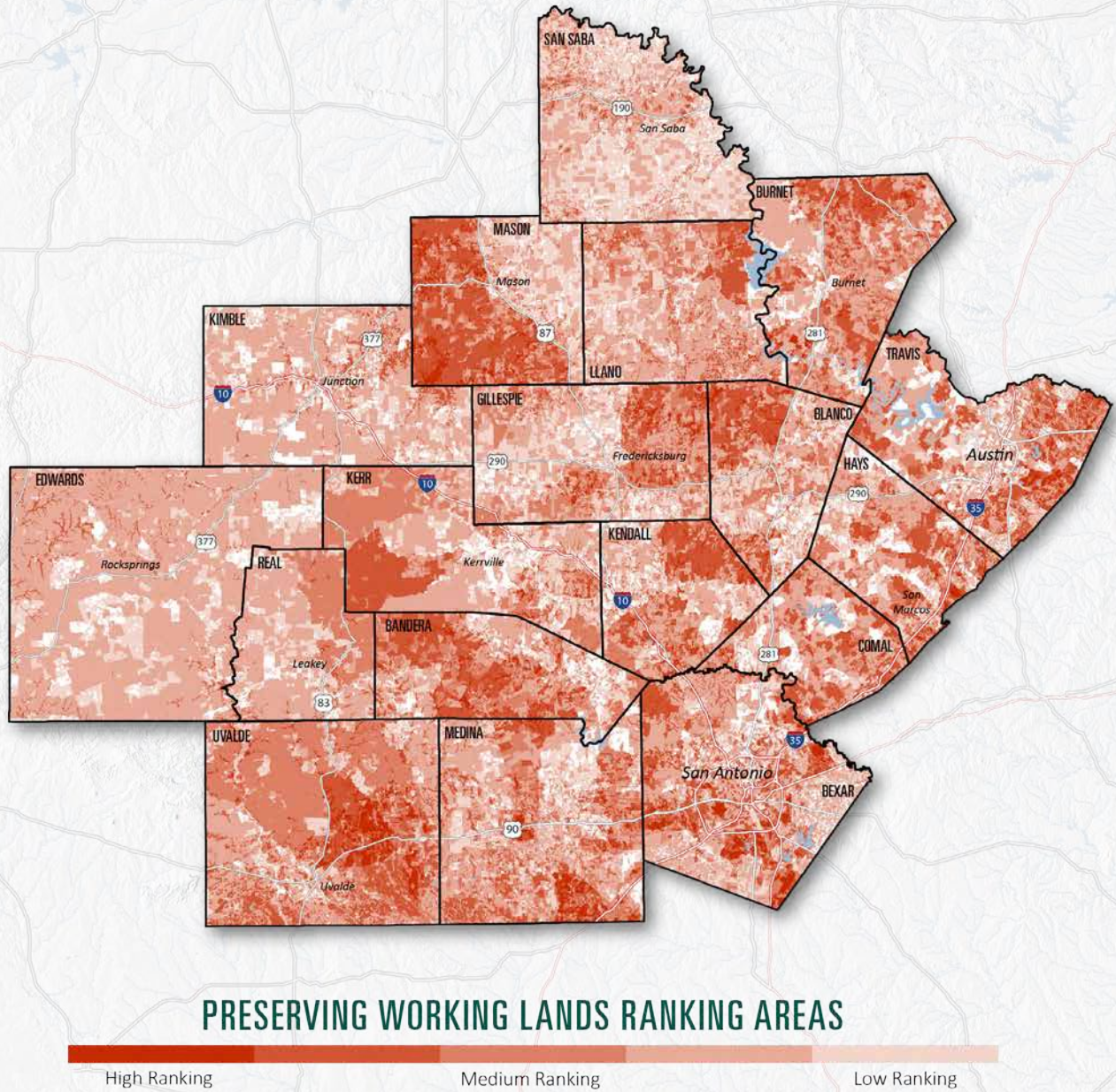


Figure 4-9

CONSERVATION GOAL MAPPING

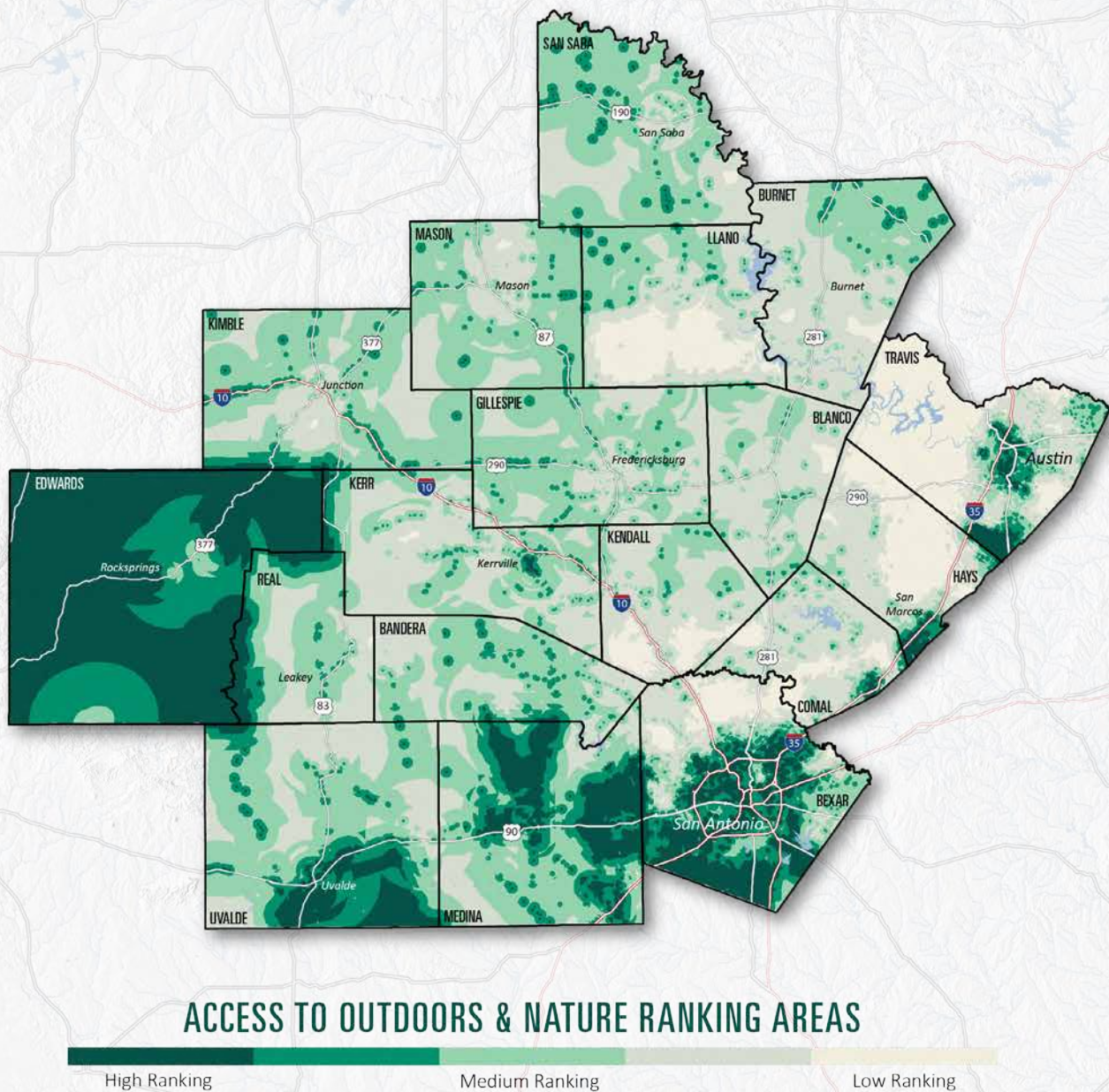


Figure 4-10

MAP NOTES

Access to Outdoors and Nature Map: High ranking means in this map means there is a high need/opportunity for more access. Edwards County shows a high priority for this Conservation Goal due to two analysis parameters, including (1) preserving open space near low-income and historically underserved areas; and (2) preserving open space to improve public health. The same applies to portions of Uvalde and Medina counties.

NIGHT SKIES MAPPING

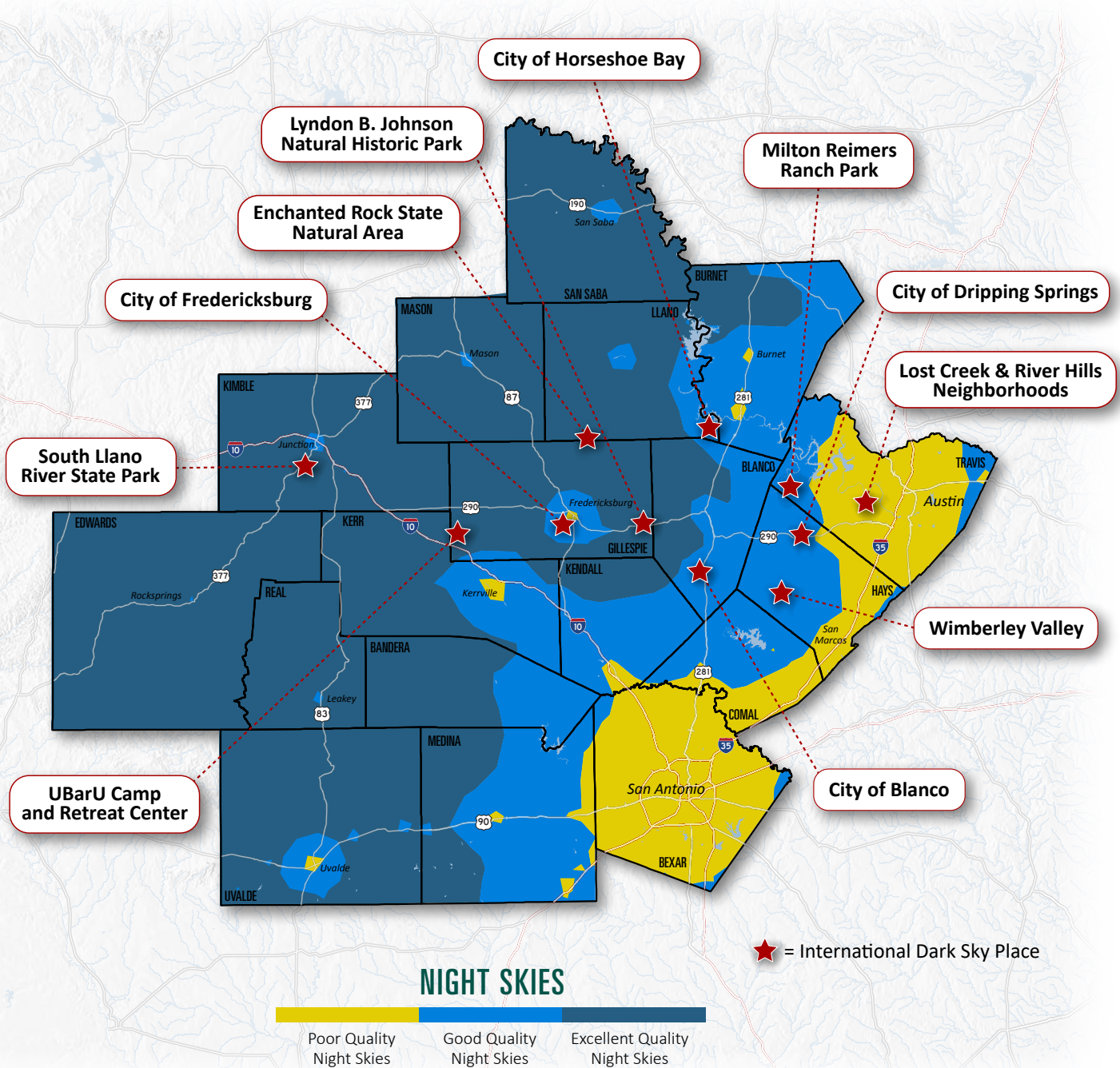
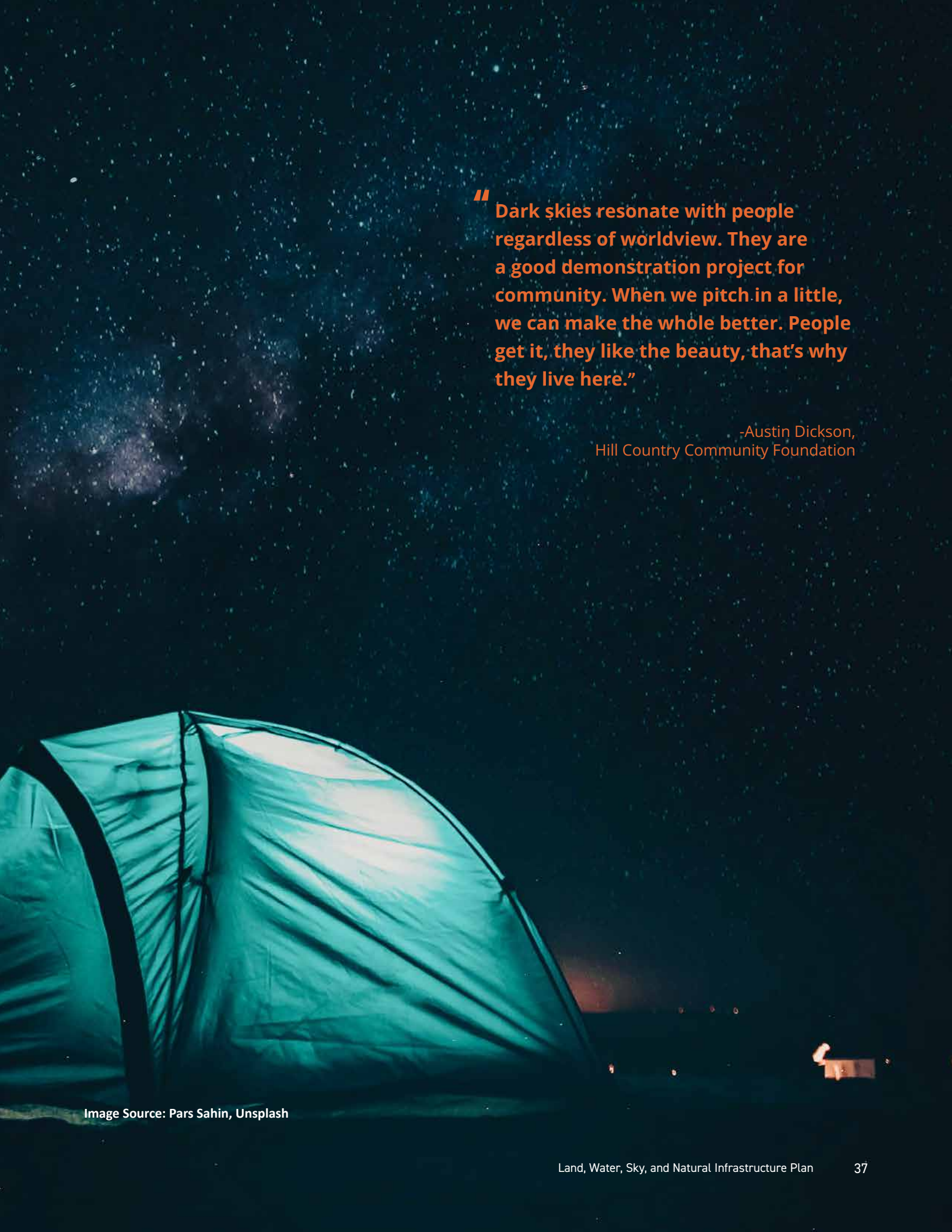


Figure 4-11

A photograph of a tent pitched at night under a starry sky. The tent is illuminated from within, casting a warm glow. The sky is dark and filled with stars, with the Milky Way galaxy visible in the upper left quadrant. The overall scene is serene and captures the beauty of a clear night sky.

“ Dark skies resonate with people regardless of worldview. They are a good demonstration project for community. When we pitch in a little, we can make the whole better. People get it, they like the beauty, that’s why they live here.”

-Austin Dickson,
Hill Country Community Foundation

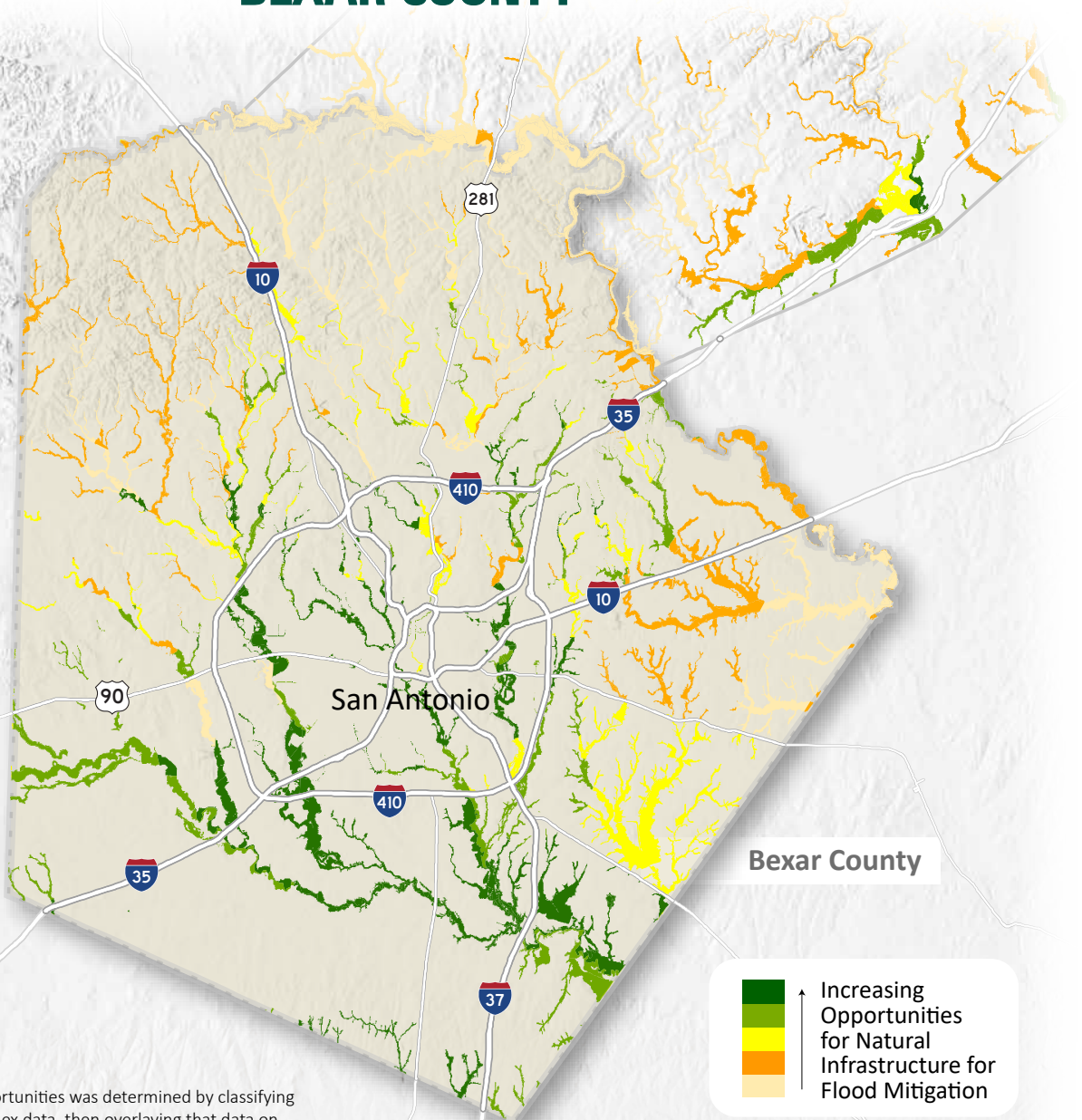
Image Source: Pars Sahin, Unsplash

URBAN CORRIDOR MAPPING

URBAN NATURAL INFRASTRUCTURE OPPORTUNITIES FOR FLOOD MITIGATION

The next four maps illustrate places where investments in natural infrastructure could help mitigate the impacts of flooding in socioeconomically vulnerable areas in the Hill Country's fast-growing, more urbanized counties.

