

A Look at the Texas Hill Country

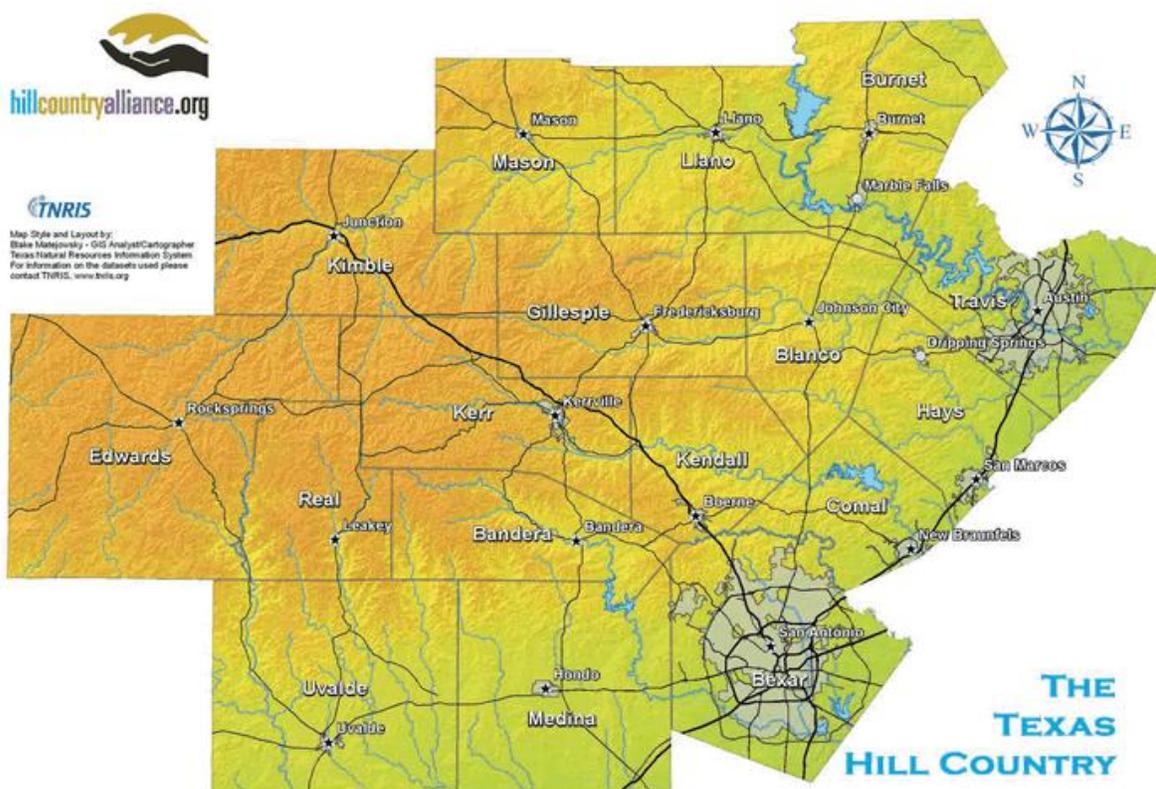
Following the path we are on today through 2030



This unique and special region will grow, but what will the Hill Country look like in 2030?

Growth of the Hill Country

The Hill Country Alliance (HCA) is a nonprofit organization whose purpose is to raise public awareness and build community support around the need to preserve the natural resources and heritage of the Central Texas Hill Country. HCA was formed in response to the escalating challenges brought to the Texas Hill Country by rapid development occurring in a sensitive eco-system. Concerned citizens began meeting in September of 2004 to share ideas about strengthening community activism and educating the public about regional planning, conservation development and a more responsible approach growth in the Hill Country.



This report was prepared for the Texas Hill Country Alliance by Pegasus Planning

Table of Contents

Executive Summary

Introduction

The Hill Country Today

The Hill Country in 2030

Strategic Considerations

Reference

Land Development and Provision of Utilities in Texas (a primer)

Organizational Resources

Materials Reviewed During Project

End Notes

Methodology

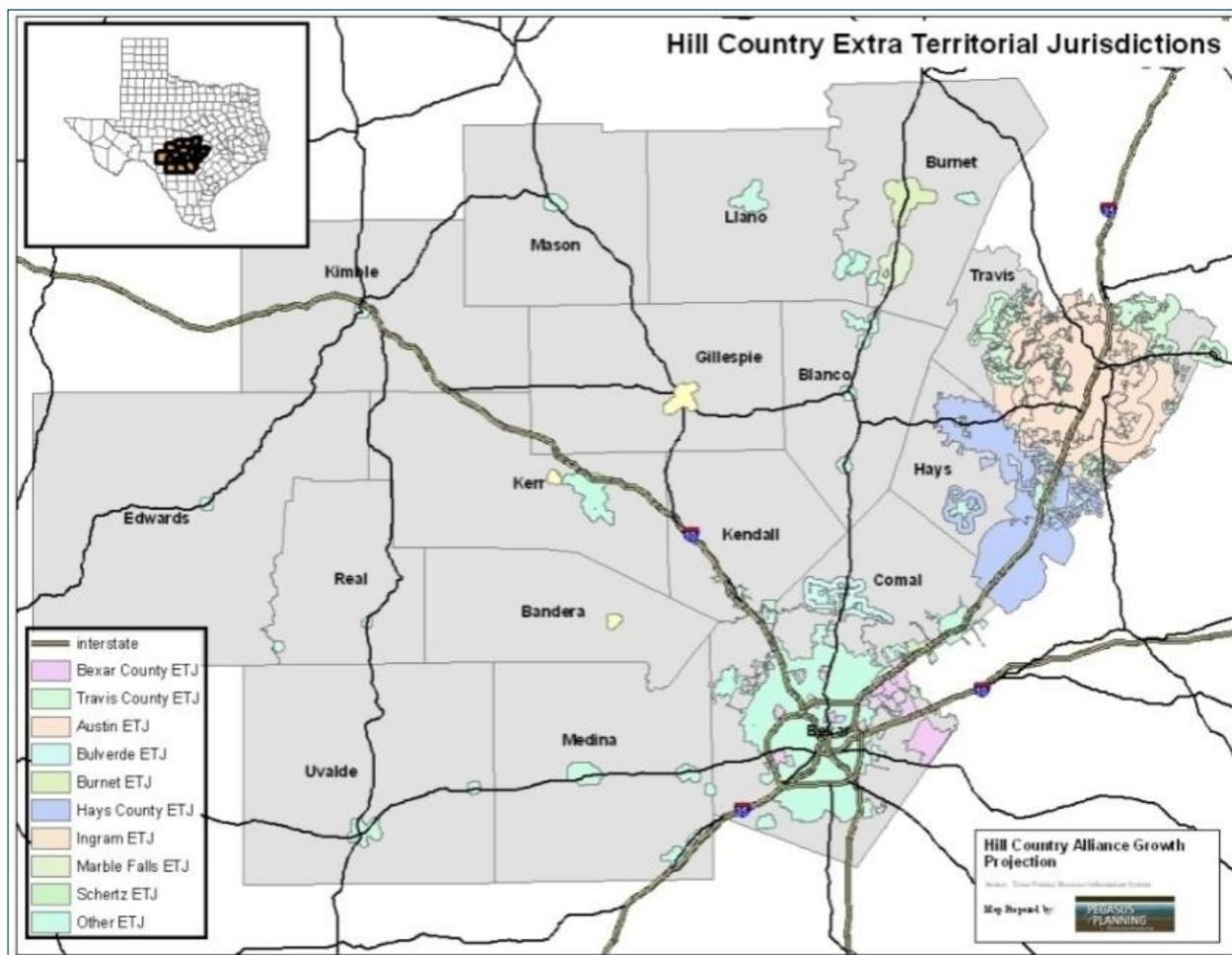
The HCA wishes to thank members of its board and review team for assistance with this project, and the authors and contributors to the many documents and studies that were reviewed.

