



Facts & Issues: Land-Use Planning in Comal County Impacts of Growth—Time for Action

An Update by the League of Women Voters of Comal Area 2017

About the Update

In 2015, the League of Women Voters of Comal Area (LWV-CA) undertook an update of its previous study of land-use planning in Comal County. Many changes have occurred in the region since 2005, when LWV-CA published *Facts & Issues: Land-Use Planning in Comal County: A Growing Problem*. This current report is the work of members of LWV-CA who consulted experts, conducted research, interviewed elected officials, and held several public forums in 2016 and 2017. In the “Resources” section is a list of the documents and people who have been invaluable to the Land Use Committee. Rapid growth continues to impact Comal County and indeed the entire Hill Country region of Texas. LWV-CA hopes this updated report will inspire further dialogue about planning for growth in Comal County and in the region.

Introduction

Comal County was founded in 1846 with an area of 575 square miles and a population of 1,700. Today the area of Comal County is still 575 square miles; however, the U.S. Census Bureau estimated the 2016 population to be 134,788. Projections by the Texas Water Development Board put the population at 140,285 in 2020 and 178,399 in 2030.¹

Growth is occurring not just in Comal County. In a Census Bureau list of the fastest growing counties in the nation between 2015 and 2016, Hill Country counties Kendall was second, Hays was third, and Comal was sixth.² With Comal as one of the seventeen counties that make up the Hill Country, decisions made here about land use, water, transportation, and residential development have an impact on the entire region. [Toward a Regional Plan for the Texas Hill Country](#) was a project of students in the Master of Community and Regional Planning program at the University of Texas. This project clearly demonstrates the fragility of the region and the importance of regional planning and cooperation.

¹http://www2.twdb.texas.gov/ReportServerExt/Pages/ReportViewer.aspx?%2fProjections%2fpop_county&rs:Command=Render.

²<https://www.census.gov/content/dam/Census/newsroom/press-kits/2017/Top%2010%20Fastest-Growing.pdf>.

This current *Facts & Issues* details the impact of population growth throughout the county and the challenges facing residents and local governments.

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Water in Comal County³

The Hydrological Cycle and Geography / Groundwater / Surface Water / Water Utilities / Flood Control / Water Quality Protection / Wastewater Discharge / Regional Water Planning / Long-Term Solutions for Water Supply

The Hydrological Cycle and Geography

All the water that ever was is all the water there ever will be: water is constantly recycled.

The current policies of water regulation in Texas are a legacy of an earlier, limited understanding of the science of water (i.e., the hydrological cycle). The water that people saw (surface water in lakes and streams) the state declared belonged to the people, so the state regulates surface waters.

The contribution of groundwater to surface water was not understood. As a result, the Texas Legislature declared groundwater to be private property that belonged to the landowner, like mineral rights.

Comal County sits on the Balcones Escarpment, part of the Texas Hill Country. Often conditions prevail that trap a moisture-laden storm system over Comal County. Because of its particular geology and location, meteorologists know the Hill Country as “flash flood alley.” This is both a blessing in recharging our water resources and a curse, causing several major flood events in recent years (1998, 2002, and 2015).

³ This section has been updated from Jill Sondeen, Ph.D. 2005. “Facts & Issues: Land-Use Planning in Comal County—A Growing Problem.” A Study to the League of Women Voters of Comal Area [Texas].

Although average annual precipitation in Comal County is 33 to 37 inches,⁴ drought can also affect the water supply. Figure 1, Texas Drought Graph, shows that lack of precipitation is a recurrent part of the water cycle in Central Texas. Comal County experienced severe drought in 2011–2015, causing major impacts to agriculture and ranching in the area.

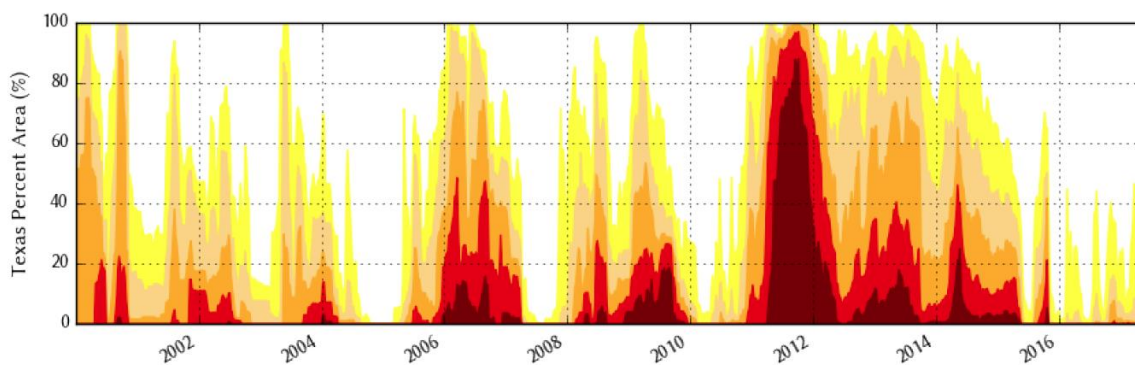


Figure 1. Texas Drought Graph⁵

In order to maintain Comal County’s water supply, both the quality and quantity of water must be preserved—not only for human consumption, industry, and agriculture but also for wildlife and recreation.