BEXAR COUNTY

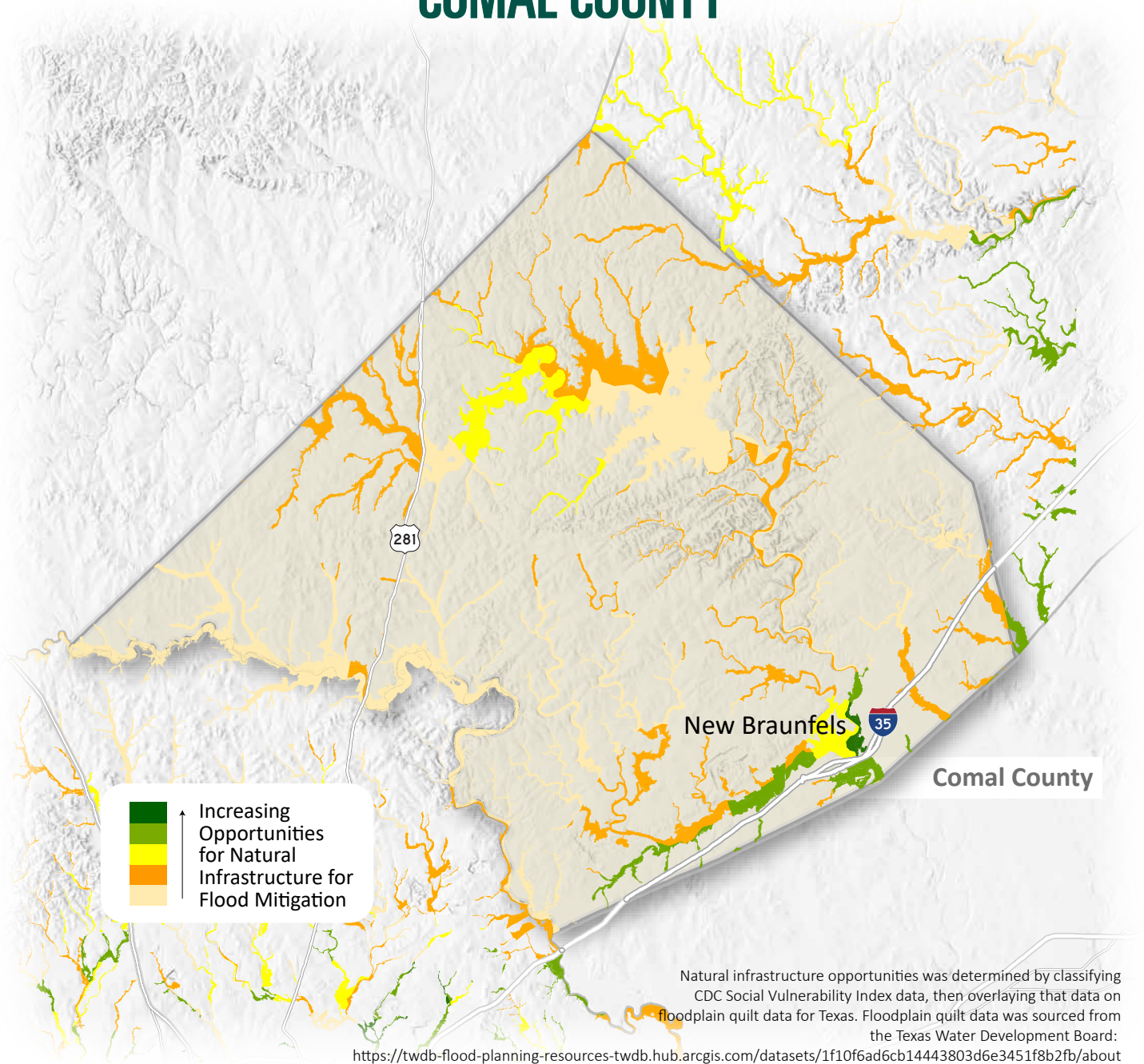


Natural infrastructure opportunities was determined by classifying CDC Social Vulnerability Index data, then overlaying that data on floodplain quilt data for Texas. Floodplain quilt data was sourced from the Texas Water Development Board: <https://twdb-flood-planning-resources-twdb.hub.arcgis.com/datasets/1f10f6ad6cb14443803d6e3451f8b2fb/about>
CDC Social Vulnerability data was sourced from: https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html

URBAN CORRIDOR MAPPING

URBAN NATURAL INFRASTRUCTURE OPPORTUNITIES FOR FLOOD MITIGATION

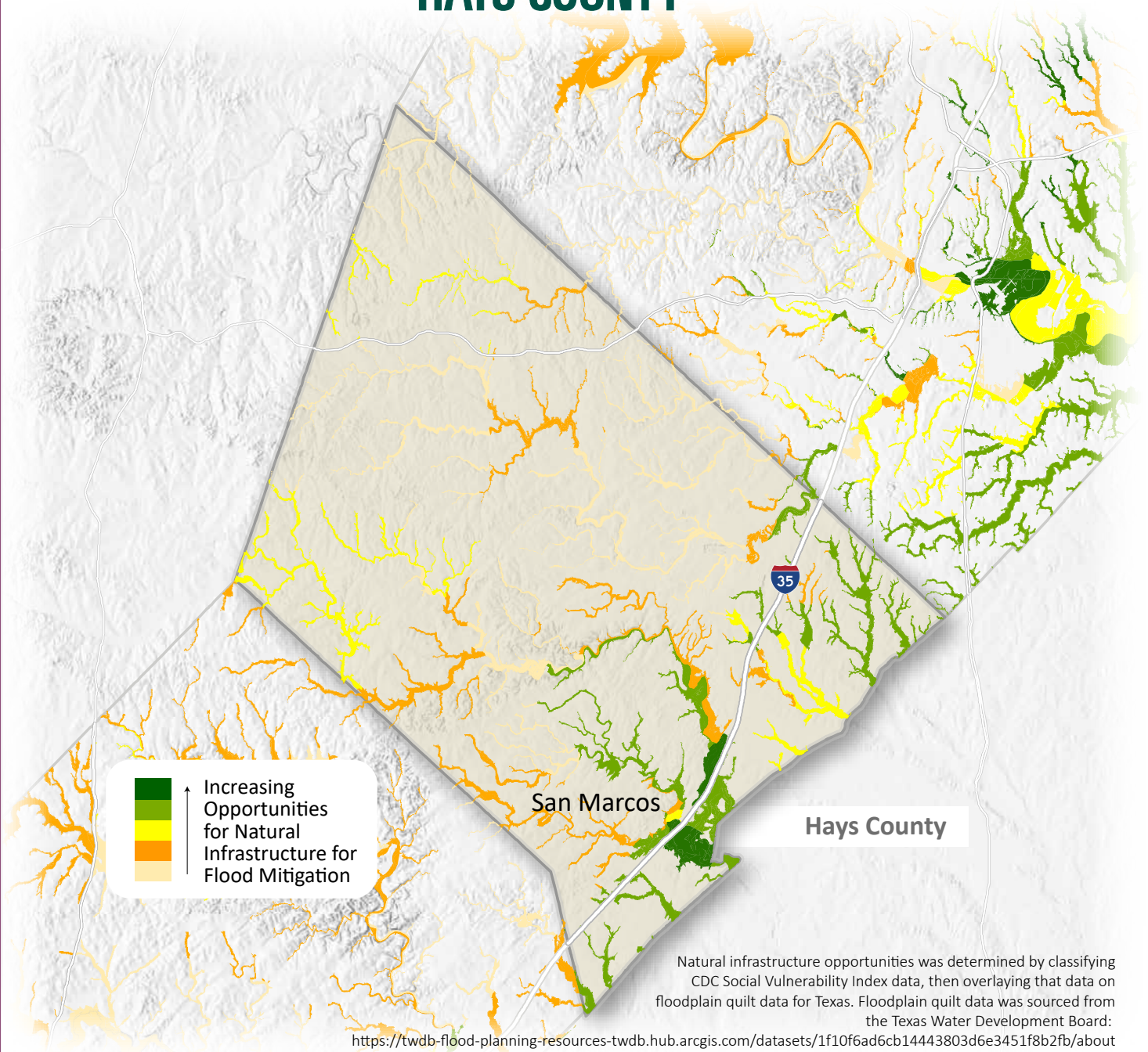
COMAL COUNTY



URBAN CORRIDOR MAPPING

URBAN NATURAL INFRASTRUCTURE OPPORTUNITIES FOR FLOOD MITIGATION

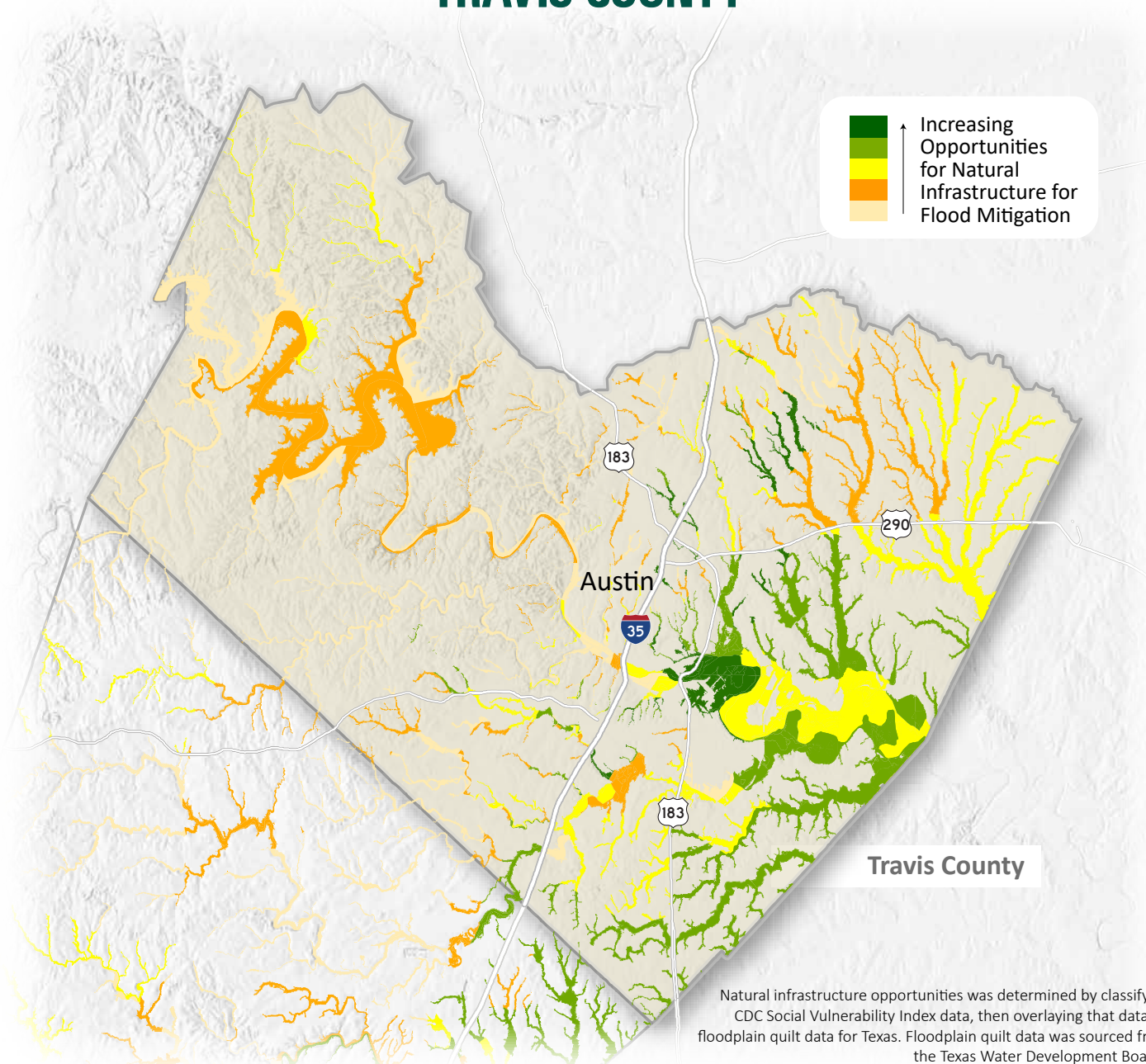
HAYS COUNTY



URBAN CORRIDOR MAPPING

URBAN NATURAL INFRASTRUCTURE OPPORTUNITIES FOR FLOOD MITIGATION

TRAVIS COUNTY



Increasing Opportunities for Natural Infrastructure for Flood Mitigation

Natural infrastructure opportunities was determined by classifying CDC Social Vulnerability Index data, then overlaying that data on floodplain quilt data for Texas. Floodplain quilt data was sourced from the Texas Water Development Board:

<https://twdb-flood-planning-resources-twdb.hub.arcgis.com/datasets/1f10f6ad6cb14443803d6e3451f8b2fb/about>
CDC Social Vulnerability data was sourced from: https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html



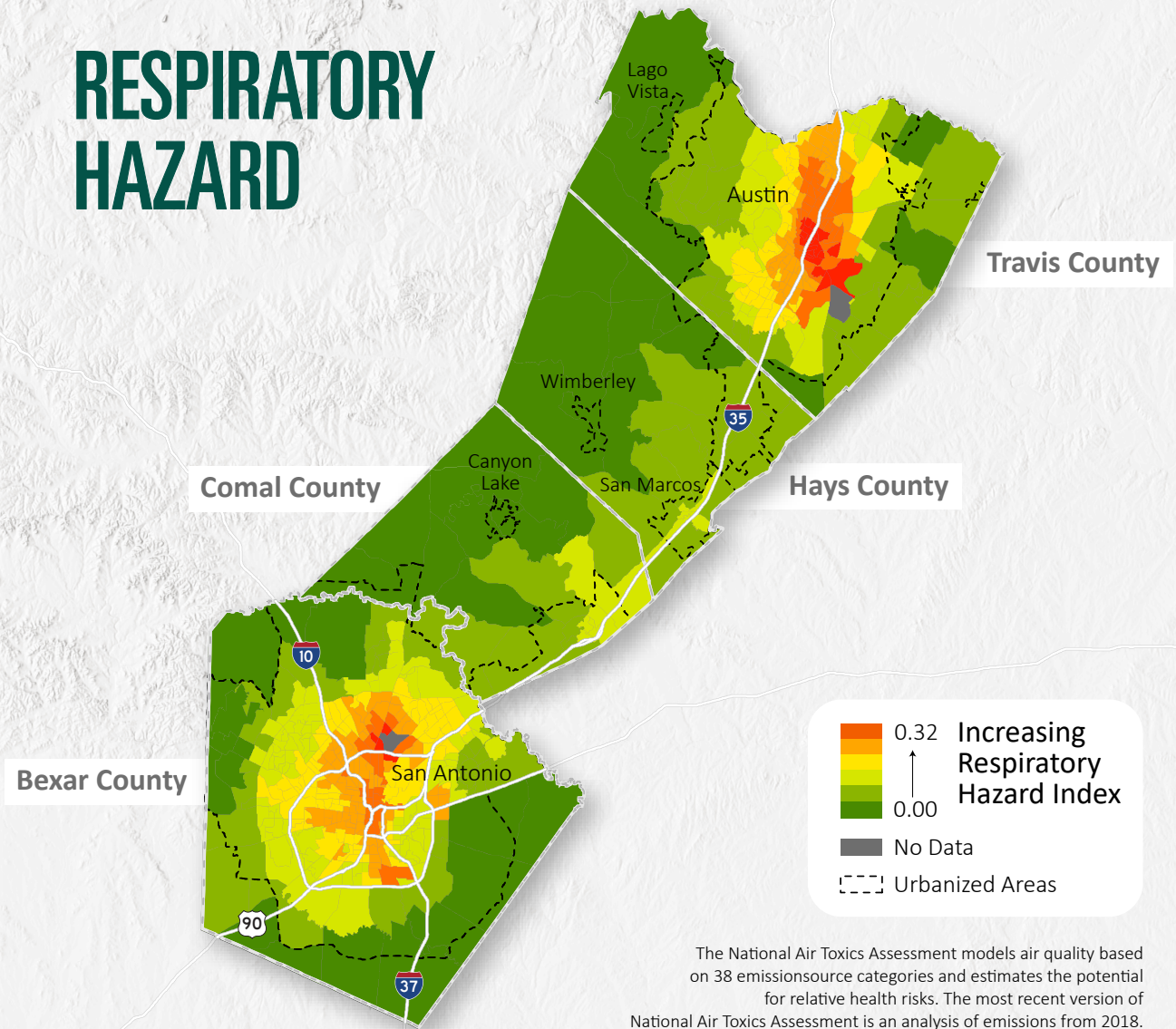
Image Source: Trac Vu, Unsplash

URBAN CORRIDOR MAPPING

IMPORTANT ISSUES RELATED TO CLIMATE CHANGE

The following three maps highlight issues related to climate change that directly impact more densely populated areas. Improving air quality, reducing urban heat, and increasing tree cover will reduce some of the negative impacts of climate change on community health.