September 2008

The Setting

The population of the 17-County Hill Country region grew from approximately 800,000 in 1950 (after the last drought on record) to 2.6 million in 2000. What was once a region of two larger cities, with small towns to support the many farmers and ranchers living off the land, has given rise to unmanaged growth and a very different landscape than it was in 1950. The potential impacts of unmanaged growth will be detrimental to the culture, the natural resources and the economy of the Hill Country.

The region's current population of 3.1 million in the Hill Country is now projected to climb to at least 4.3 million by 2030. The growth is being fueled by two main factors – 1) the changing demographics in the United States sending baby boomers flocking to the Hill Country to live out their final years, and 2) spillover growth from Austin and San Antonio -- two of the fastest growing economies in the U.S. Compounding these growth factors is the lack of county land use authority in the unincorporated areas of the Hill Country -- which is 90% of the entire region (everything in grey in the following map).



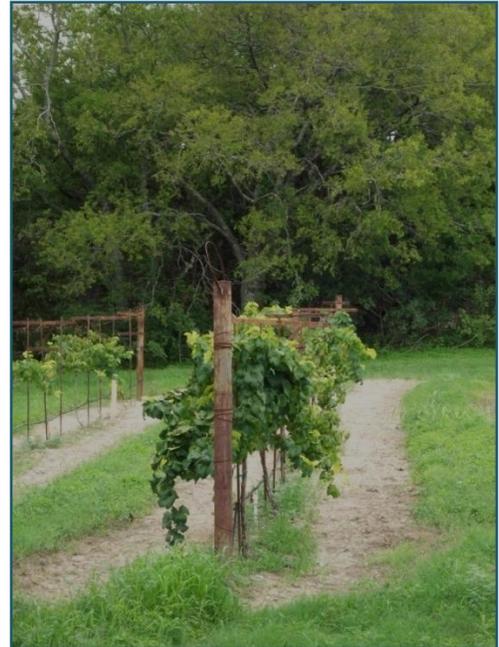
The Hill Country's unique physical characteristics -- rolling and rugged hills, natural springs and rivers, and lush landscape -- are primary reasons for developing subdivisions in the region (additionally, it is easier from a regulatory perspective to develop in the county versus the city).

Growth of the Hill Country

Any realtor will tell you that views sell houses. However, the views are being replaced with more rooftops on the ridgelines and roadways to get to those homes. Without a proactive growth plan the region will kill the goose who laid the golden egg.

The Hill Country is also unique for its culture; a fusion of Spanish, German, Czech, and Indian influences found in food, beer, architecture, and music that forms a distinctively "Texan" culture different than the state's other regions.

In 2008, *The New York Times* declared the region as the number one vacation spot in the nation. Traditional Main Street experiences, historic and cultural treasures such as the Alamo, recreation, music and other Hill Country tourism assets continue to fuel the strong tourism sector. Hill Country tourism is a \$5 billion per year industry, including \$20 million per year from the vineyards alone. The Hill Country has emerged as the center of the Texas wine industry, with three distinct viticulture regions located in the region. Nationally, Texas ranks number one in total hunters and anglers (2.6 million), money spent (\$6.6 billion), jobs supported (106,000) and tax revenue generated (\$1.3 billion). Hunting and fishing are major contributors to the Hill Country's overall tourism economy. However, the primary industry of two thirds of the Hill Country counties is farming and ranching.



The impacts of unmanaged growth will be seen and felt on the culture of the Hill Country. How will the growth impact the tourism industry? Hunting and fishing are just two examples of industries that could be negatively impacted by staying on the current path of growth.

Until the last decade the region has experienced modest population growth. However, like other fast growing regions in the U.S., the assets that drew people here, and the overall character and beauty of the Hill Country, are now threatened by the growth itself.

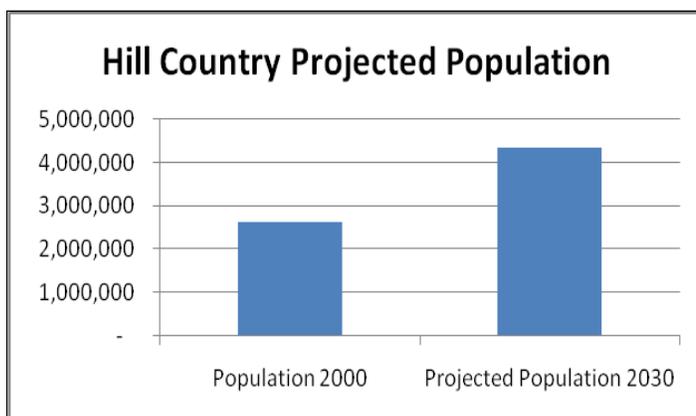
Introduction

The purpose of this report is to educate stakeholders in Texas and the Hill Country on what this 17-county, Central Texas region will look like in 2030 (given the assumption that the population will grow at the projected rate of growth, and no new authority is granted for managing the growth).

Key Findings

Several main themes arose from this project:

- ❖ Population in the region will grow from 2.2 million people in 2000 to 4.3 million by 2030.
- ❖ Ground and surface water will not be sufficient to support the projected growth. Every one of the four regional water planning studies that includes parts of the



Hill Country region anticipates a deficiency of water supply.

- ❖ Nearly 90% of land most at risk in the Hill Country is in unincorporated areas, where county authority to manage growth is substantially limited compared to incorporated Texas cities.
- ❖ Amount of land in mid-size farms and ranches declined in the last decade, giving way to subdivisions and water rights speculation.
- ❖ Every regional planning process done in the Hill Country points to an interest among stakeholders for regional solutions to many of the growth management issues that are and will affect the region, such as water/wastewater regional planning, transportation planning, and land use planning.

HCA firmly believes that if more individuals are aware of the growth and its impacts, that collectively the region will strive to determine a more proactive way to accommodate the anticipated growth while preserving certain aspects of the Hill Country that are essential to our livelihood and quality of life.

The Hill Country Today

Two percent of Hill Country homes had electricity in 1930, but by 1960 only 2% did not have it. The arrival of utilities made the Hill Country more accessible and welcomed the growing population to what was and still is a treasured region.