Groundwater

In rural areas of the county, many landowners have private wells for their domestic, livestock, and agricultural needs. While groundwater is considered the property of the landowner, the Texas Legislature has designated Groundwater Conservation Districts as the preferred method of protecting and conserving groundwater. The entire land surface of Comal County helps feed one of two aquifers (see Figure 2. Trinity and Edwards Aquifers in Comal County), and each has a groundwater district.

Changing land-use patterns in the Hill Country are causing changes in the amount of groundwater in the aquifers. As more acres are converted from farm and ranch land to residential and commercial development, there is less land available for recharge.

The [Edwards Aquifer Authority](#) (EAA) is a groundwater district that manages the entire Edwards Aquifer. The Edwards Aquifer stretches over eight counties, including Comal. Any well drilled into, or through, the Edwards Aquifer must be permitted by the EAA. The EAA manages pumping from the aquifer so that the Comal and San Marcos Springs continue to flow. The Edwards Aquifer is much more prolific than the Trinity Aquifer and is able to support large,

⁴ National Oceanic and Atmospheric Agency National Centers for Environmental Information. “Data Tools: 1981–2010 Normals.” Average annual precipitation, 1981–2010, at Bulverde, Canyon Dam, Fischer Store, and New Braunfels. Available from: <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>.

⁵ Available from: <https://waterdatafortexas.org/drought/drought-monitor>.

irrigation-based farming west of San Antonio and to supply the majority of the drinking and landscaping water to San Antonio, New Braunfels, San Marcos, and Travis County, including south Austin.

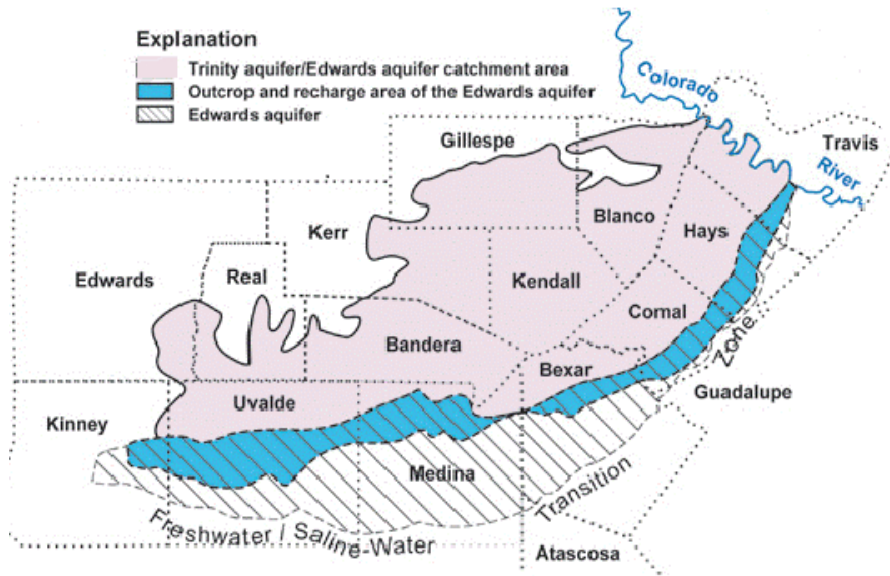


Figure 2. Trinity and Edwards Aquifers in Comal County.

Note: Trinity Aquifer extends under all of Comal County, dipping below the Edwards Aquifer in eastern Comal County.

The [Edwards Aquifer Habitat Conservation Plan](#) was developed by stakeholders, including the City of New Braunfels, to “protect endangered species from harm in times of drought to the extent required by state and federal law.” This plan helps direct the management of pumping from the aquifer and management of the surface water (e.g., Comal and San Marcos Springs and Rivers) and land where the aquifer is recharged to ensure endangered species and their habitats are protected.