RESPIRATORY HAZARD

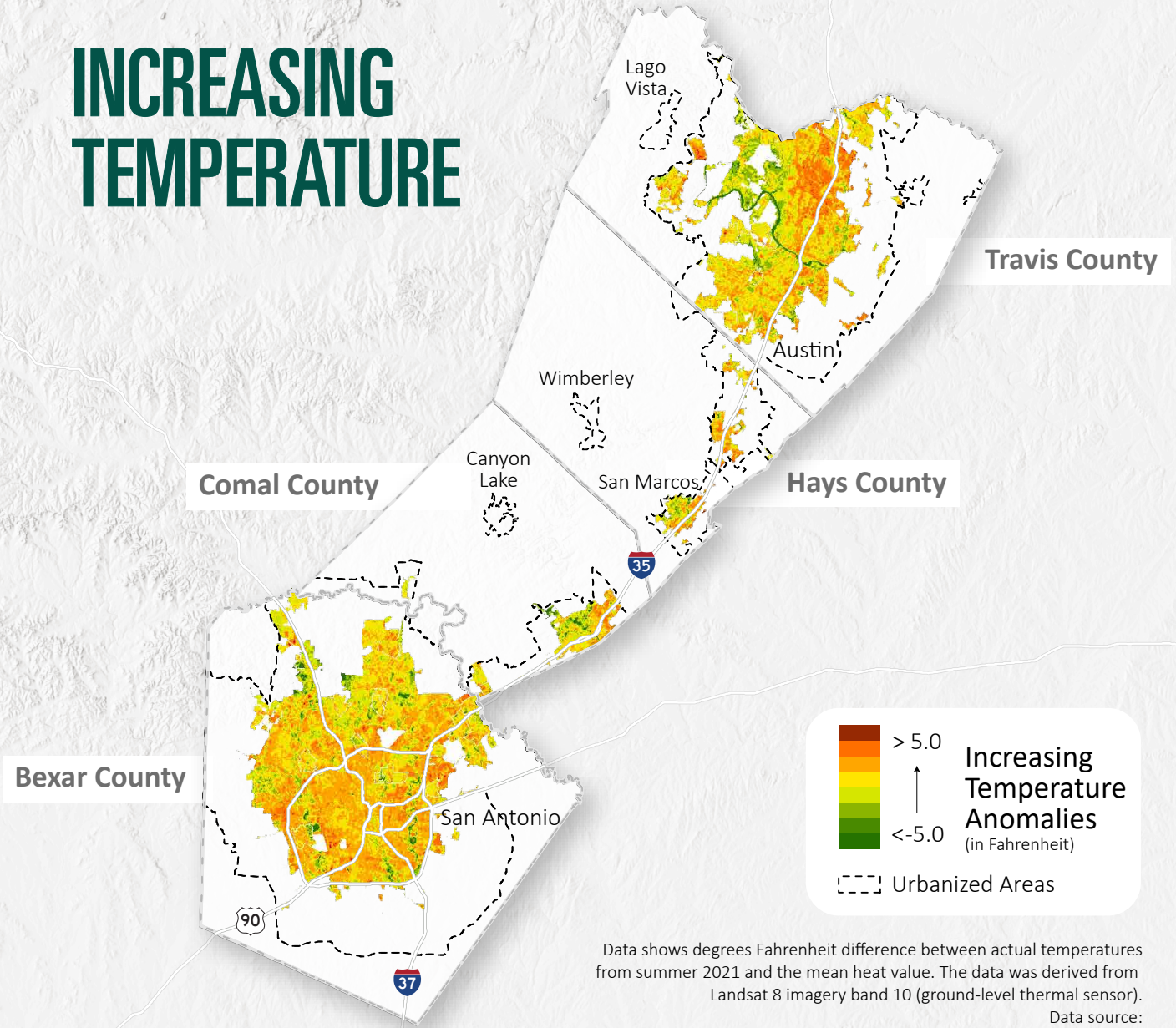


The National Air Toxics Assessment models air quality based on 38 emissionsource categories and estimates the potential for relative health risks. The most recent version of National Air Toxics Assessment is an analysis of emissions from 2018. Data source: <https://www.epa.gov/AirToxScreen>

URBAN CORRIDOR MAPPING

IMPORTANT ISSUES RELATED TO CLIMATE CHANGE

INCREASING TEMPERATURE



Data shows degrees Fahrenheit difference between actual temperatures from summer 2021 and the mean heat value. The data was derived from Landsat 8 imagery band 10 (ground-level thermal sensor).

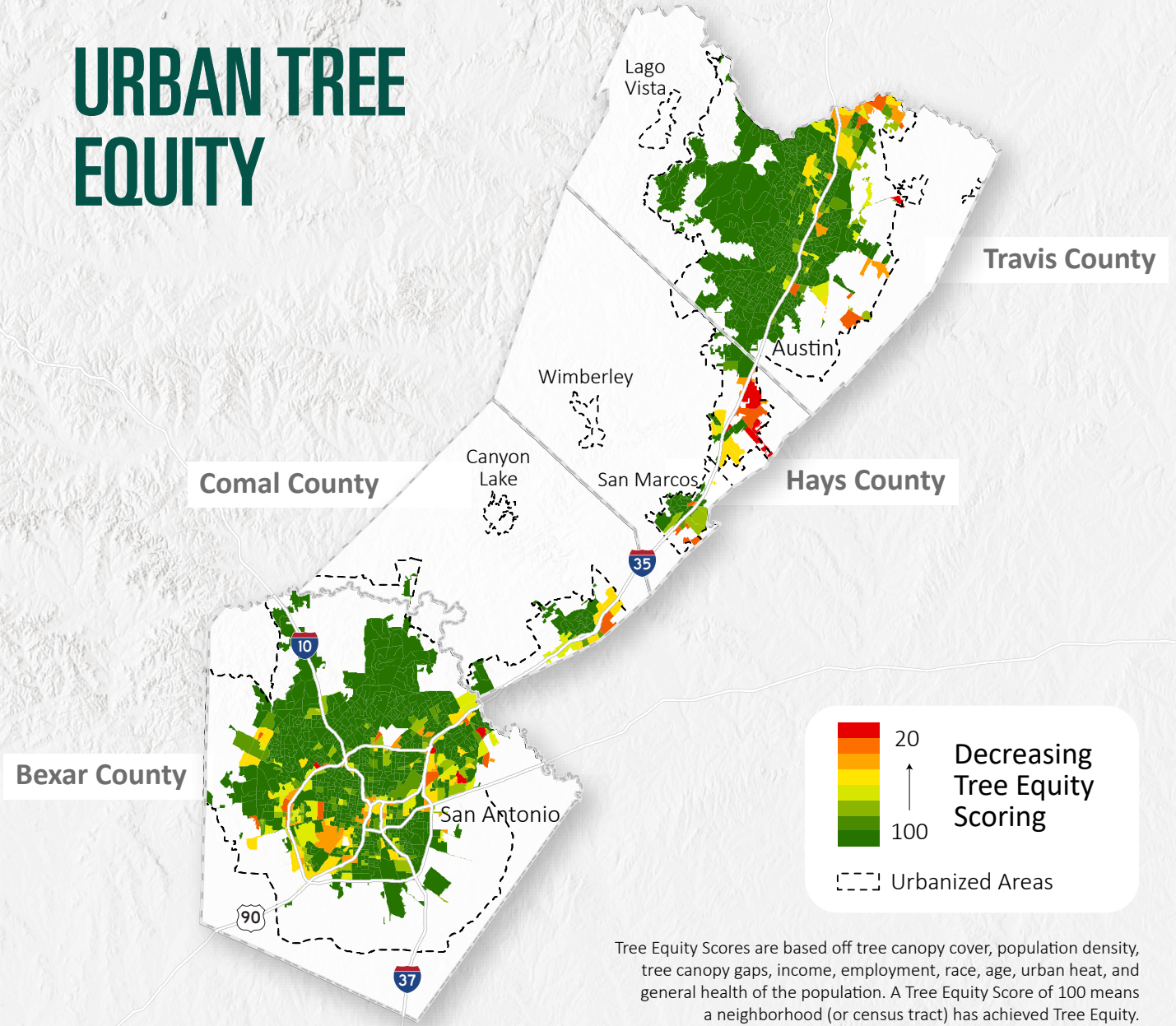
Data source:

<https://www.arcgis.com/home/item.html?id=ec2cc72c3de04c9aa9fd467f4e2cd378>

URBAN CORRIDOR MAPPING

IMPORTANT ISSUES RELATED TO CLIMATE CHANGE

URBAN TREE EQUITY



Tree Equity Scores are based off tree canopy cover, population density, tree canopy gaps, income, employment, race, age, urban heat, and general health of the population. A Tree Equity Score of 100 means a neighborhood (or census tract) has achieved Tree Equity.
Data Source: <https://www.treeequityscore.org/>



5

ACHIEVING OUR VISION

“I want to push for dreaming big. It’s easy to get caught up in the details and the metrics. What we really need is inspiration.”

-Paul DiFiore,
PODER

Bluebonnet Clouds Image
Source: Austin Winters

The long-term vision for this Plan is a Hill Country where all communities are resilient in the face of extreme weather, and where everyone has sustainable access to clean water and opportunities to connect to nature--thanks to robust and protected natural infrastructure systems.

This section outlines objectives and strategies for the Network and its partners to undertake to make significant progress toward this vision. The objectives are numbered and the strategies are listed underneath each objective. These objectives and strategies will be evaluated (and expanded as appropriate) as part of developing a new strategic plan for the Network. That strategic planning process will work to establish more measurable metrics for each of the objectives.

As noted in the Plan's guiding principles (see page xx), there is no "one-size-fits-all" approach to this work. Different counties, cities and towns, communities, organizations, agencies, and individuals will have different goals and needs, and different approaches to meeting them.

OBJECTIVES AND STRATEGIES

OBJECTIVE 1:

Accelerate the pace of conservation through permanent protection of important lands and waters.

- a. Focus land conservation on areas that will provide multiple benefits, especially water protection.
- b. Use the Plan's mapping analysis and data hub to help identify priorities; prioritize conservation that creates buffers along creeks, streams, and rivers.
- c. Emphasize use of conservation easements to provide voluntary, permanent land and resource protection.

- d. Partner with counties, municipalities, and drinking water providers (utilities, etc.) on conservation for water protection.
- e. Assess feasibility of developing a web tool to help further identify priority areas and generate reports to support funding requests.
- f. Work to ensure that water flows in Hill Country rivers and streams to provide connectivity.

OBJECTIVE 2:

Actively support conservation-based stewardship of thousands more acres of working lands through outreach, and technical and financial assistance to landowners.

- a. Connect landowners with funding and technical assistance, including workshops and education and support for regenerative agriculture and development of management plans.
- b. Focus stewardship support on enhancement of natural infrastructure, particularly water protection.
- c. Use the Plan's mapping analysis and data hub to help identify priorities.
- d. Prioritize building support for best management practices in uplands, riparian areas, and recharge areas to support water supply and water quality.
- e. Build on Regional Conservation Partnership Program with Natural Resources Conservation Service (NRCS) to help landowners adopt best management practices to protect water resources.
- f. Identify opportunities for habitat connectivity and wildlife protection.

OBJECTIVE 3:

Use additional strategies to expand and deepen focus on protecting water resources.

- a. Work to better understand geohydrology through tools such as dye tracing and related studies.
- b. Identify key areas to focus on ensuring adequate spring and river flows for communities and for ecological systems.
- c. Identify opportunities for ecosystem services markets for water conservation.
- d. Undertake riparian restoration projects along Hill Country rivers and creeks to slow stormwater runoff, prevent flooding, and filter contaminants.
- e. Coordinate/collaborate with the “Hill Country Runs on Water” campaign on tools to support outreach.



Hiding in Plain Sight Carol Serur

OBJECTIVE 4:

Advocate for policies that support key natural infrastructure priorities.

- a. Advocate for increased funding and authority for Groundwater Conservation Districts.
- b. Raise awareness about benefits of alternatives to direct discharge into Hill Country rivers and creeks to prevent new municipal-scale discharge permits from being granted.
- c. Work with local jurisdictions to adopt night sky ordinances that reduce lighting impacts. See the five core principles of responsible outdoor lighting. (See page 16)
- d. Help to establish more recognized Dark Sky Places.
- e. Identify potential opportunity for an expansive regional Dark Sky Park.^c
- f. Engage with county-level comprehensive plans and advocate for transportation, flood mitigation, and parks and open space policies that support natural infrastructure.

OBJECTIVE 5:

Expand equitable access to the benefits of natural infrastructure with a focus on public health and climate resilience.

- a. Work to build support for a "One Water" approach to water management.^d
- b. Advocate for prioritizing development in incorporated areas; build support for low-impact and water-neutral development; and help to plan and implement model projects.
- c. Work with partners to create design standards for low-impact and water-neutral development for the Hill Country that can be used for outreach to developers and elected officials.

^c This would not involve any taking of private property. See <https://www.darksky.org/our-work/conservation/idsp/parks/> for more information on dark sky parks.

^d One Water is an intentionally integrated approach to water that promotes the management of all water—drinking water, wastewater, stormwater, greywater—as a single resource.

- d. Use Plan mapping analysis and data hub to help identify priority areas for investments in socioeconomically vulnerable communities that will expand access to parks and trails, increase forest canopy, and prioritize natural and nature-based infrastructure investments for flood mitigation and heat reduction.
 - e. Work with flood-planning groups and municipalities to identify opportunities to protect areas that can provide multiple benefits, including flood mitigation and recreation access.
 - f. Identify opportunities to use trails and other recreational spaces as fire breaks to protect communities from wildfires.
 - g. Look for opportunities to work with partners to address gentrification, displacement, and lack of affordable housing—especially in any places where conservation may potentially contribute to inequity.
- c. Increase focus on language justice in outreach—particularly Spanish translation of communications materials; prioritize hiring staff with language skills and cultural competency.
 - d. Work with community-based groups to identify the best ways to reach and support marginalized rural communities and people of color facing environmental injustices.
 - e. Develop a set of clear messages that can be used by Network partners to elevate strategic communications in consistent and effective ways (key elements = water and drought, economic impacts, health and safety, Texas and Hill Country pride, storytelling).

OBJECTIVE 6:

Build support through outreach and education.

- a. Develop a communications plan for the Network focused on outreach and education—especially related to water and to the importance of natural infrastructure; use resources, particularly infographics, developed as part of the Plan.
 - b. Identify opportunities to activate and mobilize landowners, farmers and ranchers, municipal officials, outdoor and hunting enthusiasts, and tourism and outdoor industry representatives.
- a. Work to build strong, trusting, long-term partnerships with community-based organizations focused on environmental justice and reaching people of color; raise additional funding for the Network to support this work, including resource-sharing and capacity-building for community-based organizations.
 - b. Continue to invest in organizing, coordinating, and convening the Network and expand opportunities for new organizations to engage.
 - c. Focus particularly on building partnerships with (1) rural working lands/economic development groups; and with (2) organizations representing people of color, particularly Spanish-speaking people of color.
 - d. Host targeted events focused on expanding and deepening partnerships.



Texas Water Safari Image Source: Stephen Ramirez

OBJECTIVE 8:

Work to increase funding for investments in natural infrastructure.

- a. Help to pass local bond measures that will provide a total of at least \$500 million investments in conservation and natural infrastructure by the end of 2028; create shared materials (slides, brochure) highlighting the economic benefits of investing in natural infrastructure.
- b. Assess feasibility of establishing a “Sustained Conservation Fund” continually funded by sources such as utility fees or tax increment reinvestment zones that would grow with the economy (and keep pace with development).
- c. Identify opportunities to use voluntary markets to help support farmers and ranchers in enhancing soil health, ecosystem services, and carbon sequestration.
- d. Explore a wide range of tools to support funding water protection, including use of agricultural water trusts, water funds/source water protection programs, hazard mitigation funds, water infrastructure funds, ecosystem services markets, and tax benefits for charitable donations of water rights.
- e. Secure significant investments in natural infrastructure in all 18 counties; see Appendix 2 for a detailed list of potential funding sources.

OBJECTIVE 9:

Evaluate success and adapt.

- a. Conduct an annual survey to track progress overall and on key metrics in particular.
- b. Assess progress and any needed changes for the Plan at annual meetings of the full Network.
- c. Keep data hub up-to-date with new resources that can help increase collective impact.

CONSERVATION EASEMENTS

One of the most effective tools for ensuring land is managed and maintained in ways that support natural infrastructure is through a conservation easement. This is a voluntary legal agreement between a willing landowner and a land trust or government entity that ensures a property will be conserved and maintained for specified conservation purposes for generations to come, generally in perpetuity, while allowing for ongoing uses by the owner such as building a home for the family and managing the land for ranching, farming, hunting, passive recreation, or other traditional uses. Each conservation easement is crafted to provide the desired conservation benefits as well as meet the needs of the landowner for continued use and stewardship while at the same time advancing regional goals to protect water quality and quantity and wildlife habitat, preserve agricultural viability and scenic views, and provide flood mitigation, among other benefits. The majority of landowners placing a conservation easement on their land receive federal income tax and/or estate tax benefits.

In some cases, the landowner may receive a cash payment by selling the conservation easement at full value or at a discount, often by way of a county or city bond referendum and/or a grant through a state or federal agency. Landowners with conservation easements on their property can continue to own, live on, and manage the land for ranching, hunting, or other uses per the easement restrictions.



Image Source: David Clode, Unsplash

6

SUCCESS STORIES: INVESTING IN NATURAL INFRASTRUCTURE

"Farmers and ranchers are in a unique position to address the global climate crisis."

-Texas Agricultural Land Trust,
Creating Resilient Landscapes

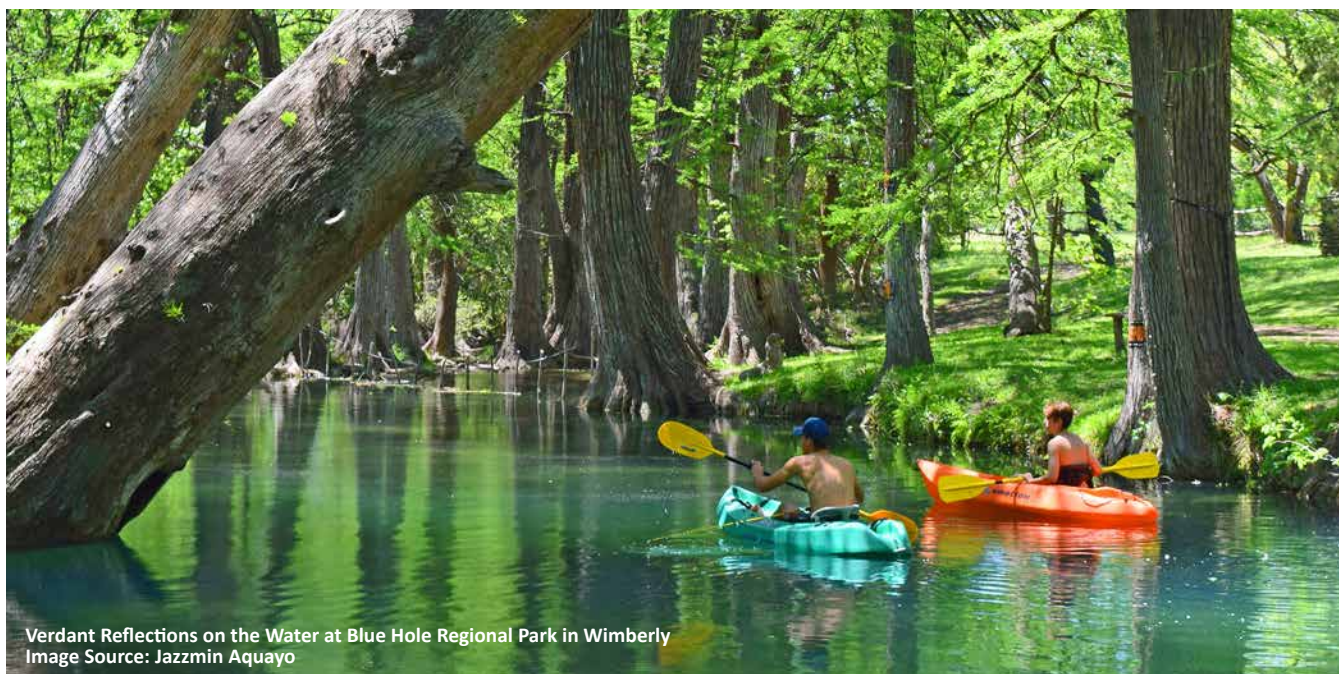
Cliffs on the Llano Image
Source: Jonathan Vail

EDWARDS AQUIFER PROTECTION PROGRAM

The Edwards Aquifer is one of the most prolific aquifers in the world and serves as the primary source of drinking water for nearly two million Hill Country residents, including the residents of San Antonio—Texas’s second-largest city. The waters of the Edwards Aquifer feed springs, rivers, and lakes and sustain diverse plant and animal life. The aquifer supports agricultural, industrial, and recreational activities that not only sustain the regional economy, but also contribute immeasurably to its culture and heritage. The aquifer’s recharge and contributing zone replenish the aquifer through rainwater, which seeps through fissures,

cracks, and sinkholes in the porous limestone that dominates the region. For over 20 years, residents of San Antonio voted to approve a one-eighth of one cent sales tax to fund land conservation over the recharge zone of the aquifer, largely west of the city. The first of these ballot measures was approved by San Antonio voters in 2000 and raised \$45 million for conservation. Three subsequent ballot initiatives were approved in San Antonio with overwhelming voter approval. In total, more than 172,000 acres have been protected.