The region’s growth is most noticeable in the countryside near Austin and San Antonio city limits. Farm and ranchland in many of these suburban counties has been converted at a rapid rate into residential development, and houses are being built across the ridgelines of the hills that make this region unique.



Population

Population in the Hill Country grew from 2.6 million people in 2000 to 3.1 million in 2007 -- representing an 18% increase in the region’s overall population growth over this time period. The table to the right illustrates which counties experienced the most significant growth during this seven year period. Clearly, Hays and Comal counties -- located in between the two large metro areas -- had the most significant change, with both counties growing more than 34%.

The Hill Country is also home to a growing population of retirees. On average, rural Texas counties have a larger percentage of retirees than urban counties (Texas Comptroller 2001). In the Hill Country, Burnet, Blanco, Bandera, Gillespie, Kendall, Kerr, Llano and Real Counties are considered “Retirement Haven” counties because their population older than 60 years increased by more than 15 percent between 1980 and 1990. Retirees often look to reduced traffic, air pollution and crime; more parkland, recreational facilities and open space; and a lower cost of living when choosing to move to rural counties.¹ Texas is second only to the state of Florida as a premier retirement destination, and the Hill Country is the premier retirement destination in Texas.

County	Population 2000	Population 2007	% Change
Bandera	17,645	20,197	14%
Bexar	1,392,931	1,594,493	14%
Blanco	8,418	9,067	8%
Burnet	34,147	43,689	28%
Comal	78,021	105,187	35%
Edwards	2,162	1,938	-10%
Gillespie	20,814	23,507	13%
Hays	97,589	141,480	45%
Kendall	23,743	31,342	32%
Kerr	43,653	47,860	10%
Kimble	4,468	4,461	0%
Llano	17,044	18,394	8%
Mason	3,738	3,890	4%
Medina	38,304	43,826	14%
Real	3,047	2,965	-3%
Travis	812,280	974,365	20%
Uvalde	25,926	26,581	3%
Region	2,623,930	3,093,242	18%

Natural Resources

One of the unique attributes of the Hill Country is its geography. The majority of counties in the 17-county region lie over the Edwards Plateau -- a limestone outcrop that is the southernmost extension of Texas' Great Plains. The Plateau is marked by a line of southward and eastward-facing hills which descend steadily through the Hill Country. Starting at elevations over 2,400 feet in parts of Edwards, Kerr and Menard Counties, the Edwards Plateau drops down to 800 feet or less at its eastern borders, which end abruptly at a geologic fault known as the Balcones Escarpment. Combined with the many rivers and aquifers in the region, this unique Texas topography is yet another draw to tourists and residents.ⁱⁱ



A live oak-juniper-cedar elm savannah is common in upland areas. The diverse bottomlands have bald cypress, sycamore, little walnut and Texas Oak as dominant canopy species. Grasslands have in many cases been managed well in this traditional Texas ranch setting, and it is not uncommon to see upland pastures with little bluestem and of course Texas wildflowers.ⁱⁱⁱ These natural features contribute to the overall water quality of the springs and rivers in the Hill Country.

Because of the limestone landscape with caves, fissures, and underground streams, the region also features a number of aquifers which serve as a source of drinking water for many residents. Several tributaries of the Colorado River of Texas (including the Llano and Pedernales rivers which cross the region west to east and join the Colorado as it cuts across the region to the southeast) drain a large portion of the water in the Hill Country. The Guadalupe, San Antonio, Frio, Medina, and Nueces rivers also originate in the Hill Country. Creeks in the region are fed, in part, by spring flow that recharges through the porous limestone formations. The springs in the region are a tremendous natural and cultural asset. Water quantity and quality, loss of native pasture, and loss of native species habitat are seen as the most critical areas of concern among stakeholders in the region.

Economy

Farming and ranching families, whose property has been under family ownership and management for a century or more, have left a wonderful legacy in the Hill Country. Agriculture and ranching are major economic engines in the Hill Country. Nearly two-thirds of the counties in the region rely on agriculture as their primary economic base. Vineyards are a burgeoning agricultural industry in the Hill Country, with many national wine experts suggesting that the Hill Country could become the next Napa Valley, in terms of the quantity and quality of the wines and the economic impacts of tourism potential.

Growth of the Hill Country

The American Society of Farm Managers and Rural Appraisers found in its 2007 study of rural land values that the “primary investment motive for large tracts in Region 6, which includes counties outside of Bexar county, is for residential subdivision.^{iv} The study notes that water rights speculation is another primary motivation for land investment in Bexar, Medina, and Uvalde counties. Recreational values of land (especially in counties with rivers and hills) were also seen as a primary factor among buyers of large tracts of land.

Tourism also plays an important role in the Hill Country economy with local, national and international tourists visiting the region for conventions in Austin and San Antonio, historical trips to the Alamo, hunting in the “Deer Capital of the World”, or tubing down one of the cool rivers.

Culture

While the impacts of growth on the culture of the Hill Country are noticeable, the more dramatic impacts will be seen on culture over the next 20 years. The views that new residents and tourists come to the Hill Country for will be degraded by the same patterns of development that promote new subdivisions and roadways on ridgelines. Historic ranches are being lost as owners pass on ranches to their heirs who may not be interested in maintaining a ranch.

Some counties have adopted rules that are within their limited tools granted by the State. Hays and Comal have adopted rules reducing night lights; other counties try to promote clustered subdivisions; others are adopting park and open space plans.

The region has made significant progress in building upon its existing parklands such as Pedernales Falls State Park, LBJ State Park, and others. Cities, counties, the state and regional organizations have added to the inventory by passing bonds, obtaining grants, and securing dedicated active and passive recreation areas. Additionally, a strong movement to preserve open spaces through conservation easements, transfer and purchase of development rights, and quality developments has made a significant impact.

With increased population, come increased demands for services such as fire, police, parkland, and open space. The cost for providing services to residential development has been found to be much more costly than servicing commercial development or agricultural/ranching. Counties and cities will experience more of a burden on their budget to service the projected growth.