Unlike the Edwards Aquifer, there is not one entity that manages the entire Trinity Aquifer. Instead, groundwater districts have been established largely following county boundaries. The [Comal Trinity Groundwater Conservation District](#) (CTGCD) manages the part of the Trinity Aquifer that underlies all of Comal County. Established by legislative action in 2015, CTGCD has a seven-person board appointed by the Comal County Commissioners’ Court. Funded through production fees on the largest water users (mainly water utilities), the CTGCD’s mandate is to protect the aquifer from

Abbreviations

- ASR** aquifer storage and recovery
- CTGCD** Comal Trinity Groundwater Conservation District
- DFC** desired future conditions
- EAA** Edwards Aquifer Authority
- GBRA** Guadalupe Blanco River Authority
- GMA** Groundwater Management Areas
- OSSF** on-site septic systems
- SARA** San Antonio River Authority
- TCEQ** Texas Commission for Environmental Quality
- TLAP** Texas Land Application Permit
- TPDES** Texas Pollutant Discharge Elimination System
- TWDB** Texas Water Development Board

contamination by setting standards for well construction and well spacing, to encourage water conservation through education and drought management rules, and to preserve the aquifer for future use by collecting data and developing a process for scientific research.

Future supplies of groundwater for the region will depend on protecting sufficient areas of land for continued recharge, encouraging water conservation, and promoting reuse of wastewater.

Surface Water

Comal County lies in two river basins (see Figure 3. Map of River Basins in Comal County). The northern part of the county is in the Guadalupe River basin, governed by the Guadalupe Blanco River Authority (GBRA), and the southern part of the county in the Cibolo Creek watershed is in the San Antonio River basin, governed by San Antonio River Authority (SARA). River authorities are established by the state government to preserve, protect, and manage the resources and environment of local rivers and tributaries. River authorities fund themselves by selling water rights.



Figure 3. Map of River Basins in Comal County⁶

The largest lake on the Guadalupe River is Canyon Lake, located in northern Comal County. The Canyon Lake Dam was constructed from 1958–1964 to create a reservoir for flood control and water conservation. The U.S. Army Corps of Engineers controls the water in the lake when it reaches flood control pool above 909 feet mean sea level and takes appropriate action at the

⁶ Modified from <http://www.gbra.org/documents/maps/watersheds.pdf>.

outlet to minimize downstream flooding.

Below the 909-foot level the lake (considered surface water) is controlled by the GBRA. The river authorities grant senior and junior water rights to applicants who need water, mainly for agriculture, industrial, and municipal uses. In times of low river flow, those with senior water rights have priority access to any available river water.

Another important aspect of surface water is that plants and wildlife, as well as industries such as recreation and fisheries, depend on rivers and lakes. As the human population continues to grow, demands for water by the increasing population could overwhelm the requirements for freshwater by plants and wildlife and the industries that depend on them. Careful planning to balance all these usages is needed.

Water Utilities

Residents in denser areas of the county, without private water wells, are served by several local water purveyors. The sources for their water can be both surface water, obtained by water rights from a river authority, and groundwater, obtained by a production permit from a groundwater district. Major water utilities include New Braunfels Utility, Canyon Lake Water Service Company, and Garden Ridge Water Company. There are several smaller water utilities and subdivisions to supply residents.

All purveyors that provide local public water supply fall under Texas Commission for Environmental Quality (TCEQ) regulations. The water purveyors or local governments apply to the TCEQ for “certificates of convenience and necessity” for their areas. This allows them to be the only purveyor that may operate in that area but also requires that, within reasonable affordability, they guarantee water to their customers. Water purveyors may exist in various forms, such as Municipal Water Suppliers, Municipal Utility Districts, Water Supply Corporations, Private Water Suppliers, Water Control and Improvement Districts, Special Utility Districts, and Freshwater Supply Districts. TCEQ provides an [interactive map viewer](#) for these different water districts. (Also, see more information in “Special Districts.”)

Flood Control

The Texas Legislature has given the county the responsibility for developing regulations to minimize flooding. Comal County works with the Federal Emergency Management Agency and the National Flood Insurance Program to update floodplain maps that delineate areas that will flood during 100-year flood events. The Comal County Engineer’s Office provides currently updated [flood plain maps](#). As Comal County becomes more developed, the flood plain changes because of increased impervious cover, like paved parking lots and rooftops.

Comal County Commissioner’s Court has adopted several strategies to try to minimize flooding caused by development. In order to build in the 100-year flood plain, the county requires a permit and adherence to floodplain requirements. For new subdivision development,

the county requires that no more water may leave a property under development than the runoff that occurred before construction began. This requires that retention ponds and other flood control measures be designed and built by the developer.

In addition to Canyon Lake Dam, there are [smaller retention dams](#) on flood-prone rivers and creeks in the county.

Water Quality Protection

Contamination of surface and ground water comes from agricultural, municipal, storm, sewage treatment plant, and industrial runoff. The Texas State Soil and Water Conservation Board deals with water quality issues that come from agricultural activity such as feedlot operations. The TCEQ regulates and issues permits for all other sources of contamination. The TCEQ requires Water Pollution Abatement Plans over the Edwards Aquifer Recharge Zone for all but residential construction. For residential on-site sewage facilities, the Comal County Environmental Health Department has jurisdiction in unincorporated areas.