Adapted from
The Nature Conservancy’s Water Funds Toolbox.



Verdant Reflections on the Water at Blue Hole Regional Park in Wimberly
Image Source: Jazzmin Aquayo

CAMP BULLIS SENTINEL LANDSCAPE

When we think about flooding and drought in the Texas Hill Country, often we think about their impacts on rural communities, cities, and agricultural producers. But not the military. In 2020, the Alamo Area Council of Governments, Texas A&M Natural Resources Institute, Joint Base San Antonio (JBSA), and the Hill Country Alliance began to build a partnership to increase investment in natural infrastructure to enhance drought and flood resilience for JBSA-Camp Bullis and surrounding communities.

Today, more than 50 organizations make up the Camp Bullis Sentinel Landscape Partnership. The mission of the Sentinel Landscape Partnership is "to strengthen military readiness, conserve natural resources, bolster agricultural and forestry economies, and increase climate change resilience." This locally led partnership focuses primarily on enhancing natural infrastructure (i.e., private land stewardship) by providing volunteering landowners with technical and financial resources that align with the landowners' stewardship goals. Thoughtful land stewardship provides rippling benefits, not only for the private landowner but for JBSA-Camp Bullis and surrounding communities. Good land stewardship enhances water quality and quantity, mitigates floods and drought, supports agricultural productivity, and improves wildlife habitat.



Rowdy Winters - Texas Milky Way

Another core goal of the Camp Bullis Sentinel Landscape Partnership is to protect the dark night skies surrounding the base. Camp Bullis provides nighttime training for all branches of the military. As suburban development expands from San Antonio, that portion of the military mission is increasingly jeopardized by encroaching light pollution. Efforts to protect dark night skies in the Camp Bullis Sentinel Landscape benefit local astro tourism, wildlife habitat, human health, and quality of life.

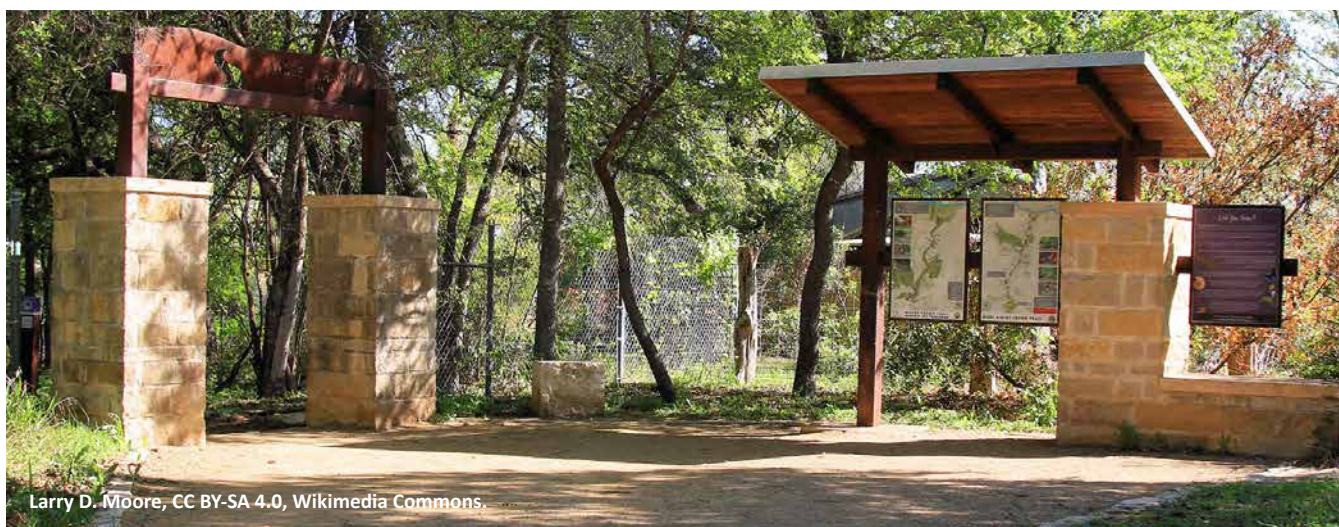
VIOLET CROWN TRAIL

The Violet Crown Trail represents the greater vision of Hill Country Conservancy's work to connect communities in the city of Austin with some of the most beautiful, native landscapes of the Texas Hill Country. It is a multi-jurisdictional trail that will ultimately extend from Barton Springs/ Zilker Park in Austin, Texas, along City-owned parkland, through portions of the City of Sunset Valley, to the Onion Creek Preserve Management Unit in Hays County.

The Violet Crown Trail consists of newly constructed and pre-existing trail segments and is designed and built to state-of-the-art standards. The primary goal of the trail is to provide continuous public access from existing parkland to sensitive water quality lands, while at the same time protecting the extraordinary natural treasures in the Barton Springs/Edwards Aquifer Recharge Zone. Protecting water supply and water quality; accommodating public access; providing alternative transportation opportunities; utilizing public-private

partnerships and proven models to fund maintenance; and creating and promoting a strong public education and land stewardship program are some key aspects of the trail that benefit Central Texas for generations to come.

After years of strategic land acquisition and planning, the trail is now nearly 13 miles long, running from Zilker Park to Slaughter Creek. Once complete, the Violet Crown Trail will traverse a 30-mile corridor of urban parks and rural natural areas that will provide a unique recreational experience, connecting trail users to urban wildlands and preserved lands that not only protect a significant portion of the rural community's drinking water but also preserve in perpetuity iconic and irreplaceable landscapes of the Hill Country. The Violet Crown Trail is also part of the Great Springs Project trail that will connect Austin and San Marcos.



Larry D. Moore, CC BY-SA 4.0, Wikimedia Commons.

JACOB'S WELL

Jacob's Well is a well-known karst spring that flows from the Middle Trinity Aquifer through more than a mile of cave passage before rising to the surface as one of the Hill Country's most iconic swimming holes. It is also the headwaters of Cypress Creek. Drought conditions exacerbated by increased groundwater use have caused Jacob's Well to stop flowing in 2000, 2009, 2011, 2013, and 2022. Persistent low- and no-flow periods impact water quality, jeopardize aquatic habitat, threaten local water supplies, and affect the local economy. In the face of these threats to the spring's flow, a coalition of landowners, conservation organizations, researchers, and others has emerged.

Starting with David Baker and the Watershed Association, then with investments by Hays County and the Cities of Wimberley and Woodcreek, over 880 acres in the Cypress Creek watershed have been conserved. Nearly 240 acres are publicly accessible parks and preserves—

including the Jacob's Well Natural Area. Hays County voters have approved parks and open space bonds in 2001, 2007, and 2020, which have multiplied the County's \$108 million with matching grants and funds for even greater County-wide conservation investments. In 2014, the US Environmental Protection Agency approved the Cypress Creek Watershed Protection Plan—the first such plan to incorporate groundwater protection as a measure to protect water quality. In 2020, after a lengthy stakeholder process, the Hays Trinity Groundwater Conservation District established the Jacob's Well Groundwater Management Zone to coordinate water use within the springshed to protect groundwater availability and spring flow. The multitiered approach has helped maintain spring flow, protect water quality, and safeguard the economy and way of life dependent on Jacob's Well.



Image Source: Carl Griffin, Jacobs Well

KENDALL COUNTY BOND

Kendall County is part of the Hill Country Priority Groundwater Management Area, a designation resulting from the region's limited water supply and heightened susceptibility to drought. In recent years, county residents have been alarmed to see increasing impacts from drought and flooding as development around San Antonio accelerates. Seeing a need and an opportunity to address the public's concerns, the Cibolo Conservancy enlisted the support of the Cibolo Center for Conservation, the Hill Country Alliance, The Nature Conservancy in Texas, and the Trust for Public Land to reach out to local leaders and explore the feasibility of a bond measure to safeguard natural infrastructure. In the end, the Kendall County Commissioners Court voted 5 to 0 to place a bond measure on the ballot. Following a brief campaign, Kendall County voters passed a \$20 million bond measure in November 2022 to purchase open space and protect natural infrastructure that filters stormwater, facilitates groundwater recharge, increases access to natural areas, and maintains the region's Hill Country character. The measure passed with over 67% support.



Marsh Board Walk Image Source: Ben Eldredge

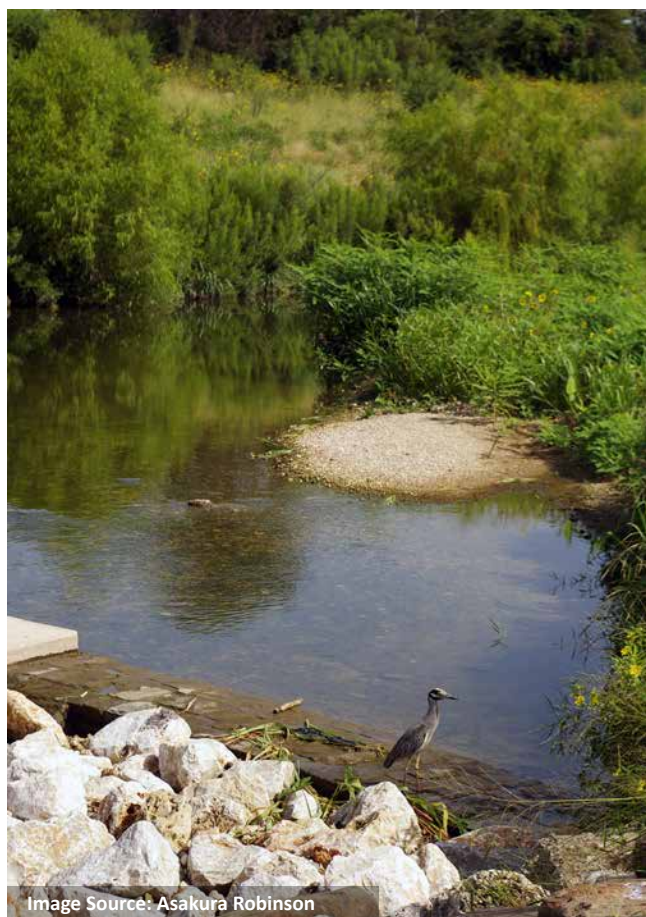


Image Source: Asakura Robinson

DARK SKIES GRASSROOTS ORGANIZING

In 2017, the International Dark-Sky Association (IDA) stated that “there are more community efforts to preserve the night sky in the Hill Country than there are in any other similarly sized region on earth.” Since then, the region’s grassroots efforts for night sky preservation have only continued to grow, with more and more local groups engaged in education and advocacy, more internationally recognized Dark Sky Places, and more night sky-friendly policies being adopted.

Although the stars at night, big and bright, deep in the heart of Texas have been celebrated for generations, it was not until the mid-2000s that communities began taking concerted steps to address light pollution. Thanks to visionary leadership in Dripping Springs and Blanco, these communities—residents, businesses, and government, all working together—began developing the region’s first dark skies policies. In 2011, thanks to direct engagement from the Hill Country Alliance Night Skies Team, the Pedernales Electric Cooperative, the nation’s largest electric cooperative and a supplier of much of the street lighting in the Hill Country, demonstrated its commitment to dark skies by replacing streetlights in Junction with fully shielded lights. The following year, the Blanco Chamber of Commerce and the Hill Country Alliance partnered on a business recognition program for Night Sky Friendly Businesses. In 2014, Enchanted Rock State Natural Area and

the City of Dripping Springs became the first International Dark Sky Park and the first International Dark Sky Community in the state of Texas, respectively. By 2017, the Blanco County Friends of the Night Sky formed, setting a model for county-level grassroots engagement around the region.

Today, there are 14 friends of the night sky groups in the Hill Country and 12 designated dark sky places, with more parks and communities diligently working on their applications to the IDA. Each year, new communities take steps to preserve the region’s dark skies by limiting light pollution as they grow. Most of the region still lives up to its generations-old reputation as a place where the Milky Way and more can be seen on clear nights. And while around the world unpolluted views of the night sky are becoming increasingly rare, in the Hill Country, thanks to the ongoing, creative, and dedicated work of organized residents collaborating with businesses and local governments, the stars over the Hill Country continue to shine.



Image Source: Wonder Rob Greebon

APPENDICES

APPENDIX 1.

DARK SKIES IN THE HILL COUNTRY

This table provides additional context about the opportunities for and success of dark skies advocacy in the Hill Country. The columns labeled “excellent” and “good” show the percentages of each county with night skies that are relatively free of light pollution. The next three columns show the friends of the night sky groups, International Dark Sky Places, and night sky-related resolutions or proclamations by county.

TABLE AP-1. DARK SKIES IN THE HILL COUNTRY

COUNTY	EXCELLENT	GOOD	FRIENDS OF THE NIGHT SKY GROUPS	INTERNATIONAL DARK SKY PLACES	RESOLUTIONS OR PROCLAMATIONS
Bandera	68%	32%	Bandera County Friends of the Night Sky		1. Bandera County 2. City of Bandera
Bexar	0%	3.5%			
Blanco	45%	55%	Blanco County Friends of the Night Sky	1. City of Blanco	1. Blanco County 2. City of Blanco 3. Johnson City
Burnet	28%	71%			1. Burnet County
Comal	0%	61%	Comal County Friends of the Night Sky		1. Comal County 2. City of New Braunfels
Edwards	99.97%	0.03%			1. Edwards County
Gillespie	87.08%	12.5%	Gillespie County Friends of the Night Sky	1. City of Fredericksburg 2. Enchanted Rock State Natural Area 3. Lyndon B. Johnson National Historic Park	1. Gillespie County 2. City of Fredricksburg
Hays	0%	67%		1. City of Dripping Springs 2. Community of Wimberley Valley	1. Hays County 2. City of Buda 3. City of Dripping Springs 4. City of Kyle 5. City of Wimberley 6. City of Woodcreek
Kendall	26%	69%	Kendall County Friends of the Night Sky		1. Kendall County
Kerr	66%	32%	Kerr County Friends of the Night Sky	1. UBarU Camp and Retreat Center	1. Kerr County 2. City of Kerrville
Kimble	98.98%	1.02%			
Llano	86%	14%	Llano County Friends of the Night Sky	1. City of Horseshoe Bay	1. Llano County 2. City of Horseshoe Bay 3. City of Llano
Mason	99.31%	0.69%			4. Mason County 5. City of Mason
Medina	34%	60%			
Real	99.6%	0.44%			
San Saba	97.9%	2.1%			1. Real County
Travis	0%	25%	1. Lago Vista Starry Skies 2. Jonestown Night Sky Advocacy 3. Travis County Friends of the Night Sky 4. Spicewood Starry Skies	1. Lost Creek Development 2. River Hills Development 3. Milton Reimers Ranch	1. City of Bee Cave 2. City of Lago Vista 3. City of Manor 4. City of Pflugerville 5. City of Webberville 6. City of West Lake Hills
Uvalde	91%	8.7%	Uvalde County Friends of the Night Sky		1. Uvalde County
Outside the Natural Infrastructure Plan Area					
Lampasas			Lampasas County Friends of the Night Sky		1. Lampasas County
Williamson			Liberty Hill Save Our Skies		2. City of Liberty Hill

APPENDIX 2.

POTENTIAL FUNDING STRATEGIES

Some content adapted from the Comal County Conservation Alliance’s Land Conservation Menu and Revenue Menu.⁴⁸ Reviewed by Ernest Cook (Land and Water Associates), Jessica Sargent (Primrose Research), and Jessica Welch (Trust for Public Land).

Private Donations

- Individual donations of land and conservation easements (including bargain sale)
- Foundation grants
- Grants/donations from individuals

Private Markets/Investments

- Wetland mitigation banks
- Endangered species mitigation banks
- Markets for carbon credits
- Water markets/water funds
- Private utility investments in water supply protection
- Impact investments and corporate engagement
- Transfer of development rights

Public Bonds

- Revenue Bonds (example: City of Austin Water Quality Protection Lands Program)
- General Obligation Bonds (example: Kendall County)

Additional Public Funding Strategies

- Local or regional public trust fund
- Interlocal agreements: agreement between two governmental entities for one to pay the other for services

Taxes

- Sales Tax or Use Tax (example: San Antonio Edwards Aquifer Protection Program)
- Hotel Occupancy Tax
- Venue Tax
- Property Tax
- Public Improvement Districts, Municipal Management District
- Regional Tax Overlay or District
- Tax Increment Reinvestment Zone

User Fees

- Water/Wastewater/Drainage Fees
- Park/Trail Entrance/Use Fees
- Impact Fees (for example: roads)

Development Requirements/Fees

- Parkland or open space dedication requirements or in-lieu fees (Example: City of Austin Parkland Dedication Ordinance)

Special Districts

(can issue bonds or taxes)

- Conservation Districts
- Public Improvement District
- Groundwater Conservation Districts
- Water Control and Improvement Districts

Low-Interest Loans

(EPA and Texas Water Development Board)

- Clean Water State Revolving Fund
- Drinking Water State Revolving Funds

Mitigation Credits Under Regional Habitat Conservation Plans

State and Federal Grants (generally require local matching funds)

- Land and Water Conservation Funding (US Department of the Interior; funded by energy leases)
- Local Parks Grants (Texas Parks and Wildlife Department [TPWD])
- State Wildlife Grants (TPWD)
- Recreational Trails Grants (TPWD, Federal Housing Administration)
- Section 6 Grants (TPWD, US Fish and Wildlife Service [USFWS])
- Texas Flood Infrastructure Fund (Texas Water Development Board)
- Regional Conservation Partnership Program (USDA)

- Competitive Endangered Species Conservation Fund (USFWS)
- Texas Farm and Ranch Lands Conservation Program (TPWD)
- Farm Bill Programs: Agricultural Conservation Easement Program, Regional Conservation Partnership Program, Environmental Quality Incentives Program, Conservation Stewardship Program (United States Department of Agriculture [USDA]); National Fish and Wildlife Foundation Conservation Partners Program
- Healthy Watersheds Consortium Grant
- Surface Transportation Program, Transportation Alternative Projects (Alamo Area Metropolitan Planning Organization)
- Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grants (Texas Division of Emergency Management)
- FEMA Building Resilient Infrastructure and Communities
- Federal Infrastructure Investment and Jobs Act Funding (2021) and Inflation Reduction Act (2022)
- Readiness and Environmental Protection Integration Program (Department of Defense, Camp Bullis Sentinel Landscape)
- North American Wetlands Conservation Act (NAWCA, USFWS)

⁵ Balcones Canyonlands Conservation Plan 1996, Hays County RHCP 2013, Comal County RHCP 2015, Edwards Aquifer HCP 2015, Southern Edwards Plateau RHCP 2016.

APPENDIX 3.