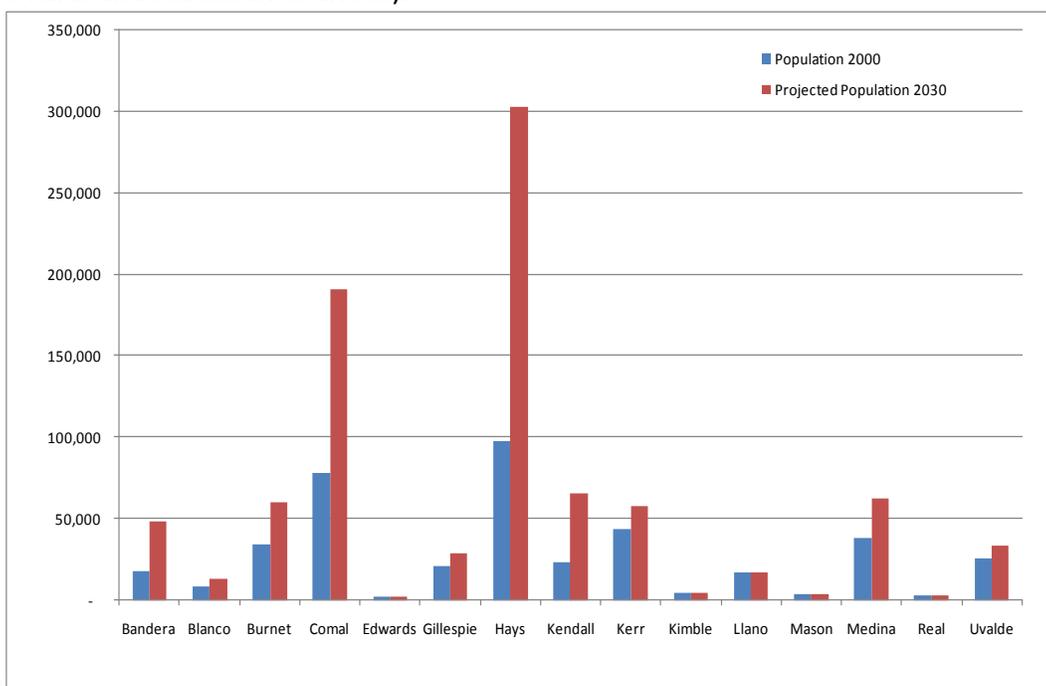
The Hill Country in 2030

The question many in the Hill Country want to know is “What is the growth going to look like and how will it affect my life?” To start with, there will be a lot more neighbors. Putting a picture on anticipated growth of a double in population is difficult to portray. Keep in mind, this study was done assuming no changes in policies that could impact the pattern of growth.

The population that the region will absorb over the next 22 years will be dispersed throughout the region, with more of the growth occurring in the unincorporated areas than has been the case in the past. The majority of the growth will continue to occur close to the two major metro areas, along major roadways, and in suburban counties. Yet, every county -- even Real and Edwards who are both (wrongly) projected to lose population -- will grow beyond what the Texas Water Development Board projects. Cities and counties throughout the region have already surpassed the 2007 population projections.

The table to the right and accompanying graph on this page illustrate that while urban and suburban counties will continue to grow rapidly, it will be counties such as Bandera and Kendall that will experience the most significant change in population and growth impacts. (The graph does not include Travis & Bexar counties as their large numbers downplay the growth in the more rural and suburban counties).

County	Population 2000	Projected Population 2030	% Change
Bandera	17,645	48,577	175%
Bexar	1,392,931	2,059,112	48%
Blanco	8,418	13,487	60%
Burnet	34,147	60,382	77%
Comal	78,021	190,873	145%
Edwards	2,162	2,364	9%
Gillespie	20,814	28,845	39%
Hays	97,589	302,795	210%
Kendall	23,743	65,752	177%
Kerr	43,653	57,565	32%
Kimble	4,468	4,702	5%
Llano	17,044	17,360	2%
Mason	3,738	3,876	4%
Medina	38,304	62,416	63%
Real	3,047	3,042	0%
Travis	812,280	1,385,236	71%
Uvalde	25,926	33,802	30%
Region	2,623,930	4,340,186	65%



Projected Development Patterns

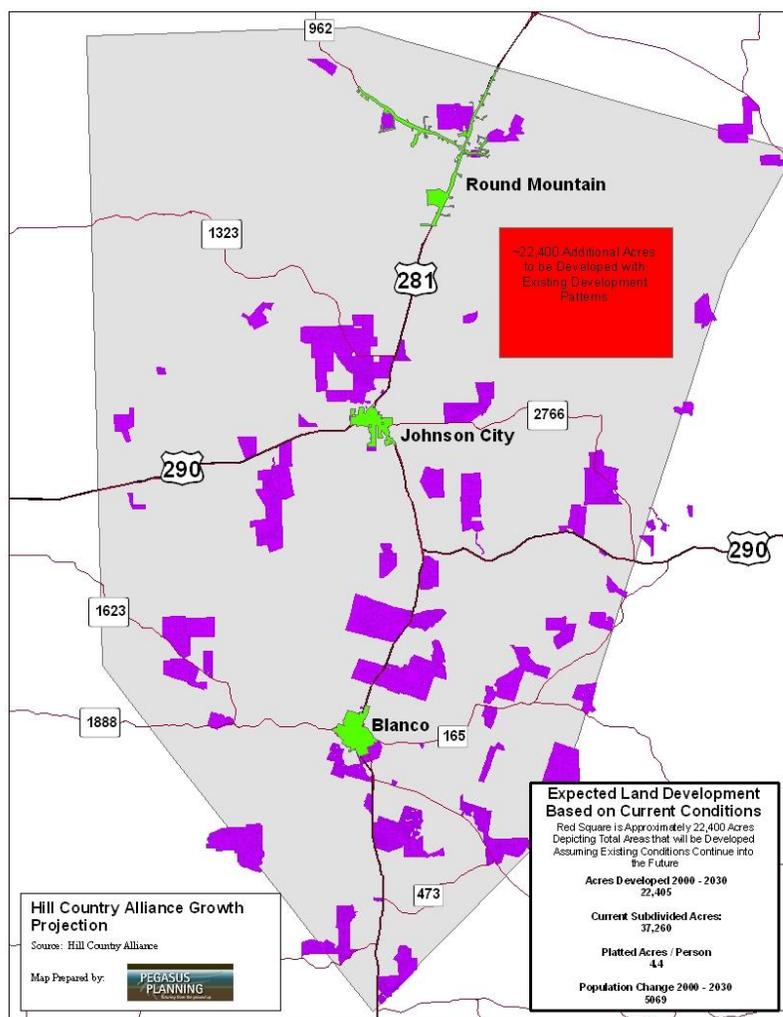
An analysis of potential sprawl in the region reveals that as the Hill Country grows distinct sub regions will emerge (based on projected population density and prior levels of development) – creating new suburban centers in the Hill Country that serve as regional hubs for retail, healthcare.

Projected land consumption (acreage devoted to residential land development), based on historical and projected population growth, and average amount of acreage per capita (4.4 acres per person on average) reveals that nearly 7,500,000 acres of the entire 11,378,000 acres in the Hill Country will be developed to support growth in the Hill Country through 2030. Yet, many in the region believe these numbers -- as daunting as they may be -- could be higher.

Take, for example, Blanco County, who under the projected land consumption model is expected to have nearly 22,400 additional acres developed to accommodate the projected population growth.

The map to the right illustrates all the existing subdivisions in Blanco County (areas in pink). Only 3,500 acres of the 37,000 acres of subdivisions is within city limits in Blanco County, leaving 33,500 acres in unincorporated areas. The red square on the map represents the size of the 22,400 acres that is projected for development.

A new 6,000 acre subdivision is already planned in Blanco County which would account for 28% of the projected developments in this county. Facts like this make it safe to assume that the amount of acres to be developed to support the projected 2030 population will be much more.



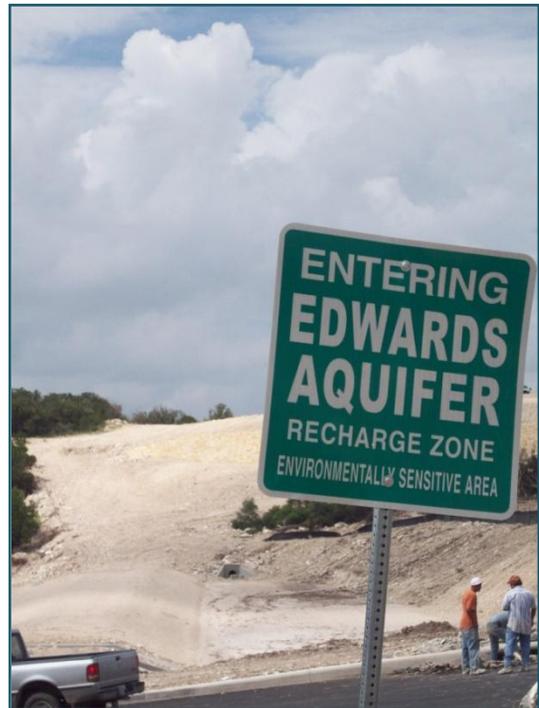
The projected amount of acres to be developed to support the 2030 population will be much more than projected in Blanco and the region. Texas Water Development Board projections are not reflecting what's happening on the ground. The projections for Johnson City for 2010 have already been exceeded based on 2008 Census estimates. Population growth is outstripping projections and the anticipated impacts of growth could be much more significant.

Impacts of Growth

We know that the region's population will grow, perhaps doubling by 2030, and that each county will grow at different rates resulting in varying levels of acreage developed to support this growth. The question that many wonder is "what will this increase in population look like, and what are the potential impacts of this growth?" Certainly, the impacts will be felt in many ways, but for purposes of this report, we have segmented the impacts into Natural Resources, Economy, and Culture.

Natural Resources

The impacts of the growth will be felt and seen in many ways, but what many fear the most is what the growth will do to the natural resources of the Hill Country -- resources which are both essential to living and to the very character of the region.



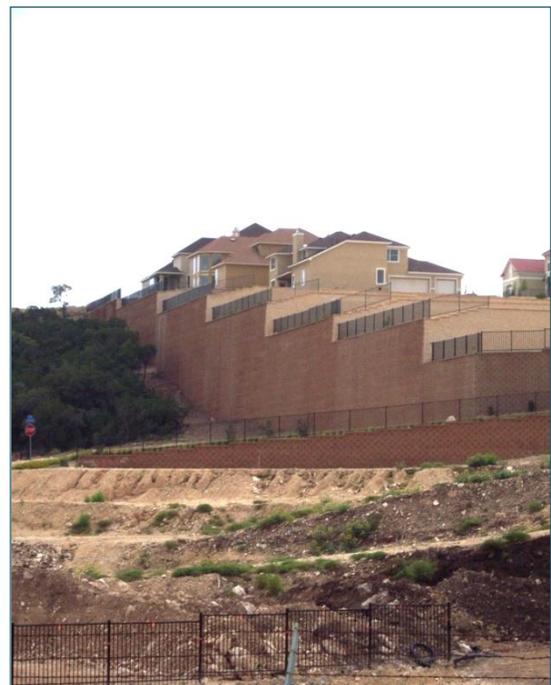
Land

Many farms and ranches have been fragmented as they are subdivided into smaller parcels of land for residential development. Land fragmentation also leads to the loss of open space, a decline in wildlife habitat, water quality problems caused by increased erosion and run-off, and a higher demand for county services in rural areas with the increased residential development.

Land fragmentation is the single greatest threat to wildlife and the long-term viability of agriculture in Texas and the Hill Country. How land continues to be developed is of paramount concern to most stakeholders in the region – whether you concerned about ground water quality, loss of ranch or farmland, or lack of water to support living and playing.

Water

According to the State Water Planning regions, the Hill Country, which is part of four separate regions may not have sufficient water supply to meet the demands of growth. The following points are taken from each of the four region's water plans. Collectively these four regions comprise land areas much larger than the Hill Country region, yet the Hill Country is wholly within these four areas and make up the majority of land area:



Growth of the Hill Country

- ❖ Region F expects a water supply shortfall of 217,000 acre feet/year by 2060.
- ❖ Region J expects a water supply shortfall of 10,000 acre feet/year by 2060.
- ❖ Region K expects a shortage of nearly 230,000 acre feet by 2060.
- ❖ Region L estimates a shortage of 436,000 acre feet/year by 2060.

Many fear that during droughts this potential shortfall will have a dramatic affect on the region's farming and agricultural industries, recreation and tourism industries, as well as to general living.

Certainly water quantity is a significant concern, but for some, water quality is seen as a more important component of the region's natural resources that will be impacted by growth and development patterns. New developments in the county lack sufficient detention facilities -- structures that detain water from running off the development site so that post-development runoff does not exceed pre-development runoff. As a result, runoff funnels off the landscape rather than widespread infiltration absorbing into the ground by grasses. Also, the 1st inch of rain, which is full of contaminants from streets, oils, and fertilizers, flows into the creeks and water wells of neighbors.

Economy

The economic impact that most are concerned about is on industries such as farming, ranching, viticulture, and tourism. For nearly two thirds of Hill Country counties, farming and ranching is the largest industry.

The Texas' Economic Development and Tourism Department estimated an impact of nearly \$5 billion from travel spending in the Hill Country in 2006.^v Hunting and fishing are an integral part of the tourism industry. The Texas Wine Marketing and Research Institute estimated in 2004 that the economic impact of the Hill Country vineyards injects nearly \$20 million per year into the Central Texas economy.

It is difficult to surmise from this preliminary analysis what the true economic impacts of projected growth will be on the Hill Country economy. Industries that rely on water availability and the beauty of the Hill Country stand to be most impacted by unmanaged growth.

Cost of Services

With new residents and commercial development, cities and counties will undoubtedly see significant increases in their tax revenue, but will the services demanded by new residents and businesses surpass the fiscal benefits of growth? Several studies have examined the cost of sprawl development or the cost of residential development versus farming or agriculture.

A national study suggests that uncontrolled sprawl (no new policy or legislation) would absorb 18.8 million acres nationwide, but that with a more compact growth the acreage consumed would only be 4 million acres. The study suggests that water and sewer line savings under a more compact growth scenario would amount to \$12.6 billion over 25 years; road and highway savings

Growth of the Hill Country

would be \$109 billion; and public serviced cost savings could be as much as \$4.2 billion.^{vi}

According to the American Farmland Trust's Cost of Service Study in Hays County, "for every dollar these [agriculture and ranch] lands generated in revenue for the county, school and public service districts, they required back only \$0.33 in services. Commercial and industrial lands provided a similar net benefit to the county, needing only \$0.30 back for every \$1 generated in taxes. While residential lands generated significantly more dollars in property taxes, they required even more in services — \$1.26 for every \$1 paid in taxes. Education was the most expensive service provided, accounting for 53 percent of total expenditures."^{vii}

Culture

Hill Country "character" is an essential part of the cultural experience of the region yet defining this character is challenging. It includes wide and seemingly never-ending views of the rolling hills, the rivers, creeks and springs, the wildflowers, and an abundance of wildlife. This character is a draw to new tourists and residents yet at the same time the growth does have an impact on the Hill Country culture and character. Ranchers who have worked their land for more than a few decades have noticed more lights at night on the hilltops.