MAPPING DATA

HILL COUNTRY LAND, WATER, SKY, AND NATURAL INFRASTRUCTURE PLAN

GIS DATA SOURCES

DATA NAME	ACQUISITION DATE	SOURCE	SOURCE LINK & NOTES
Hydrology			
High Resolution Streams	1/9/2022	NHD	https://www.usgs.gov/national-hydrography/access-national-hydrography-products
High Resolution Waterbodies	1/9/2022	NHD	https://www.usgs.gov/national-hydrography/access-national-hydrography-products
Wetlands	1/9/2022	USFWS	https://www.fws.gov/node/264847
Springs	1/16/2022	Databasin.org	https://databasin.org/datasets/2400de0b78284e0fa44083e78824ff24/
HUC 8 Watersheds	1/16/2022	USGS	https://www.usgs.gov/national-hydrography/access-national-hydrography-products
Edwards Aquifer Zones	5/17/2022	TCEQ	https://gis-tceq.opendata.arcgis.com/datasets/TCEQ::edwards-aquifer/explore?location=29.810631%2C-99.003049%2C9.46
Limestone Karst Areas	5/11/2022	USGS	Nico Hauwert, Austin Water Balcones Canyonlands Preserve
Edwards Contributing Zones	5/17/2022	USGS	https://www.sciencebase.gov/catalog/item/5d5db00fe4b01d82ce95ffa6
Groundwater Wells	5/10/2022	TX Water Development Board	https://www.twdb.texas.gov/mapping/gisdata.asp
Well Locations	5/10/2022	TX Water Development Board	https://www.twdb.texas.gov/mapping/gisdata.asp
Covered Streams (pristine)	5/2/2022	TCEQ	https://gis-tceq.opendata.arcgis.com/
Floodplain Quilt		TX Water Development Board	https://twdb-flood-planning-resources-twdb.hub.arcgis.com/datasets/1f10f6ad6cb14443803d6e3451f8b2fb/about
Infrastructure			
Interstates	1/16/2022	Data.gov	
US Highways	1/16/2022	Data.gov	
State Roads	1/16/2022	Data.gov	
Local Roads	1/16/2022	Data.gov	
Bridge Locations	1/8/2022	TXDOT	https://gis-txdot.opendata.arcgis.com/
Railroads	1/8/2022	TXDOT	https://gis-txdot.opendata.arcgis.com/
Airports	1/8/2022	TXDOT	https://gis-txdot.opendata.arcgis.com/
Public Boat Ramps	5/10/2022	TPWD	https://tpwd.texas.gov/gis/
Solar Potential Areas	5/18/2022	NREL	https://www.nrel.gov/gis/solar-resource-maps.html

DATA NAME	ACQUISITION DATE	SOURCE	SOURCE LINK & NOTES
Equity			
Tree Equity	1/13/2022	Tree Equity Score/ American Forests	https://treeequityscore.org/data/ . Data only covers urban areas, not rural counties.
EJScreen	2/7/2022	EPA	https://gaftp.epa.gov/EJSCREEN/
Census Data	3/10/2022	Census	https://redistrictingdatahub.org/state/texas/
CDC Social Vulnerability Index	3/10/2022	CDC ATSDR	https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html
CDC Places	3/10/2022	CDC Places	https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Census-Tract-Data-GIS-Friendly-Format-2021-/yjkw-uj5s
Respiratory Hazards		EPA	
Political			
County Boundaries	1/8/2022	HCCN	Delivered by HCCN staff
Municipal Boundaries	1/8/2022	TXDOT	https://gis-txdot.opendata.arcgis.com/
Urbanized Areas	1/8/2022	TXDOT	https://gis-txdot.opendata.arcgis.com/
Parcel Data	Multiple	Individual Counties, TNRIS, and Report All	https://reportallusa.com/purchase-shapefiles/Texas and https://data.tnr.org/?pg=1&inc=24#5.5/31.33/-99.341
Texas Ecoregions	12/15/2022	EPA	https://www.epa.gov/eco-research/ecoregion-download-files-state-region-6#pane-41
Conservation			
Public Areas of US Database (PADUS)	1/11/2022	USGS	https://www.usgs.gov/programs/gap-analysis-project/science/pad-us-data-download
Land and Water Resources Conservation Program (LWRCP)	1/18/2022	TPWSD	https://tpwd.texas.gov/arcgis/rest/services/Parks/LWRCRP_Anno_01/MapServer/27
Parkserve	1/9/2022	TPL	https://www.tpl.org/parkserve/downloads
Ecological Mapping Systems	4/21/2022	TPWD	https://tpwd.texas.gov/landwater/land/programs/landscape-ecology/ems/
Rare, Threatened, Endangered Species	5/18/2022	TPWD	Lisa Goodell, TXNDD Technician, TPWD via email
Texas Land Trust Council Land Inventory	2/3/2022	TLTC	Received from Hill Country Conservancy through data user agreement. Data sourced from TLTC.
Federal Parks	5/10/2022	NPS	https://public-nps.opendata.arcgis.com/
Texas State Parks	5/10/2022	TPWD	https://tpwd.texas.gov/gis/
Texas Wildlife Management Areas	5/10/2022	TPWD	https://tpwd.texas.gov/gis/
TNC Resilient Landscapes	5/10/2022	TNC	http://www.conservationgateway.org/ConservationPractices/ClimateChange/Pages/RCN-Downloads.aspx
Southeast Conservation Blueprint	6/16/2022	USFWS	https://blueprint.geoplatform.gov/southeast/
WAFWA Crucial Habitat Assessment Tool	6/16/2022	Western Association of Fish & Wildlife Agencies	https://www.wafwachat.org/

DATA NAME	ACQUISITION DATE	SOURCE	SOURCE LINK & NOTES
Terrain			
High Resolution Hillshade	1/17/2022	USGS	https://www.usgs.gov/the-national-map-data-delivery/gis-data-download
High Resolution DEM	1/17/2022	USGS	https://www.usgs.gov/the-national-map-data-delivery/gis-data-download
National Land Cover Dataset (NLCD)	1/17/2022	MRLC	https://www.mrlc.gov/
10 ft. Contours	1/18/2022	USGS	https://www.usgs.gov/the-national-map-data-delivery/gis-data-download
Soils-Geology			
Soil Classes	1/17/2022	NRCS	https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
Climate			
Wildfire Risk Assessment	5/18/2022	Texas A&M Forest Service	https://texaswildfirerisk.com/
Heat Anomalies	7/6/2022	TPL	https://www.arcgis.com/home/item.html?id=1b6cad6dd5854d2aa3d215a39a4d372d
Other			
Population Projections 2021 - 2030	6/1/2022	Redistricting Data Hub	https://redistrictingdatahub.org/state/texas/
Tree Canopy Cover	6/2/2022	MRLC/USGS/USFS	https://www.mrlc.gov/data/nlcd-2016-usfs-tree-canopy-cover-conus
Respiratory Hazard Index	10/22/2022	EPA	https://www.epa.gov/AirToxScreen
Land Area	1/22/2023		https://www.texascounties.net/statistics/landarea.htm
2020 Population	1/23/2023	US Census	https://www.census.gov/quickfacts/TX
Public Investment	1/24/2023	LandVote	https://tpl.quickbase.com/db/bbqna2qct?a=dbpage&pageID=8
Rate of Population Change	1/25/2023	US Census	https://www.census.gov/library/stories/state-by-state/texas-population-change-between-census-decade.html
Diversity Index	1/26/2023	US Census	https://www.census.gov/library/stories/state-by-state/texas-population-change-between-census-decade.html
Persons in Poverty	1/27/2023	Sort by County	https://www.census.gov/quickfacts/TX
Social Vulnerability	1/28/2023	CDC/ATSDR	https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html

APPENDIX 4

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APPENDIX 5

COUNTY MAP KEY

COUNTY MAP KEY

- A** Name of county within the Hill Country Study Area.
- B** Geographic and population statistics for each county.
- C** Acres of **Highest** Priority Natural Infrastructure Areas. Note, this acreage number includes only dark green areas shown on the map, not the lighter green High Conservation Priority Areas. Highest and high priority areas are not intended to be inclusive of the many important places for investment, as conservation should be based on accomplishing specific goals at an appropriate scale under constantly changing circumstances. Instead, these maps are only intended to be a snapshot of potential priorities today and a starting point for planning conservation investments and actions.

- K** Diversity Index scale is from 0% - 100%. Diversity index shows the probability that two people chosen at random will be from different race and ethnic groups. A higher index percentage means the county is more diverse.
- L** Poverty threshold depends on family size. Examples include: family of four poverty threshold is \$26,200 and family of 5 poverty threshold is \$30,680 (2020).
- M** Social Vulnerability is the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Scale is 0 - 100. The higher the number, the more socially vulnerable the population.

- D** Neighboring counties. Useful if reader would like to follow mapping data/patterns to neighboring counties.

- E** Map of featured county.

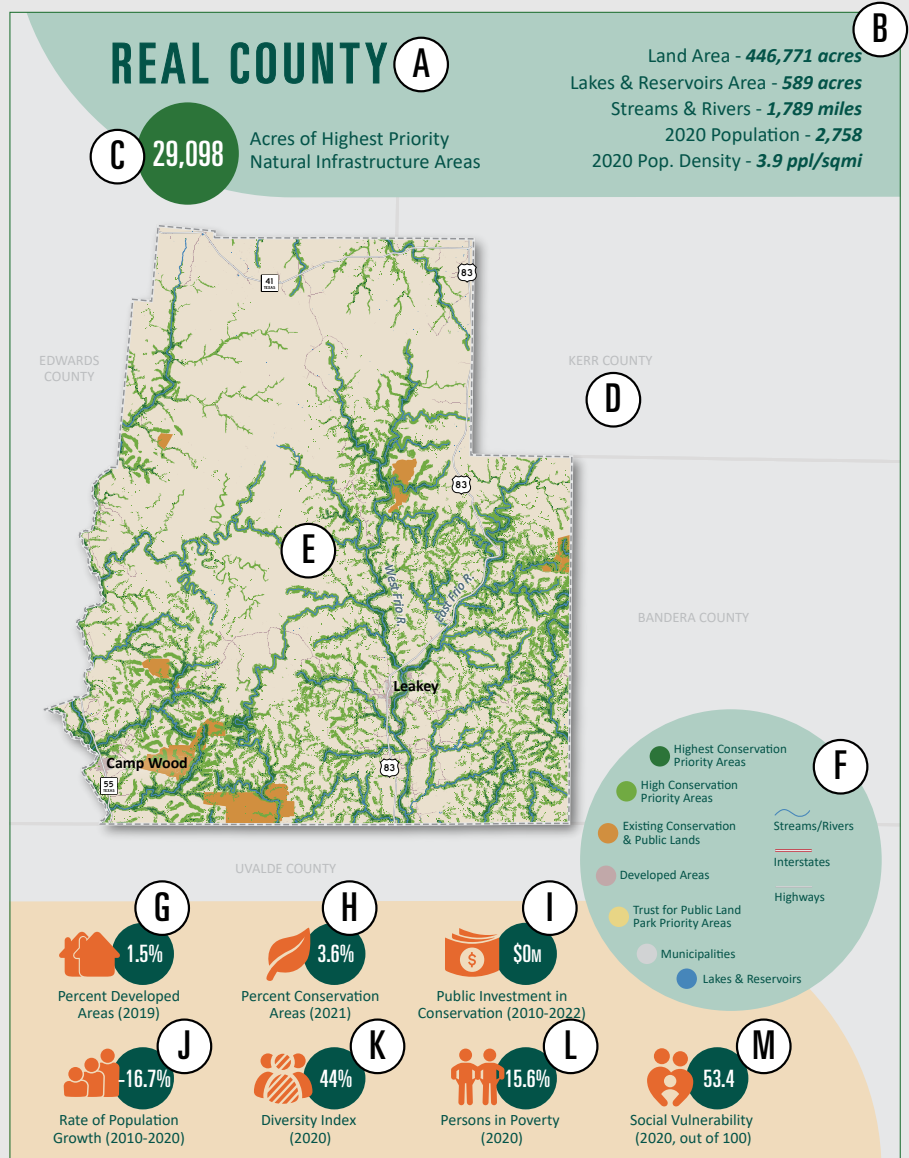
- F** Legend showing map features. Note, not all legend items will be shown on the county map.

- G** Percent developed areas include all intensities of developed lands (low, medium, high intensity).

- H** Percent conserved areas include all private and public land conservation. This does not imply all lands are open for public access.*

- I** Public investment includes all funds sourced from Trust for Public Land's LandVote database.

- J** Most recent census population rate growth from 2010-2020.



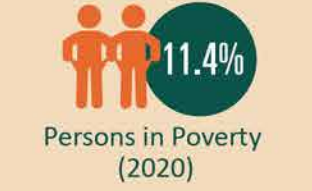
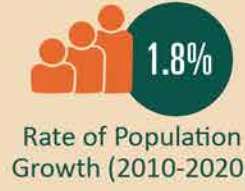
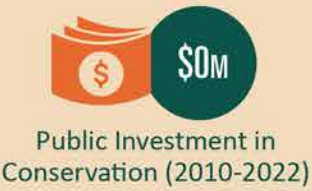
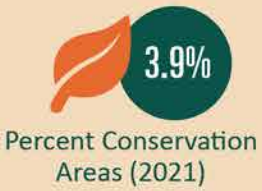
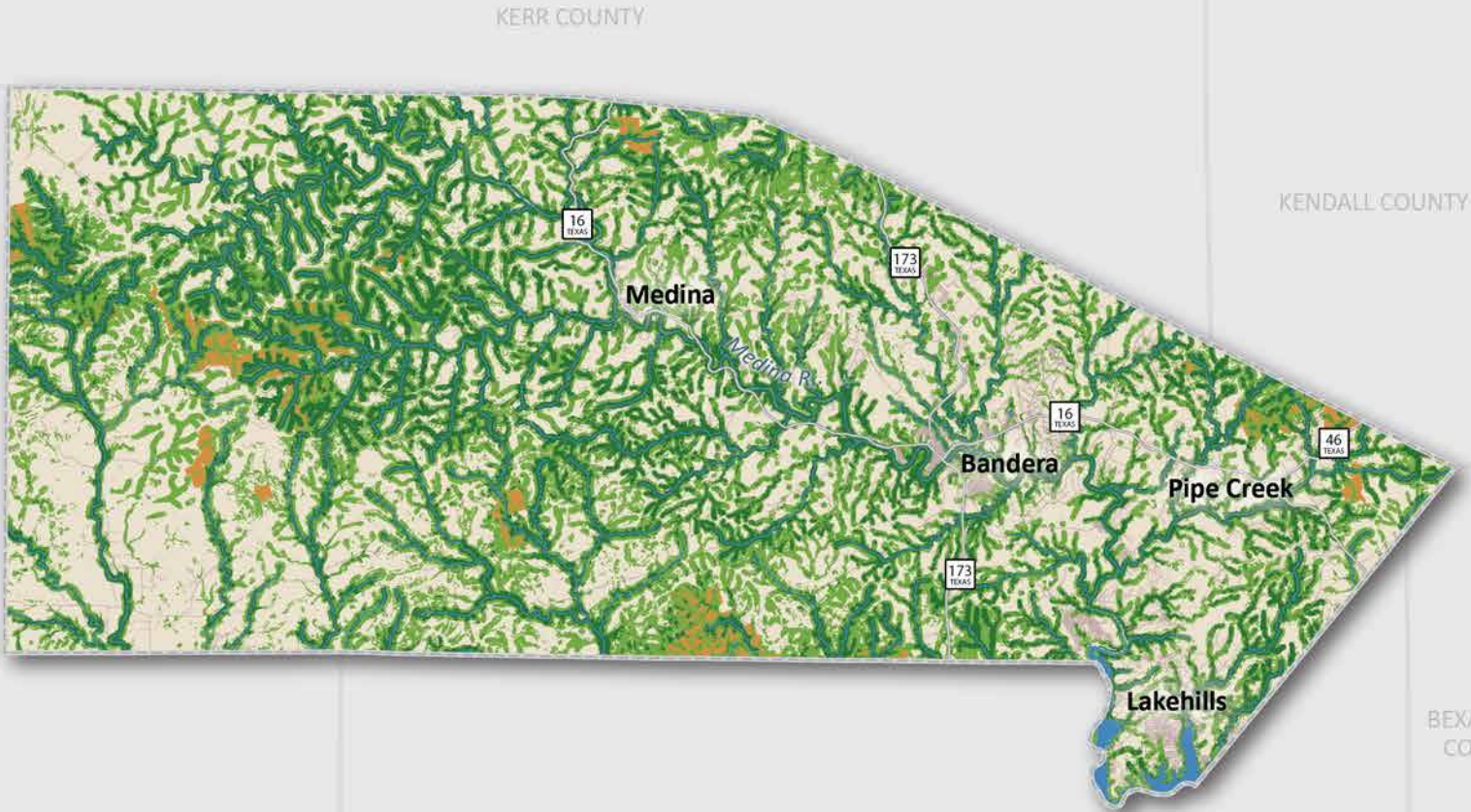
* Conserved land here includes Conservation Easements and Fee Simple ownership by land trusts along with City Parks, Municipal Parks, County Parks, County Preserves, Linear Creekways, Mitigation Banks, Municipal Preserves, National Park Land, National Wildlife Refuges, Private Preserves, Public Preserves, Public University lands, State Fish Hatcheries, State Historic Sites, State Natural Areas, State Parks, and State Wildlife Management Areas.