Quality of Life

The most difficult area to measure the impacts of growth on is the quality of life of residents in the Hill Country. In several studies reviewed for this project stakeholders cited as their primary concern losing their unique quality of life. Quality of life means different things to everyone but the main take-away on this point is that many believe that the essence of the Hill Country may be lost if population growth is not managed properly. This manifests in many ways such as more night lights from homes, views of the hilltops degraded by new rooftops and roadways, and neighbors who do not share the same environmental/nature ethic as those who have lived off the Hill Country land for decades.

There are aspects of quality of life that can be measured such as emergency response time for 911, fire or ambulance; or increased amounts of travel time to work due to congestion or more cars on the roadways. These are aspects of quality of life that many city dwellers who move to the Hill Country will want. Demands on municipalities will increase as these new residents clamor for the quality of life they desire.

Strategic Considerations

Nearly every study examined for this project has recommendations or strategic considerations addressing many of the issues discussed in this report. The following represent a summary of those recommendations, plus several additional considerations. Absent new legislation that would give county's additional land use authority, these recommendations can help better manage the impacts of the impending growth:

1. City Comprehensive Planning

- ❖ Not all cities in the Hill Country have an updated Comprehensive Land Use Plan. It is very possible that cities in the Hill Country can plan for an additional population than is projected for their city by absorbing more density within their existing city limits and ETJ. In the long run, this will increase their tax base and more than likely provide cost savings on utility outlays that would normally need to be spent to accommodate sprawling development on the fringes of their ETJs. Several cities are in the process of updating their comprehensive plan, including Johnson City, Bandera, Marble Falls, and Burnet County. Recently completed plans include Boerne, Bertram, and Blanco.

2. Regional Planning

- ❖ Several regional plans have been developed focusing on water availability and habitat conservation, but the single most important regional plan would focus on future land use planning and utility plans. With a utility plan for water and wastewater, the region can focus growth where it wants it and away from where it does not. Developers, utility providers, municipalities and tax payers stand to save a significant amount of money under a proactive and planned vision for growth.

3. Develop a Better Knowledge Base

- ❖ Digitize existing parcel boundaries for every county/appraisal district. Begin base mapping and parcel updates regularly for every county, and categorize land use with the recommended state standards for appraisal districts to use. Without a historic record of how parcels are being subdivided, it will continue to be difficult to get a more accurate estimate of the impacts of projected growth.

4. Natural Area and Open Space Conservation

- ❖ Several organizations and elected bodies in the region have had some success with preserving open space and natural areas. This model (such as with Hays County's park

Growth of the Hill Country

and open space bond referendum and plan) could be implemented in other counties in the region.

5. Transfer and/or Purchase of Development Rights (TDR/PDR)

- ❖ These two tools have become increasingly effective and more often used to preserve areas deemed as important to water quality or animal habitat, and should be further promoted throughout the region.

6. Habitat Conservation

- ❖ Several habitat conservation plans have been developed to protect endangered species or habitats. This may become increasingly important as development encroaches into new areas.

7. Public education

- ❖ Continuing to educate the general public about the anticipated growth and its impact will lead to a cadre of individuals who can serve as a resource to assisting with many of the recommendations found here or within the plans developed for the region.

8. Promote Changes in Development Patterns

- ❖ Several development techniques are used by some developers but can be further utilized, including: Clustered Development, Siting of Development, and Sustainable Construction Practices.

How to Get Involved

The Hill Country Alliance (HCA) has developed a supplement to this report in the form of a power point presentation that can be available to anyone in the region. HCA will also host several workshops or trainings over the next six months to prepare “docents” or individuals who wish to provide the presentation to other stakeholder groups.

To learn more and get involved in addressing the points and recommendations in this report, please visit the Hill Country Alliance website at www.hillcountryalliance.org



REFERENCE SECTION

Land Development and Utility Provision in the Hill Country

Land is developed to meet the demand of population growth. Many have jokingly argued that building a fence will “keep out” all the newcomers and maintain the Hill Country as it is today. While this fictitious strategy may seem like a solution, the primary issue is haphazard land development in the unincorporated areas.

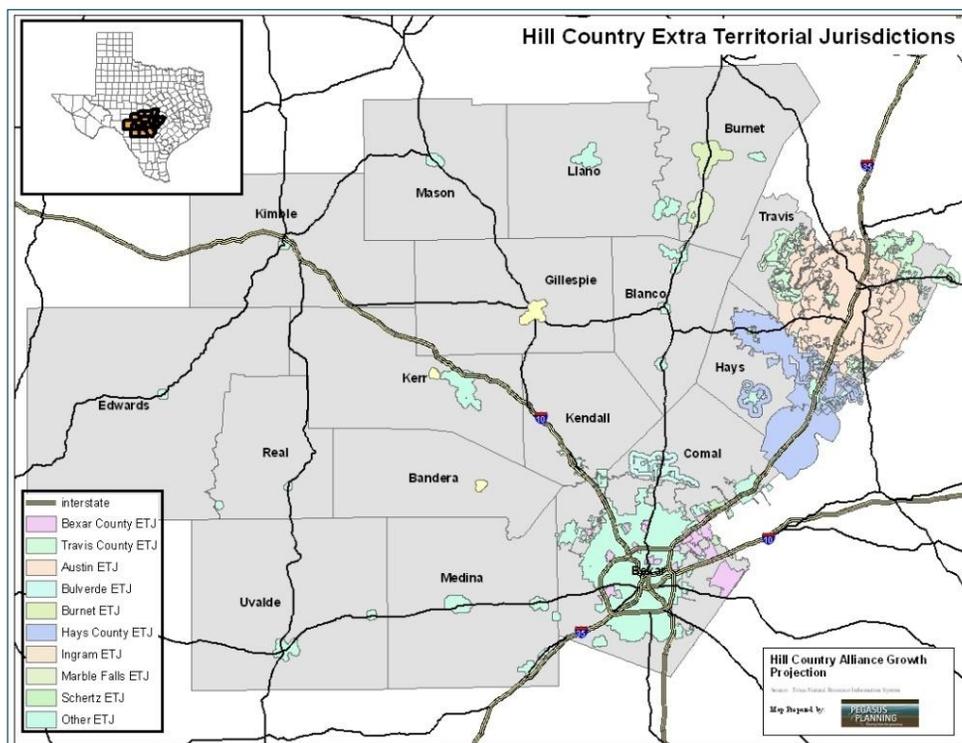
The main drivers for population growth are normally employment opportunities and quality of place amenities such as schools, convenience, parks, and others. Every community in the Hill Country has their own unique quality of place assets that have drawn, and will continue to pull residents and businesses to the region.

Developers argue that their dense new subdivisions with modern water and wastewater systems are better for the environment than older subdivisions that relied on septic tanks and well water. Yet, large scale subdivisions with dense development (houses on ½ acre or less) cannot occur without a regional water system and wastewater. Of the many forces pushing the Hill Country development boom, none is more influential than the arrival of water pipes.

A basic understanding of how land can be developed and how utilities are provided in Texas is essential to understanding why land is being developed at a rapid pace, and why nearly 75,000 acres of Hill Country land is expected to be developed over the next 20 years.

Incorporated versus Unincorporated

Land in Texas that is outside state or federal parks and reserves is either designated as unincorporated or incorporated. Cities in Texas are incorporated. Every city has an imaginary boundary that extends a certain distance (based on the city’s population size) from their city limits called the Extra Territorial Jurisdiction (ETJ). Land outside of the ETJ is in the unincorporated area,



Growth of the Hill Country

which is regulated by counties. Texas cities have much more authority than counties in how land is regulated.

Nearly 90% of all the land in the Hill Country is in unincorporated areas. The vast majority of incorporated land is within the cities of Bexar, Hays, and Travis counties (as the colored areas in the map below illustrates).

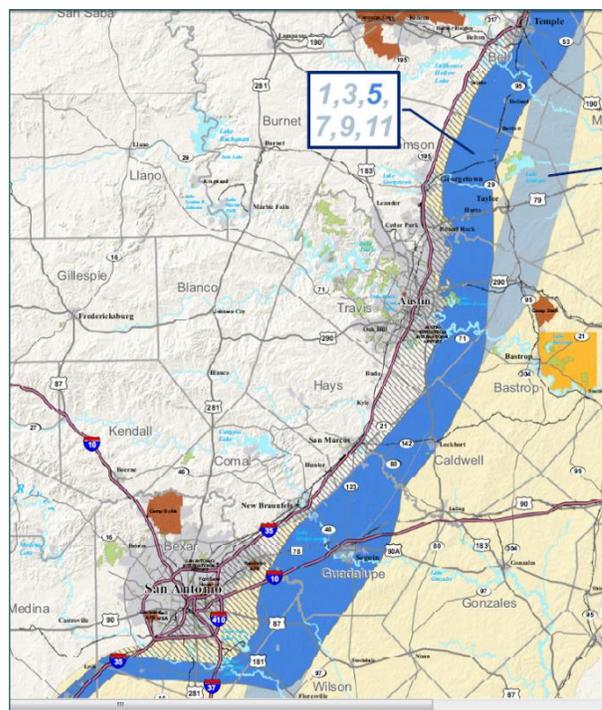
Counties do not share the same authority as Cities to manage growth. Counties have limited, and very specific powers that have been granted by the state and are focused mostly on subdivisions, county roads, and septic tank permitting (also in conjunction with the State). It is troubling to many who have followed planning and development that with so much land in the unincorporated areas of the region, that development will occur haphazardly and not within a shared regional vision for growth.

County Name	County Acres	ETJ Acres	% of Acres not in ETJ
Bandera	510,552	3,179	99.4%
Bexar	804,879	403,997	49.8%
Blanco	457,363	3,409	99.3%
Burnet	652,362	47,455	92.7%
Comal	368,453	23,447	93.6%
Edwards	1,359,561	754	99.9%
Gillespie	679,166	12,774	98.1%
Hays	433,280	146,188	66.3%
Kendall	424,086	5,146	98.8%
Kerr	708,619	14,604	97.9%
Kimble	799,949	1,494	99.8%
Llano	618,307	4,284	99.3%
Mason	597,191	2,294	99.6%
Medina	858,135	10,842	98.7%
Real	448,202	249	99.9%
Travis	656,566	534,579	18.6%
Uvalde	1,001,006	5,420	99.5%
Region	11,377,677	1,220,115	89.3%

Counties do have authority to regulate septic tanks and subdivisions, among a few other minor areas, yet the regulations themselves generally promote larger lot subdivisions. Cities have the authority to develop comprehensive land use plans and utility plans to serve their future growth – thus staying ahead of their projected growth. Counties have very limited authority to plan for their growth. Regional planning is a relatively new type of planning that has focused largely on transportation planning and most recently a five county regional land use vision called Envision Central Texas. Regional plans for water (discussed below) and habitat conservation have also been developed, but no regional utility plan has yet to be developed for areas in the region.

Transportation Infrastructure

Roadways and utilities contribute to where people want to live. Federal and state roadways are planned and developed by the Texas Department of Transportation. The main roadways in the Hill Country include Interstate 35 and 10, and State Highways 290, 46, 71, 281, 183, 90, 377, and 83. These roadways form a network of inter-regional and national transportation corridors -- carrying goods and people to and from their destinations. The projected growth of the region by TWDB does not factor in any new roadways, so with additional state or federal highways, the projected population could end up much larger than predicted.



Growth of the Hill Country

Many are concerned about the impacts of the Highway 281 expansion and the proposed Trans-Texas Corridor (TTC). The map to the right illustrates the preliminary study area for this major new highway system (in dark blue, running between Austin and San Antonio to the east I-35 and the Hill Country). While not within the Hill Country, a new roadway system of this magnitude will have an impact on growth throughout the region.

Water, Wastewater, and On-site Sewage Facilities

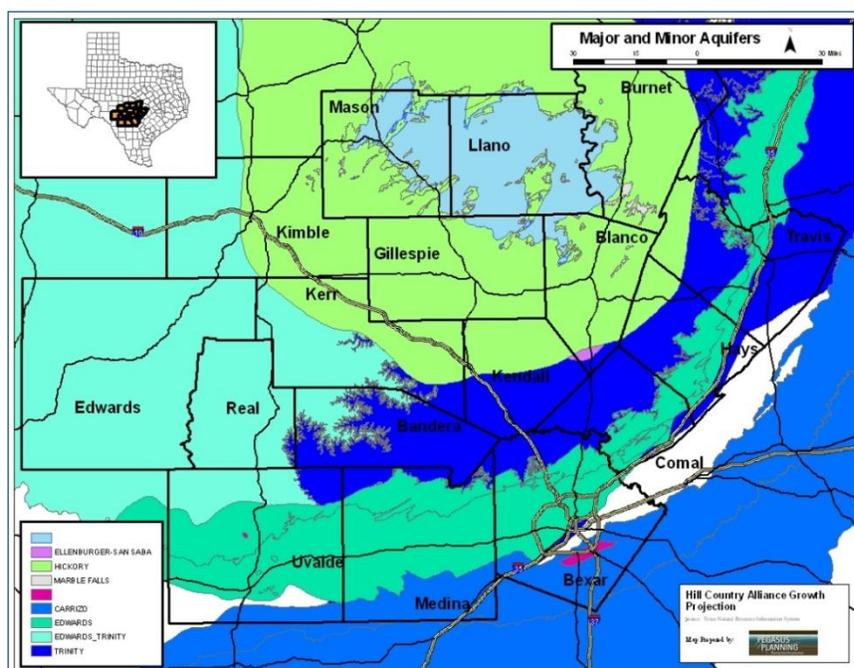
Water is provided for residential, business, agricultural, or ranch use from either underground or above ground (referred to as surface) sources. Several rivers and aquifers are found

The big problem with these underground water districts throughout the state of Texas is that they are confined to a particular county or geographic area that they represent, and the water is not restricted to those areas.

in the Hill Country. Water is regulated at the federal, state, and local levels. Several major and minor aquifers lie within the Hill Country and are the primary water source for the majority of the new development occurring in the unincorporated areas of the Hill Country, as most new developments in unincorporated areas rely on groundwater as the primary source of water.