BANDERA COUNTY

113,445

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **501,947 acres**
 Lakes & Reservoirs Area - **4,293 acres**
 Streams & Rivers - **2,166 miles**
 2020 Population - **20,851**
 2020 Pop. Density - **26.4 ppl/sqmi**

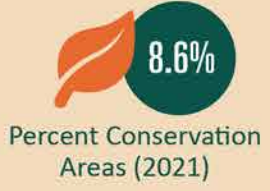


BEXAR COUNTY

27,960

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **783,685 acres**
 Lakes & Reservoirs Area - **9,915 acres**
 Streams & Rivers - **770 miles**
 2020 Population - **2,009,324**
 2020 Pop. Density - **1,620.7 ppl/sqmi**



BLANCO COUNTY

63,316

Acres of Highest Priority Natural Infrastructure Areas

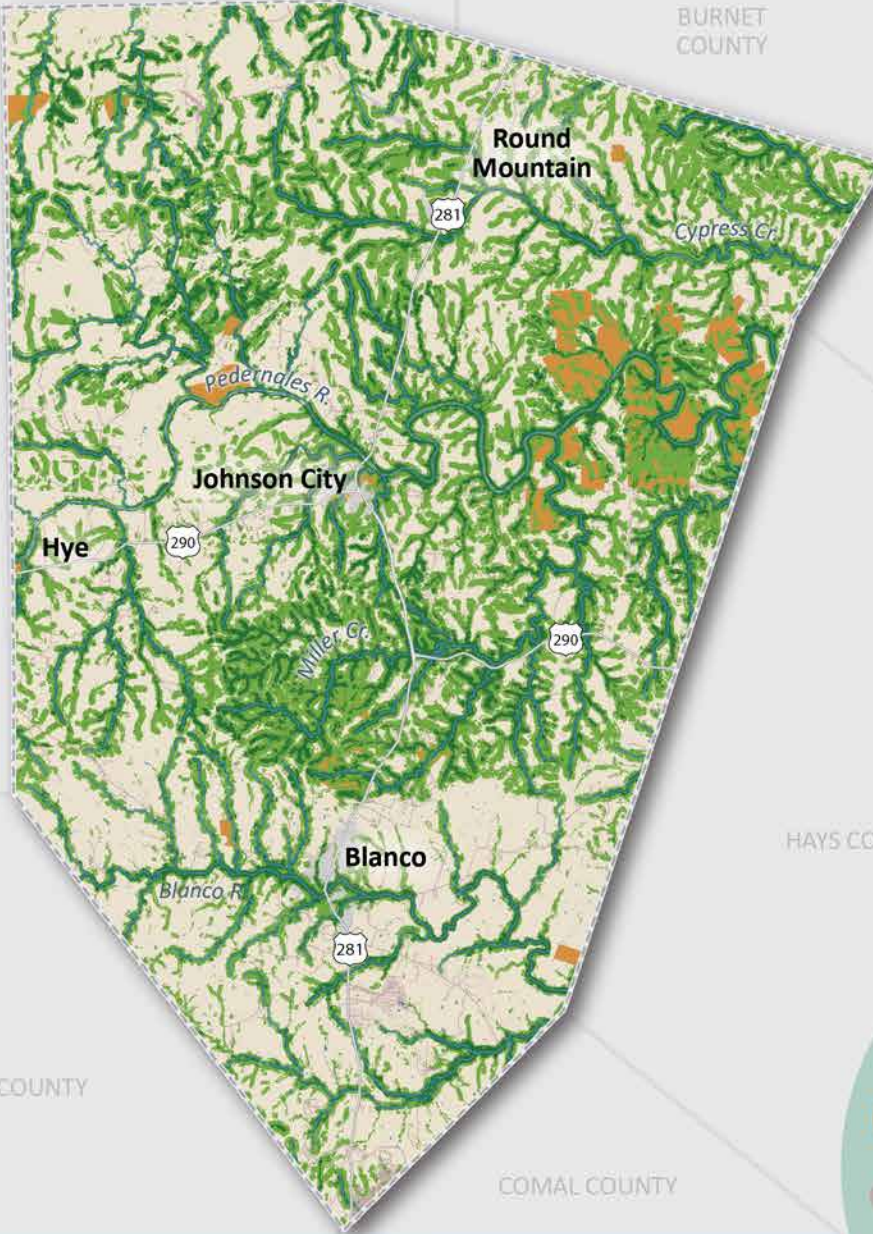
Land Area - **452,389 acres**
 Lakes & Reservoirs Area - **1,371 acres**
 Streams & Rivers - **1,844 miles**
 2020 Population - **11,374**
 2020 Pop. Density - **16.0 ppl/sqmi**

LLANO COUNTY

BURNET COUNTY

TRAVIS COUNTY

GILLESPIE COUNTY



HAYS COUNTY

KENDALL COUNTY

COMAL COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



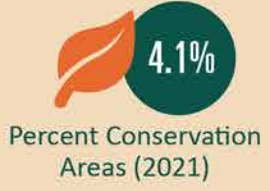
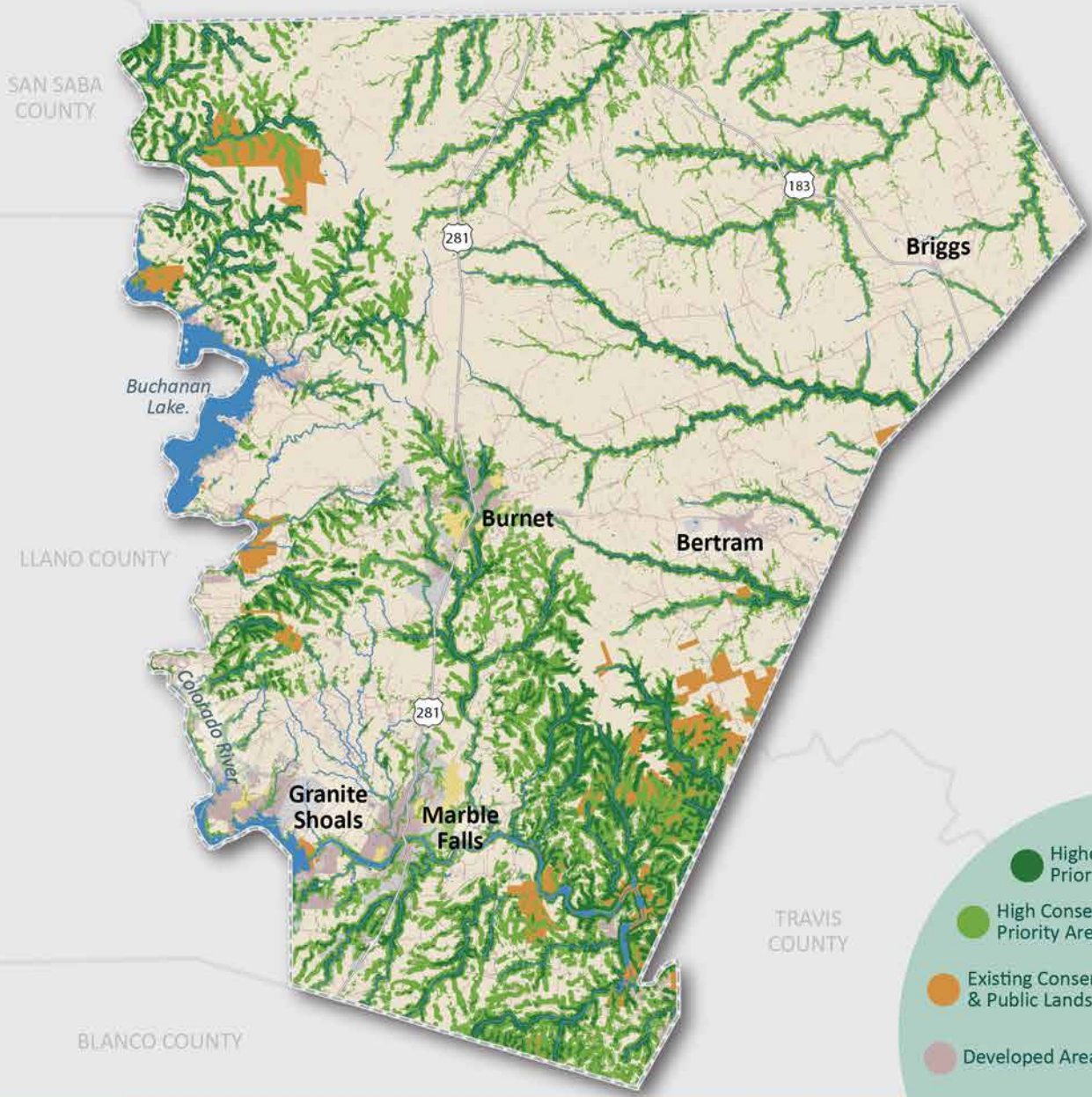
Social Vulnerability (2020, out of 100)

BURNET COUNTY

Land Area - **618,981 acres**
 Lakes & Reservoirs Area - **17,179 acres**
 Streams & Rivers - **2,756 miles**
 2020 Population - **49,130**
 2020 Pop. Density - **49.4 ppl/sqmi**

56,265

Acres of Highest Priority Natural Infrastructure Areas

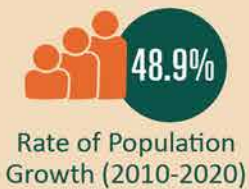
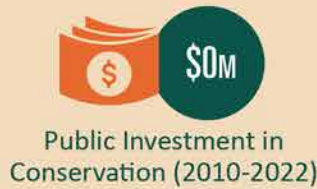
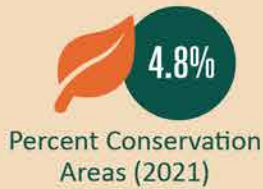
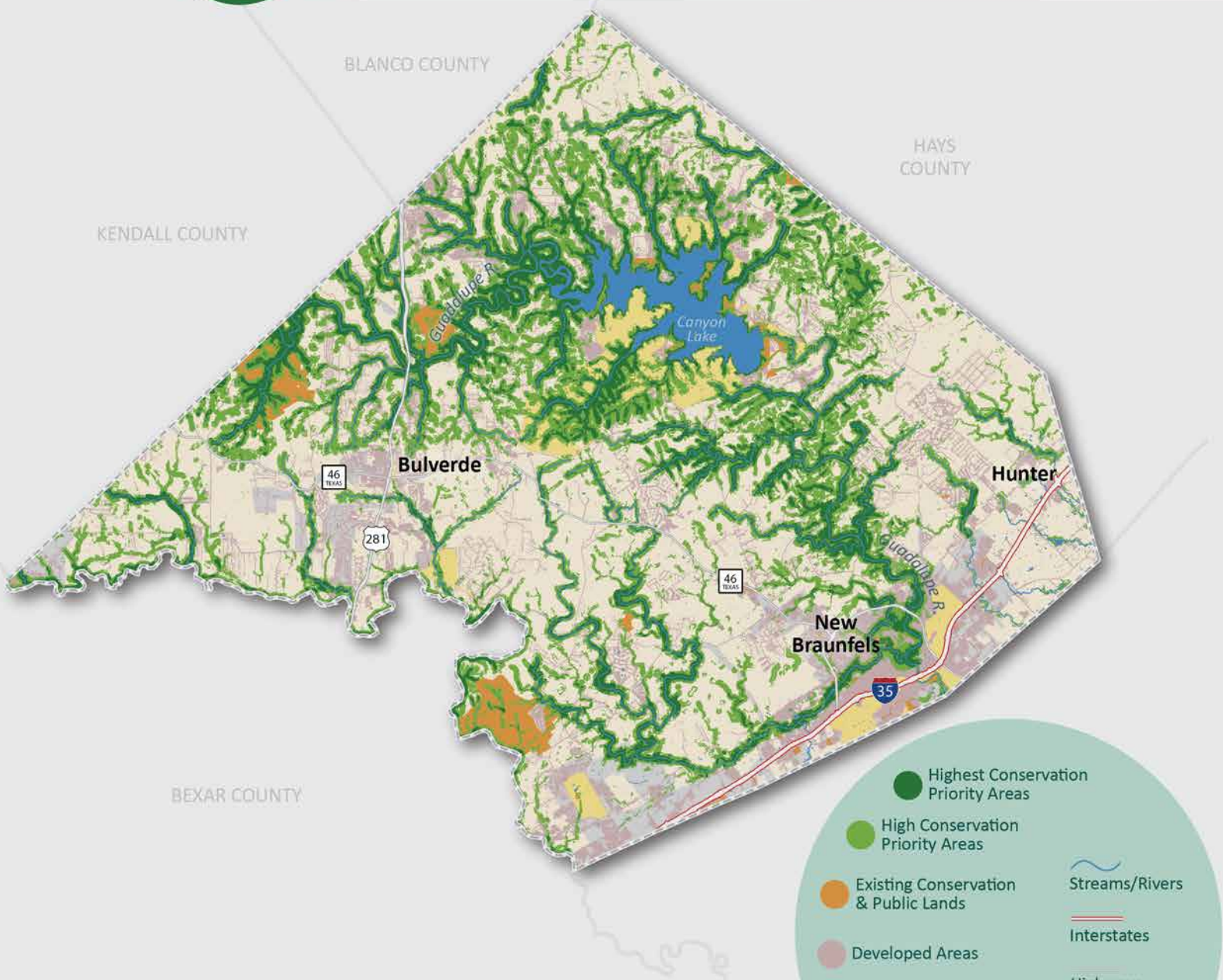


COMAL COUNTY

46,109

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **349,283 acres**
 Lakes & Reservoirs Area - **9,117 acres**
 Streams & Rivers - **1,240 miles**
 2020 Population - **161,501**
 2020 Pop. Density - **288.7 ppl/sqmi**

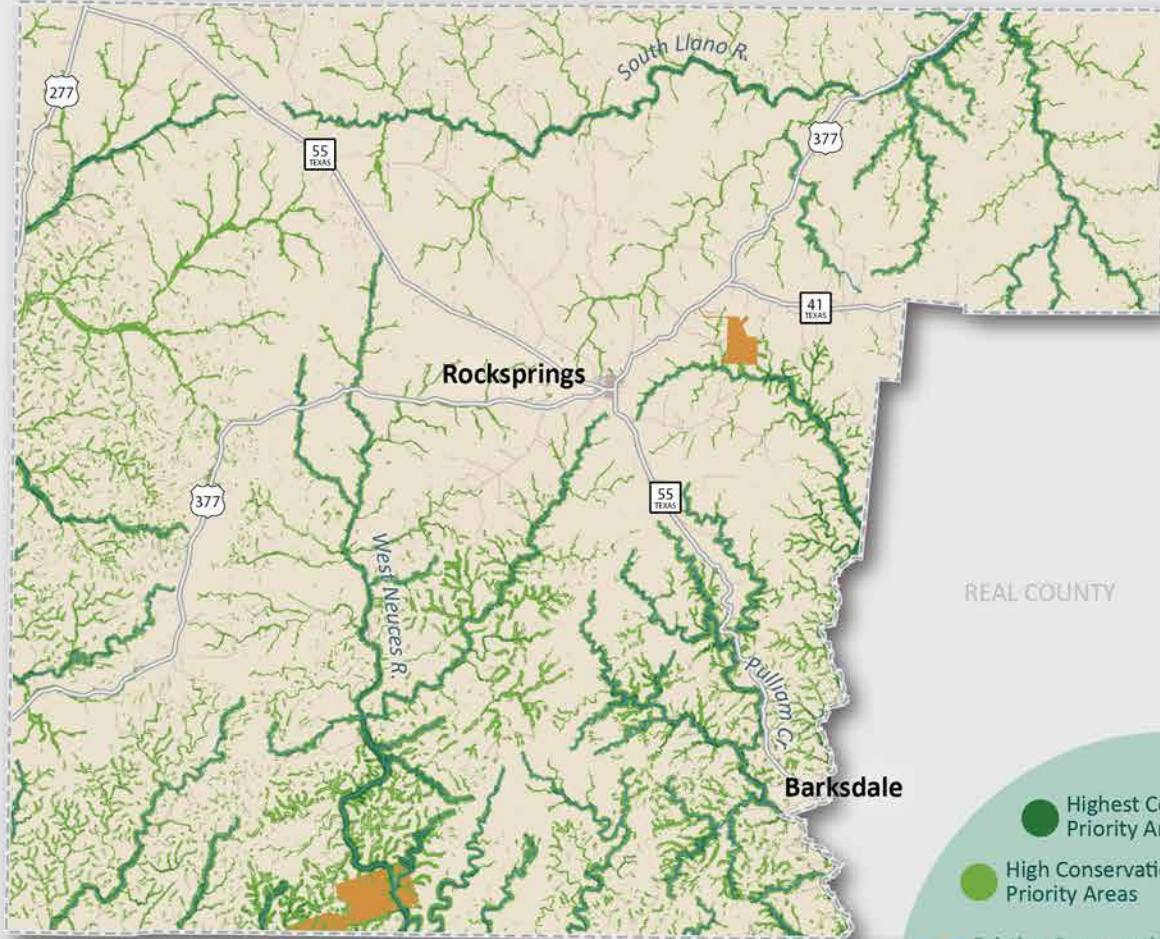


EDWARDS COUNTY

34,418

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **1,354,829 acres**
 Lakes & Reservoirs Area - **691 acres**
 Streams & Rivers - **4,959 miles**
 2020 Population - **1,422**
 2020 Pop. Density - **0.7 ppl/sqmi**



KIMBLE COUNTY

KERR COUNTY

REAL COUNTY

UVALDE COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

GILLESPIE COUNTY

85,953

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **675,290 acres**
 Lakes & Reservoirs Area - **1,830 acres**
 Streams & Rivers - **2,676 miles**
 2020 Population - **26,725**
 2020 Pop. Density - **25.3 ppl/sqmi**

MASON COUNTY

LLANO COUNTY

KIMBLE COUNTY

BLANCO COUNTY



KERR COUNTY

KENDALL COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

HAYS COUNTY

85,953

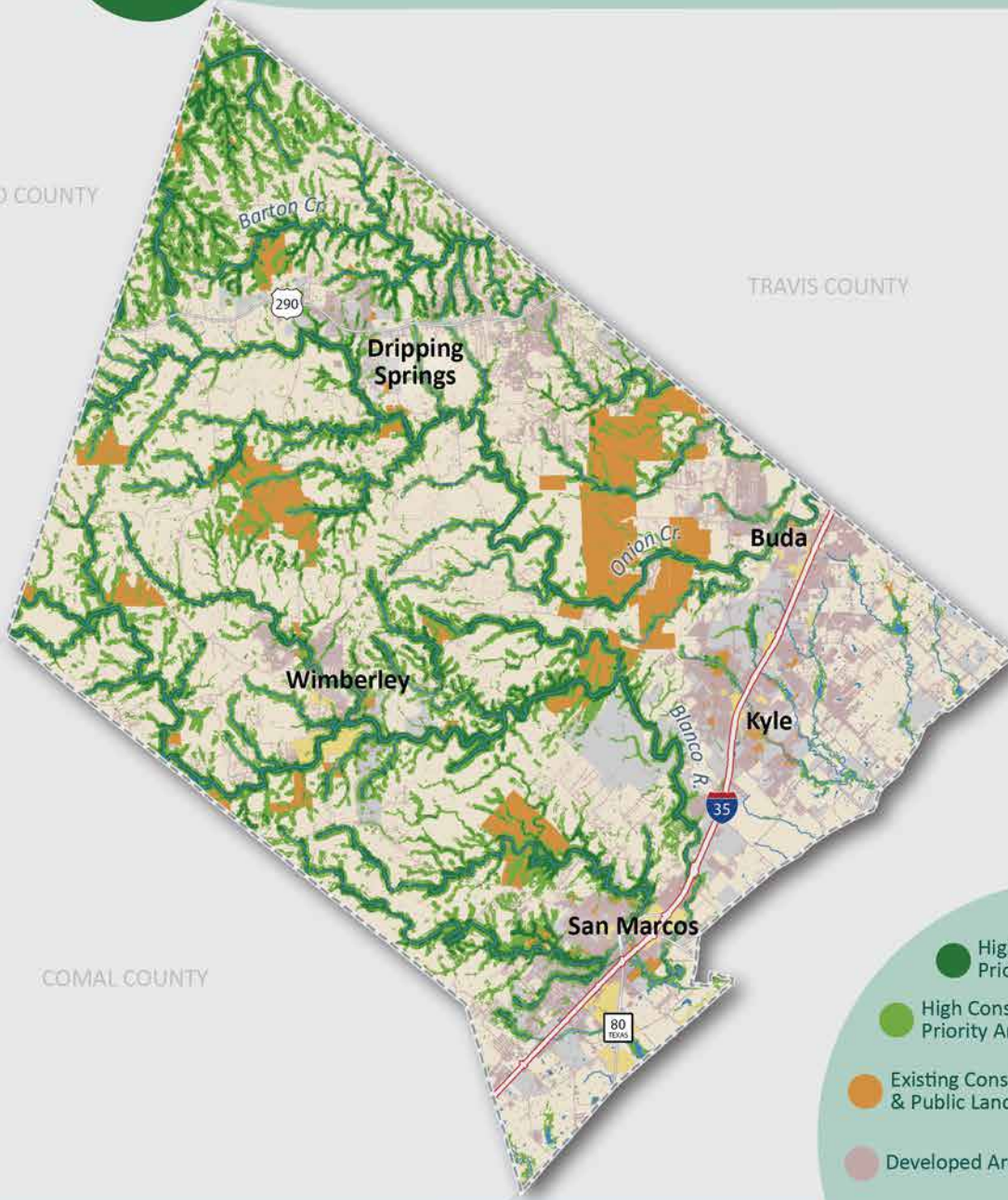
Acres of Highest Priority Natural Infrastructure Areas

Land Area - **431,383 acres**
 Lakes & Reservoirs Area - **2,537 acres**
 Streams & Rivers - **1,659 miles**
 2020 Population - **241,067**
 2020 Pop. Density - **355.6 ppl/sqmi**

BLANCO COUNTY

TRAVIS COUNTY

COMAL COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

KENDALL COUNTY

88,616

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **422,904 acres**
 Lakes & Reservoirs Area - **1,416 acres**
 Streams & Rivers - **1,679 miles**
 2020 Population - **44,279**
 2020 Pop. Density - **66.8 ppl/sqmi**

GILLESPIE COUNTY

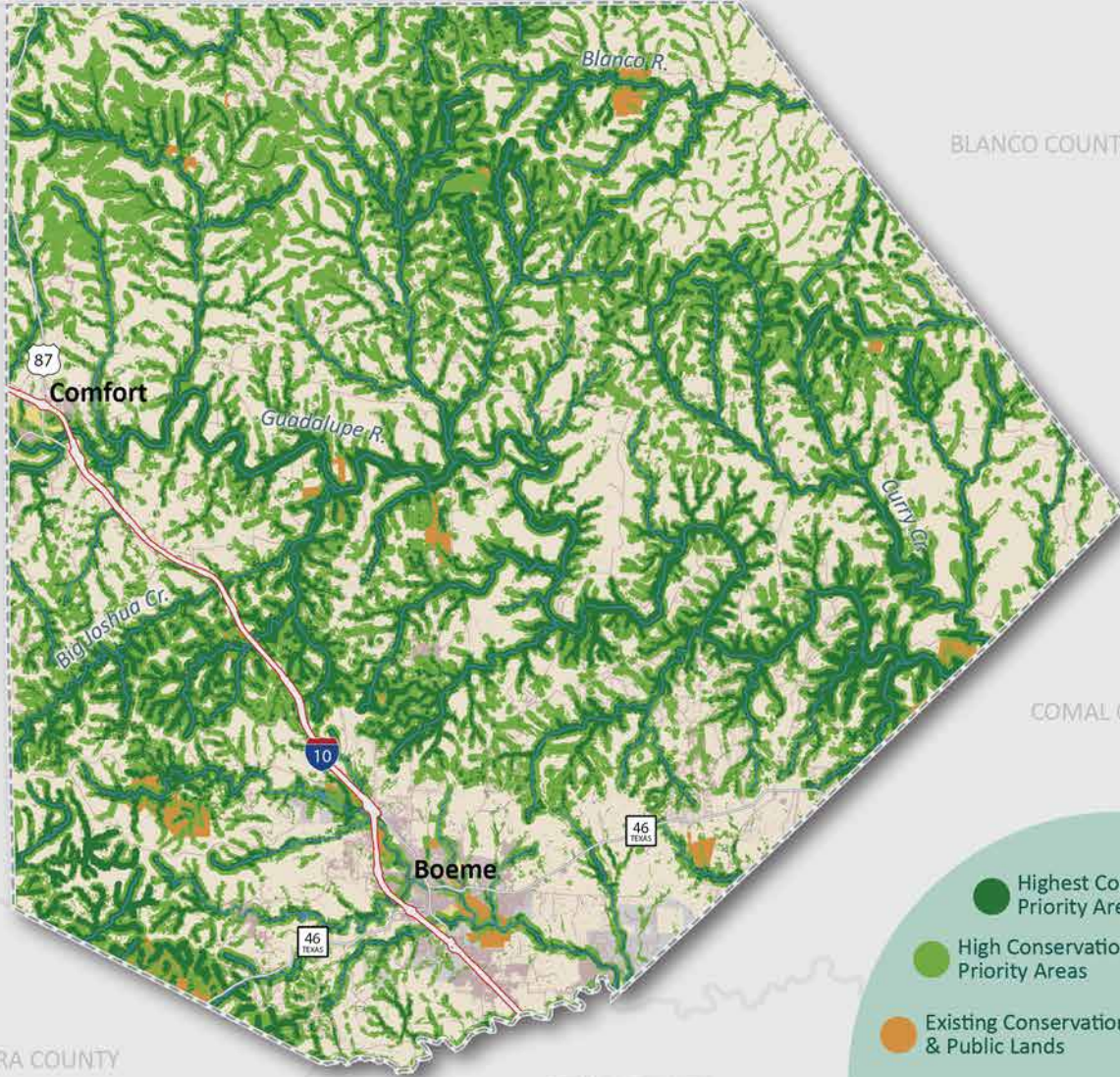
BLANCO COUNTY

KERR COUNTY

COMAL COUNTY

BANDERA COUNTY

BEXAR COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

KERR COUNTY

138,745

Acres of Highest Priority Natural Infrastructure Areas

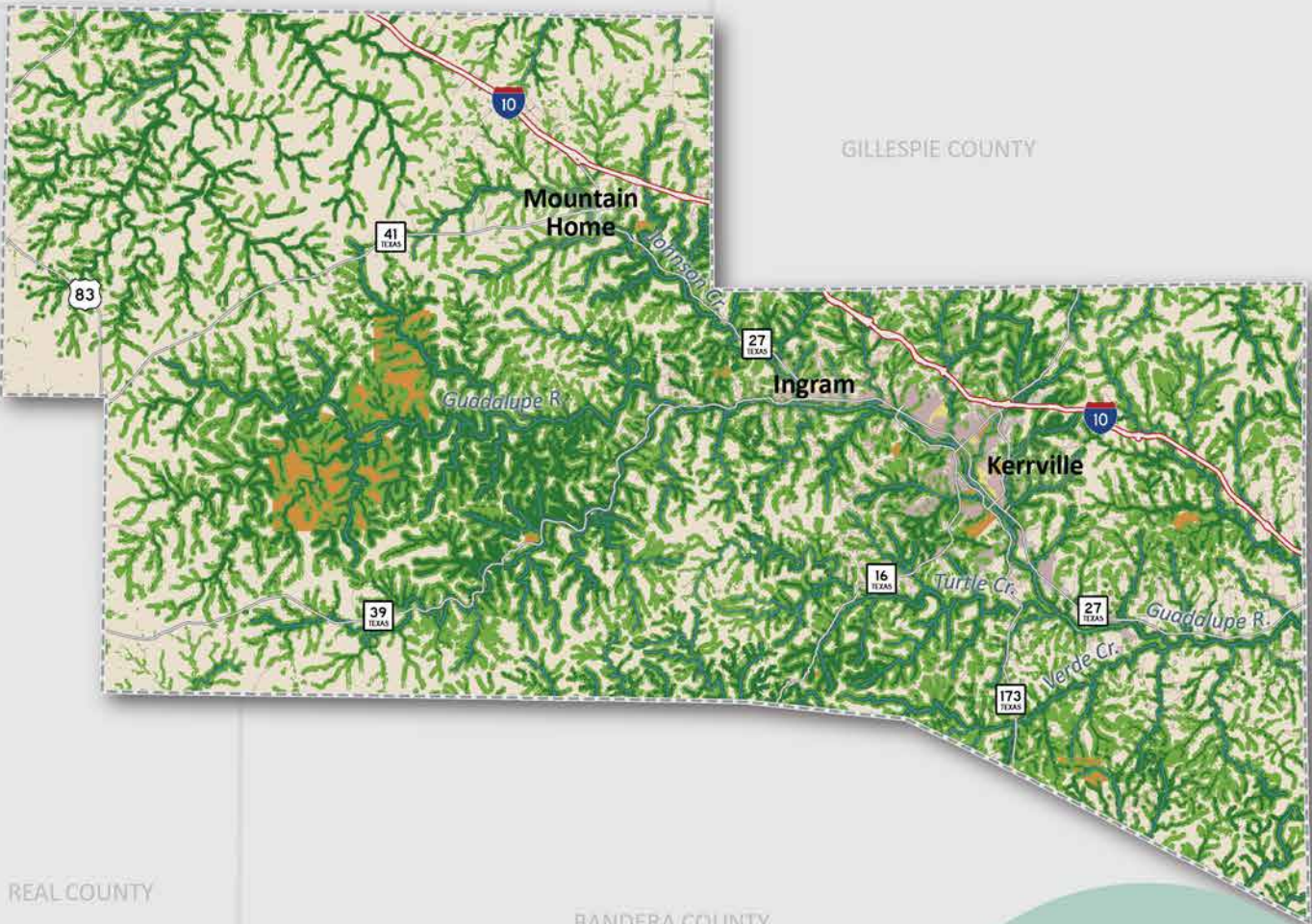
Land Area - **703,574 acres**
 Lakes & Reservoirs Area - **2,346 acres**
 Streams & Rivers - **2,515 miles**
 2020 Population - **52,598**
 2020 Pop. Density - **47.7 ppl/sqmi**

KIMBLE COUNTY

EDWARDS COUNTY

GILLESPIE COUNTY

KENDALL COUNTY



REAL COUNTY

BANDERA COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



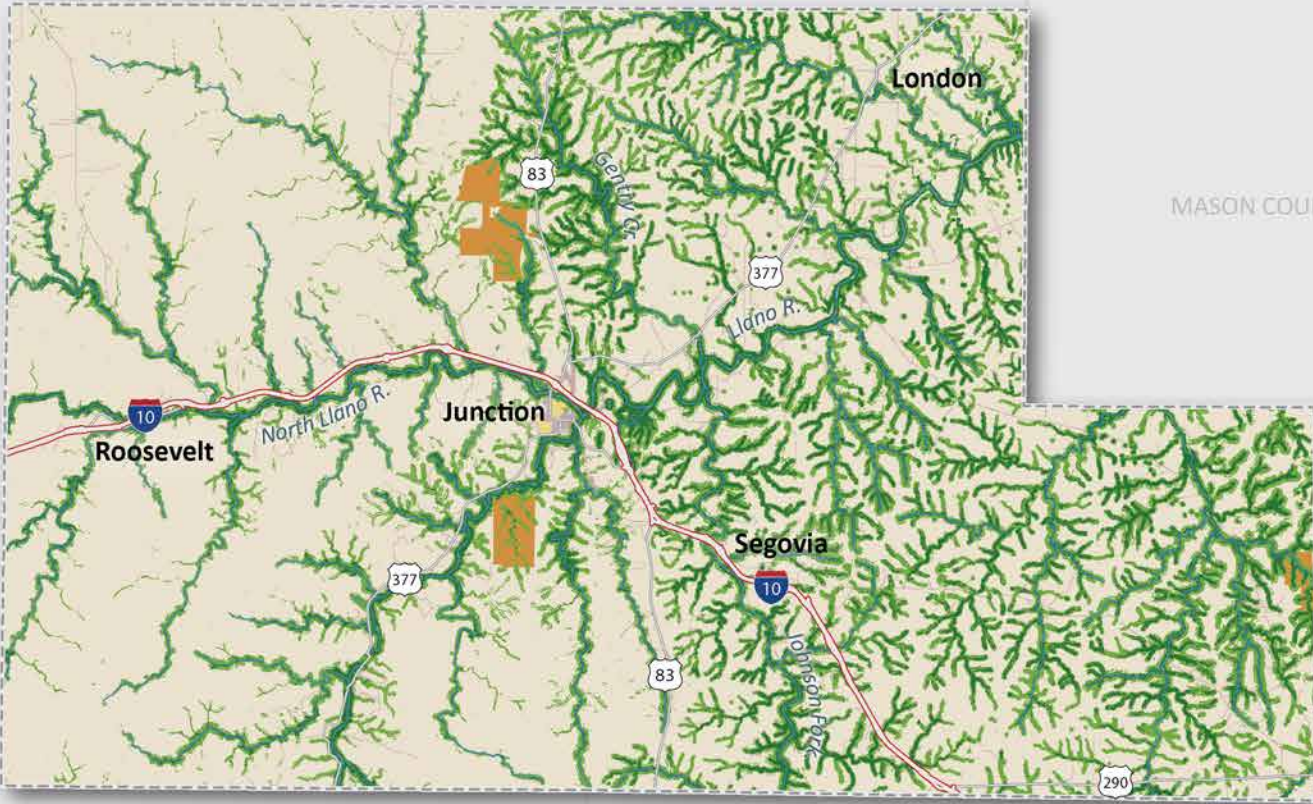
Social Vulnerability (2020, out of 100)

KIMBLE COUNTY

76,292

Acres of Highest Priority
Natural Infrastructure Areas

Land Area - **799,505 acres**
Lakes & Reservoirs Area - **1,135 acres**
Streams & Rivers - **2,700 miles**
2020 Population - **4,286**
2020 Pop. Density - **3.4 ppl/sqmi**



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

LLANO COUNTY

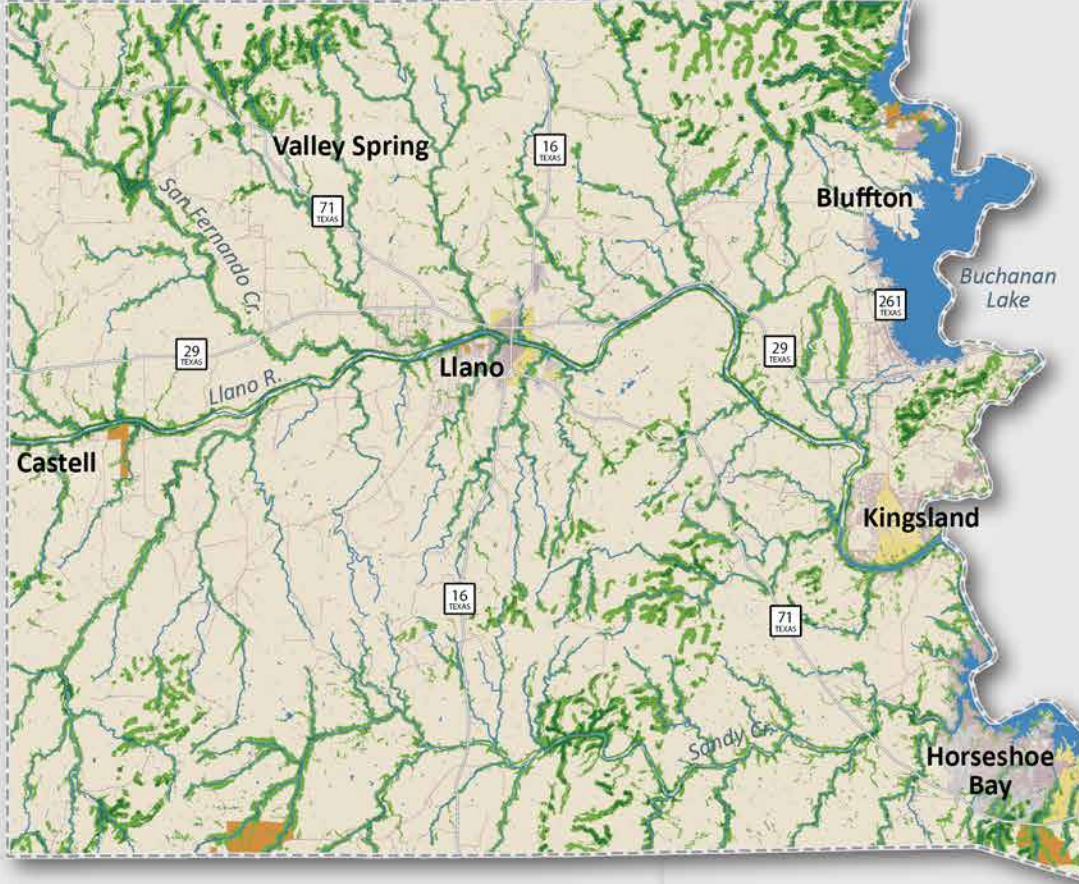
18,489

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **578,689 acres**
 Lakes & Reservoirs Area - **19,071 acres**
 Streams & Rivers - **2,663 miles**
 2020 Population - **21,243**
 2020 Pop. Density - **22.7 ppl/sqmi**

SAN SABA COUNTY

MASON COUNTY



BURNET COUNTY

BLANCO COUNTY

GILLESPIE COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



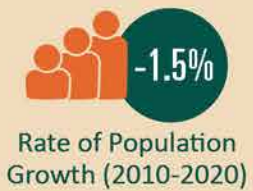
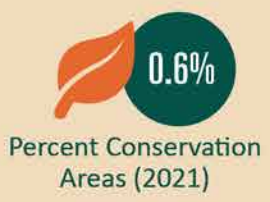
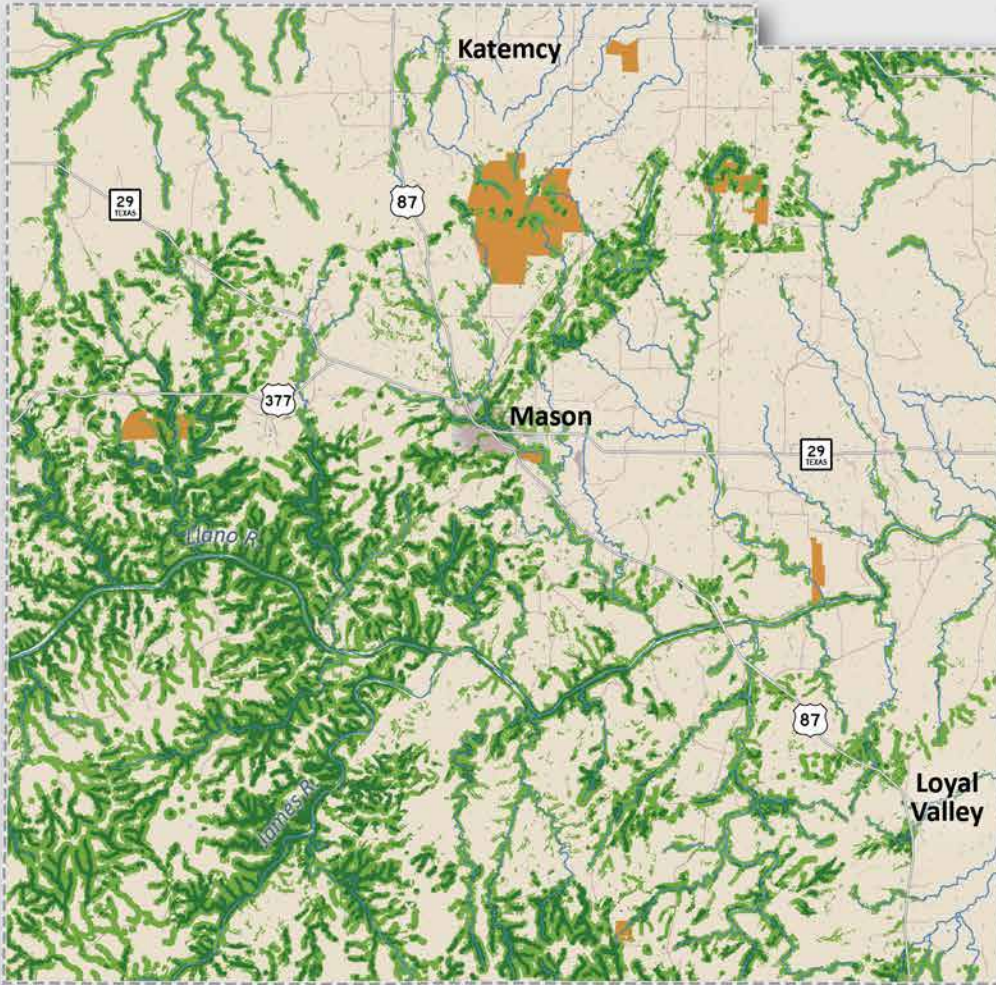
Social Vulnerability (2020, out of 100)

MASON COUNTY

52,258

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **593,463 acres**
 Lakes & Reservoirs Area - **1,097 acres**
 Streams & Rivers - **2,554 miles**
 2020 Population - **3,953**
 2020 Pop. Density - **4.3 ppl/sqmi**