The “rule of capture” is an aspect of Texas water law that is critical to understanding our state and region’s need for water planning. Adopted in 1904, this rule gives landowners the right to capture an unlimited amount of groundwater by tapping into the underlying aquifer. Many stories have been told about farmers and ranchers whose water availability dwindled significantly due to an adjacent landowner or developer who put a well next to their land (often deeper than the other landowner’s wells) and essentially captured the water before it went to the farmer’s or rancher’s well.

Groundwater districts, which



Growth of the Hill Country

have been Texas' preferred management tool for groundwater resources since the 1950's, have the ability to modify the rule of capture slightly by regulating spacing and production of wells to ensure the availability of groundwater within the district's boundaries. Groundwater districts can deny a permit to withdraw groundwater based on the effect it may have on aquifer conditions. The districts can require a permit amendment and charge a fee for an export, but they cannot deny the permit based on the groundwater's destination and they cannot adopt rules to limit exports.



Groundwater Management Districts have been given the authority by the state of Texas to manage groundwater resources in specific regions, of which four such districts are within the Hill Country – Districts 7, 8, 9 and 10.

Surface water and water transfer is managed by river authorities that have been established by the legislature based on river basin boundaries. The main river authorities providing surface water in the Hill Country are the Lower Colorado River Authority, Guadalupe-Blanco River Authority, San Antonio River Authority, and the Trinity River Authority. These river authorities have plans for additional centralized water supply system to compensate for the lack of groundwater in the area.

One common criticism of the way the state of Texas handles its water quality and quantity issues has been that there is a lack of coordination and communication among the myriad number of entities who have some level of management authority over water. Senate Bill 1 and then Senate Bill 2 created sixteen regional water-planning districts in the state with a mandate to create a coordinated plan to provide water for the rapid growth in Texas and to ensure that all the entities coordinate and communicate. Texas is now in the second phase of its regional water planning efforts. Hill Country counties fall within four water planning regions (*listed are only those counties within the Hill Country Region*) – Region F (**Kimble** and **Mason**); Region J (**Bandera, Edwards, Kerr,** and **Real** counties); Region K (**Bastrop, Burnet, Blanco, Gillespie, Hays** (partial), **Llano,** & **Travis** counties); and Region L (**Bexar, Comal, Guadalupe, Hays** (partial), **Kendall, Medina,** & **Uvalde** counties).

The real key to planning and developing in unincorporated areas is the provision of large quantities of water and centralized wastewater. Ironically, with a regional utility plan, growth can be directed where the region wants it, and residential development can be clustered on smaller lots -- preserving the integrity of the Hill Country and the natural assets that are essential to the culture, economy, and natural resources of the region. Without a centralized wastewater system, such as what most municipalities in the region operate, on-site sewage facilities (OSSF) are the preferred and required method for storing and treating sewage. OSSFs, more commonly referred to as septic tanks, are the preferred choice for two

Growth of the Hill Country

out of three new homeowners in Texas.^{viii} Ironically, with centralized wastewater, development can be clustered on smaller lots; however, with OSFFs, residential parcels must be large enough to meet state and local standards -- creating larger lot developments and consuming more acreage.

Organizational Resources

Hill Country Alliance
Capital Area Planning Council of Governments (CAPCOG)
Alamo Area Planning Council of Governments (AACOG)
Envision Central Texas
Hill Country Conservancy
Trust for Public Lands
Nature Conservancy
Sierra Club
Texas Water Development Board (TWDB)
Texas Commission on Environmental Quality (TCEQ)
Lower Colorado River Authority
Guadalupe-Blanco River Authority
San Antonio River Authority

Materials Reviewed for this Project

Regional Water Plan, Region F, J, K, and L, www.twdb.state.tx.us (2002-present)
Cost of Community Services in Hays County, Trust for Public Land, May 2000.
Conservation Plan for the Pedernales River Watershed, Nature Conservancy, May 2007.
Cost of Sprawl, Transit Cooperative Research Council, 2000.
Cost of Sprawl Revisited, Urban Land Institute, 2002.
Regional Water Quality Protection Plan for Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone, June 2005.
Southwest Travis County Growth Dialog, 2005.
What do Groundwater Users Want?, LBJ School of Public Affairs, UT-Austin, 2007.
2007 Texas Travel Impacts, <http://www.deanrunyan.com/pdf/pdftx/County-Trend07.pdf>

Methodology

A Review Team of local and regional experts provided feedback throughout this project, and insight into documents, resources, stakeholder sentiment, and overall direction for the project. Rather than re-create the wheel, authors of this report pulled from these materials.

The population numbers that form the basis of analysis for this project are based on 2000 U.S. Bureau of Census data and 2030 projections of the Texas State Water Development Board. The latter figures have been used extensively during regional water planning discussions and while they represent the best figures to use, several stakeholders in the region believe the numbers are too low or too high. For purposes of this project, available TWDB projections are used.

Population projections were then applied to geographic units – city, county, and block groups (smaller geographic areas within a county boundary). It was found that the average amount of acreage developed for residential use is 4.4 acres per capita. This per capita number was used as a basis to project how much acreage can be developed to support the projected population growth under existing conditions and regulations. Ideally, the project team would have used parcel data changes over time to analyze the patterns of growth. Yet, updated and consistent parcel data is not available at this time for every county in the region. This information - which is collected and maintained by County Appraisal Districts – cannot be combined or viewed

Growth of the Hill Country

collectively since each appraisal district applies varying degrees of resources and sophistication in updating their parcel information. The State of Texas has provided recommendations to appraisal districts on how parcel data should be categorized. If parcel data was updated for every county and categorized in the same manner than stakeholders could be much more sophisticated with analysis, and the region could see historic patterns of growth and change.

Endnotes

- i Parkland and Open Space in the Texas Hill Country, Texas Center for Policy Studies, 2001.
- ii Ibid (Mace et al, 2000)
- iii Southwest Travis County Growth Dialog, 2005.
- iv Texas Rural Land Value Trends 2007. Texas Chapter of the ASFMRA Land Value Survey, 2007.
- v Texas Travel Spending Tables, Texas Department of Economic Development and Tourism.,
<http://travel.state.tx.us/asp/tspend.asp?reporttype=r&title=Hill%20Country&where=6>
- vi Cost of Sprawl Revisited, ULI, 2002.
- vii “Cost of Services Study for Hays County” American Farmland Trust, 2000.
- viii Tips for Septic Systems, Texas Commission on Environmental Quality (TCEQ),
<http://www.tceq.state.tx.us/assistance/sblga/fyiossfs.html>