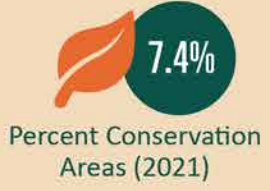
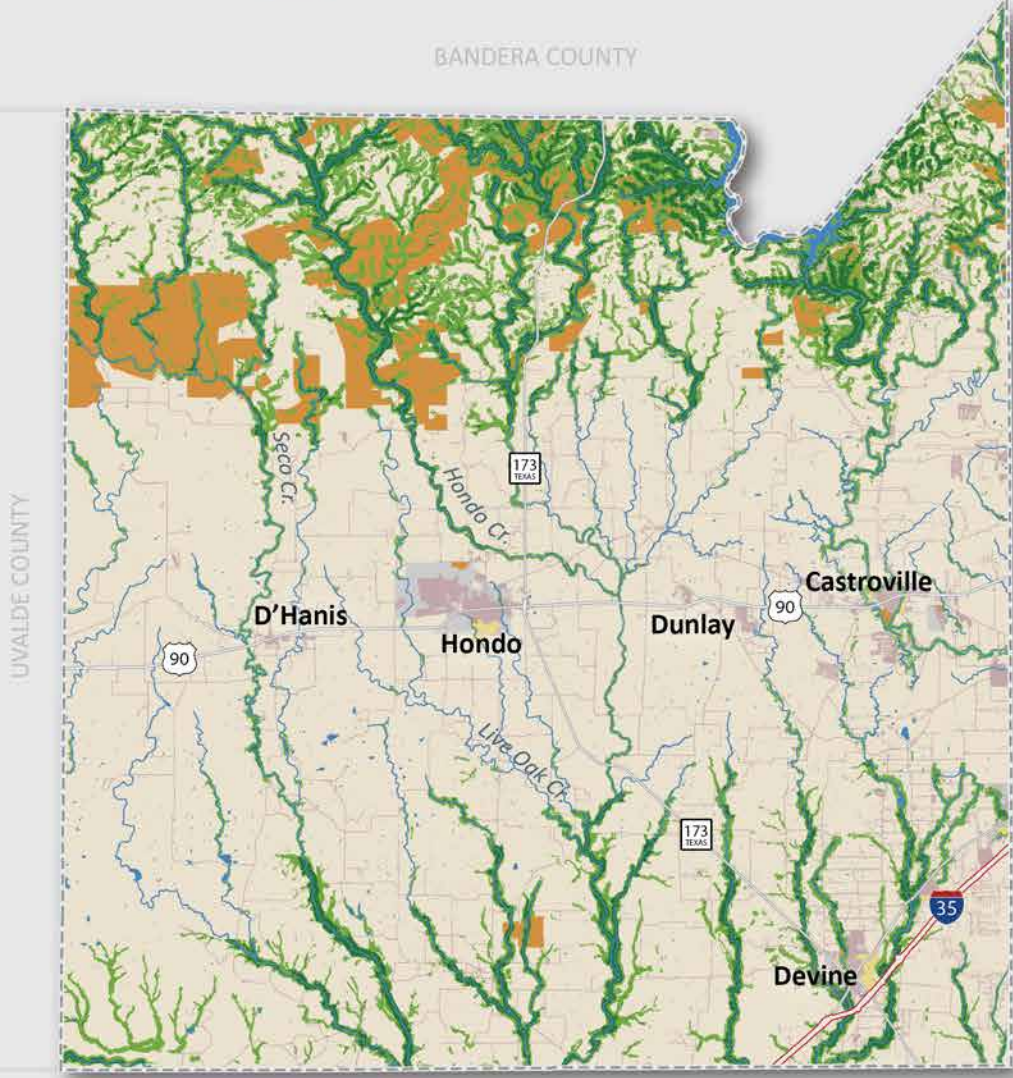


MEDINA COUNTY

52,298

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **842,025 acres**
 Lakes & Reservoirs Area - **5,975 acres**
 Streams & Rivers - **2,831 miles**
 2020 Population - **50,748**
 2020 Pop. Density - **38.3 ppl/sqmi**

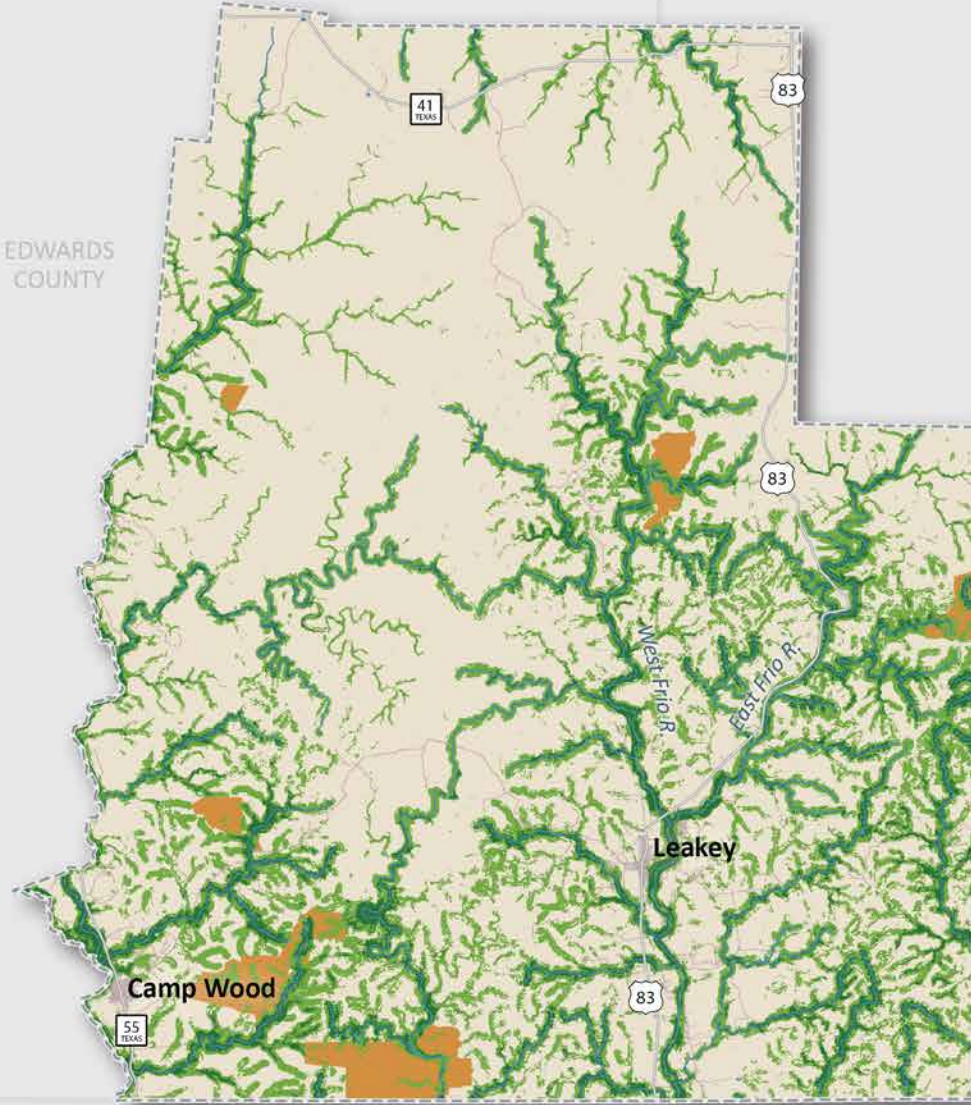


REAL COUNTY

29,098

Acres of Highest Priority Natural Infrastructure Areas

Land Area - **446,771 acres**
 Lakes & Reservoirs Area - **589 acres**
 Streams & Rivers - **1,789 miles**
 2020 Population - **2,758**
 2020 Pop. Density - **3.9 ppl/sqmi**



BANDERA COUNTY

UVALDE COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



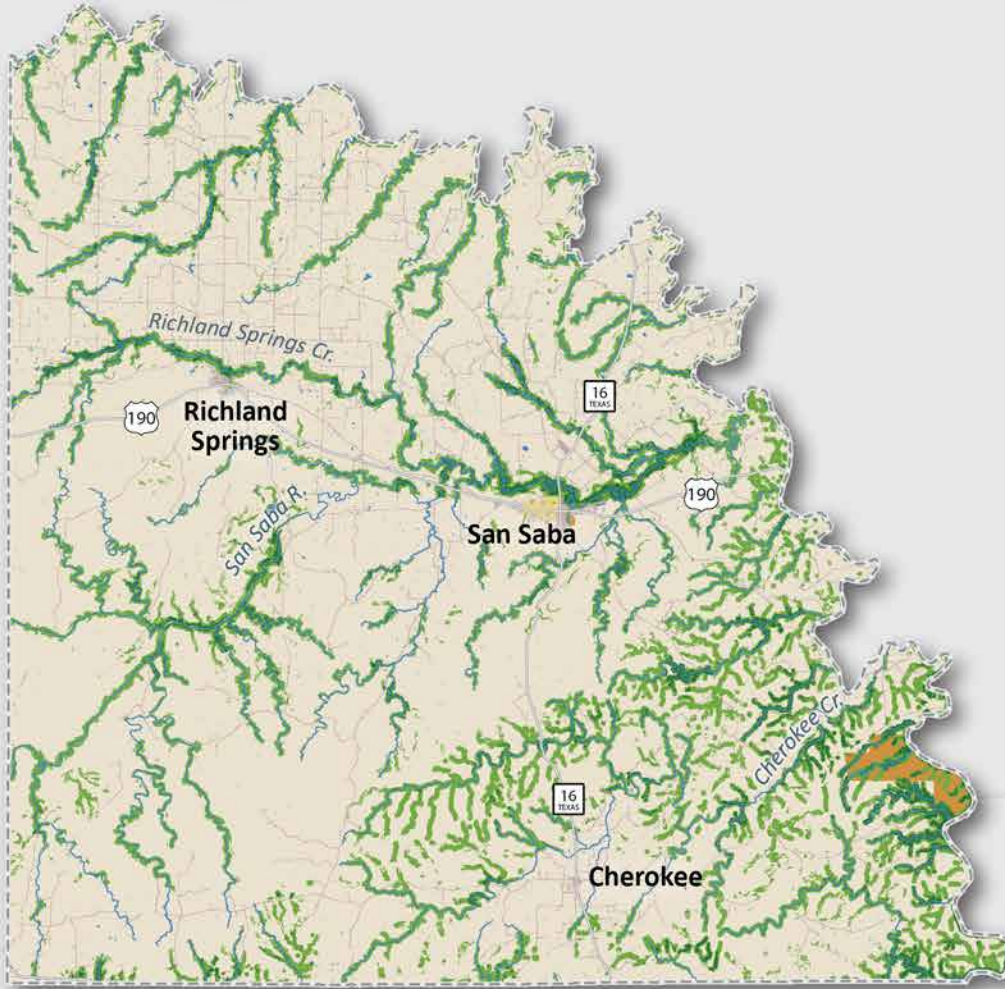
Social Vulnerability (2020, out of 100)

SAN SABA COUNTY

20,980

Acres of Highest Priority Natural Infrastructure Areas

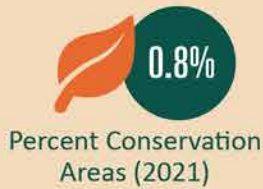
Land Area - **723,218 acres**
 Lakes & Reservoirs Area - **3,182 acres**
 Streams & Rivers - **2,523 miles**
 2020 Population - **5,730**
 2020 Pop. Density - **5.0 ppl/sqmi**



MASON COUNTY

LLANO COUNTY

BURNET COUNTY



TRAVIS COUNTY

Land Area - **609,998 acres**
 Lakes & Reservoirs Area - **23,602 acres**
 Streams & Rivers - **2,533 miles**
 2020 Population - **1,290,188**
 2020 Pop. Density - **1,303.0 ppl/sqmi**

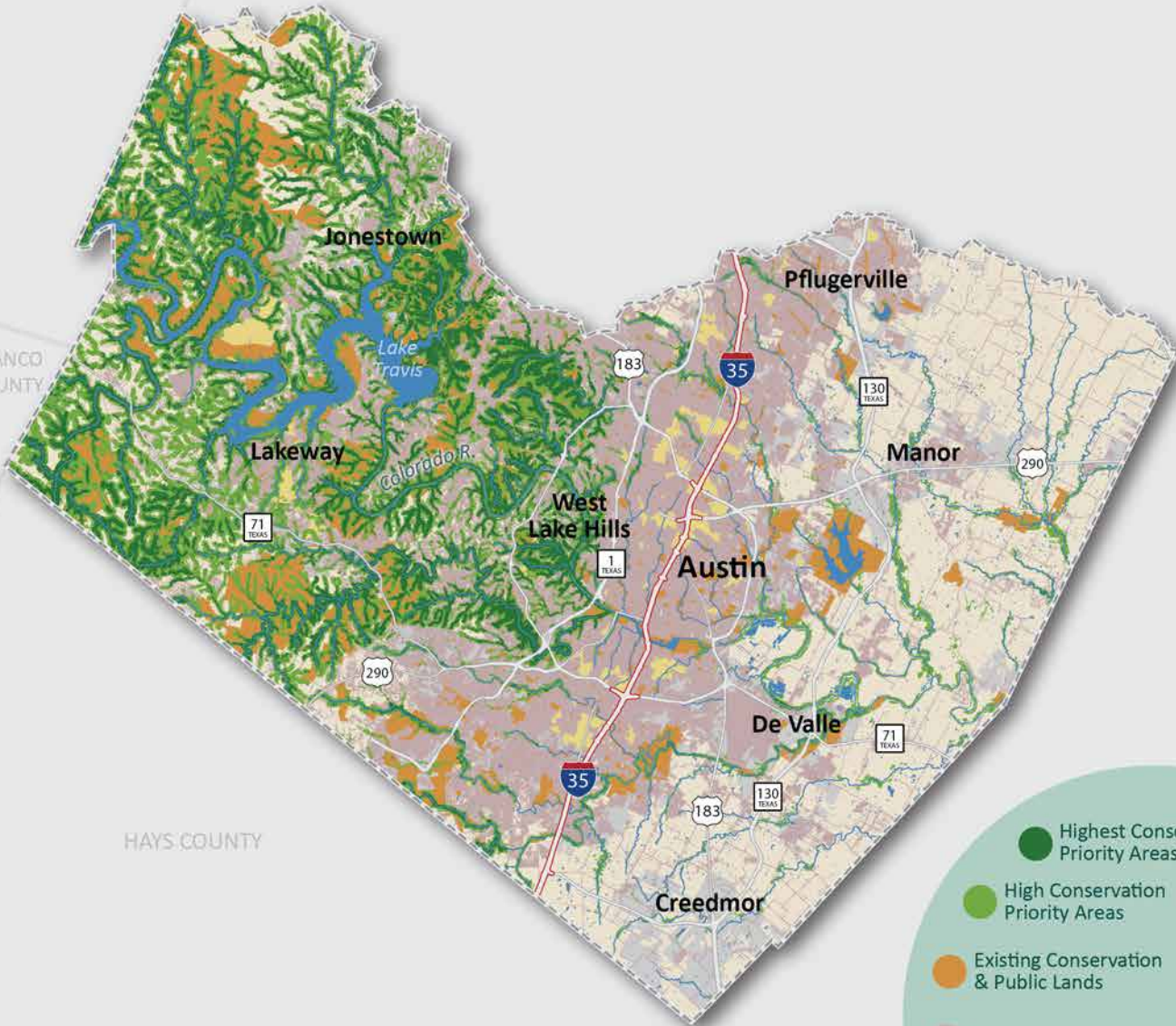
70,664

Acres of Highest Priority
 Natural Infrastructure Areas

BURNET COUNTY

BLANCO COUNTY

HAYS COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)

UVALDE COUNTY

24,564

Acres of Highest Priority Natural Infrastructure Areas

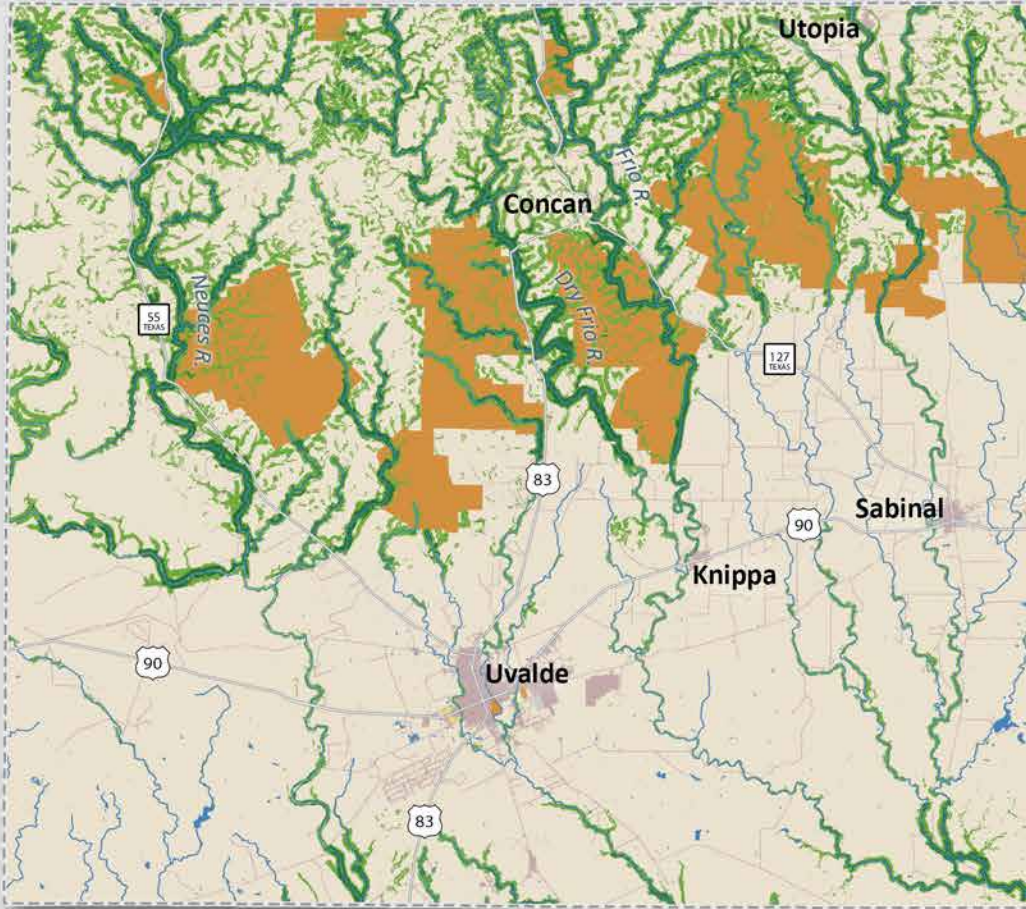
Land Area - **990,600 acres**
 Lakes & Reservoirs Area - **2,660 acres**
 Streams & Rivers - **3,141 miles**
 2020 Population - **24,564**
 2020 Pop. Density - **15.8 ppl/sqmi**

EDWARDS COUNTY

REAL COUNTY

BANDERA COUNTY

MEDINA COUNTY



Percent Developed Areas (2019)



Percent Conservation Areas (2021)



Public Investment in Conservation (2010-2022)



Rate of Population Growth (2010-2020)



Diversity Index (2020)



Persons in Poverty (2020)



Social Vulnerability (2020, out of 100)



texas hill country
conservation network

OurTXHillCountry.org

info@hillcountryalliance.org