Since much of the drinking water in the county comes from both the Trinity and Edwards Aquifers, protection of groundwater is of high importance. Recharge into karst aquifers depends on contact time of rainfall with the ground. Areas with good soil coverage and deep vegetative roots act as sponges, allowing good amounts of recharge. Large recharge features, like holes, cracks, or caves, also result in rapid recharge.

Water recharging directly through fractures and large features enters the limestone layer unfiltered. The greatest recharge of limestone aquifers occurs during large, sustained rains. Obviously, runoff also is more likely to occur during big rains. The runoff includes trash, the effluent from flooded septic systems, and oil, gasoline, pesticides, and fertilizers from farms, commercial enterprises, yards, roadways, and parking lots. The greatest threat to the health of an aquifer is the presence of these contaminants in the poorly filtered recharge.

As a result, the two major underground aquifers that supply drinking water to the residents of Comal County are extremely vulnerable to pollution. The TCEQ has the authority to regulate water pollution abatement over the Edwards Aquifer Recharge Zone for commercial but not single residential construction. Environmentalists say the regulations are not stringent enough, and TCEQ's ability to enforce the existing regulations is limited.

An Example of a Water Quality Issue: Wastewater Discharge⁷

Rapidly increasing growth in Comal County is creating demand for subdivisions to be built more densely. In previous years developers were building fewer lots of 1 to 5 acres and with individual on-site septic systems (OSSFs), which require permitting through the Comal County Engineer's Environmental Health Department. More recently, developments are being built

⁷ Madden, Jencie. 2017. "2017 Action Paper: Protect Water Quality in Edwards Aquifer." League of Women Voters of Texas. Available from: http://www.lwvtexas.org/files/2017_action_paper_water_quality_in_edwards_aquifer.pdf.

with several homes per acre, requiring subdivision-wide sewer systems with their own wastewater treatment plants, which are permitted by the TCEQ. The TCEQ issues two types of permits for wastewater treatment. The TLAP (Texas Land Application Permit) is for discharge onto the land, also known as “beneficial reuse.” The TPDES (Texas Pollutant Discharge Elimination System) is for discharge into surface water or dry creek beds.

Wastewater treatment plants treat the sewage to certain standards before discharge as required by TCEQ⁸; however, there are components in human sewage that are not removed, such as pharmaceuticals, hormones, and other organic compounds. Studies are still incomplete about the cumulative effects of these compounds in drinking water.⁹ Other compounds in domestic wastewater are phosphorus and nitrogen, which can cause algae blooms in the surface water.¹⁰

Some residents in the Edwards Aquifer Recharge Zone and Contributing Zone have opposed TPDES permits through the contested hearing process, citing concerns about harmful contaminants entering the groundwater they use for drinking. Others cite concerns about algae blooms in waterways they use for fishing or recreation.

Entities applying for TPDES permits hold that land application is more costly, requiring land that could be developed for homes being used to accept wastewater instead. These costs are passed on to homeowners through higher utility bills or through raising the price of the homes that are built.

Many advocates in the Texas Hill Country will continue to oppose the use the TPDES permit (direct discharge) over the Edwards Aquifer Recharge and Contributing Zones and instead support the TLAP (land application) permit, requiring developers to use wastewater effluent for irrigation or other land application to allow a natural filtration process through vegetation and soil.

Regional Water Planning

One common criticism of the way the state of Texas handles its water quality and quantity issues has been the lack of coordination and communication among the myriad entities with some control over water. In 1997, the state created sixteen regional water-planning districts that generally coincide with watersheds across the state. Their mandate is to create a coordinated plan to provide water for the rapid growth in Texas and to ensure that all the entities coordinate and communicate. Comal County (along with Bexar County and all or part of nineteen other counties) is a part of the [South Central Texas Regional Planning Group, Region L](#). Every five

⁸ https://www.tceq.texas.gov/permitting/wastewater/municipal/WQ_Domestic_Wastewater_Permits.html.

⁹ Slade, Raymond. 2006. “General Threats to Water Quality from Domestic Wastewater Discharges in the Hill Country.” [Presentation.] Available from: <http://www.aquiferalliance.net/wp-content/uploads/2014/01/GENERA-3-1.pdf>.

¹⁰ Beauvais, Joel. 2016. U.S. Environmental Protection Agency, “Renewed Call to Action to Reduce Nutrient Pollution,” September 22, 2016. U.S. Environmental Protection Agency. Available from: <https://www.epa.gov/sites/production/files/2016-09/documents/renewed-call-nutrient-memo-2016.pdf>.

years, the regional water-planning districts identify both short- and long-term water supply needs and recommend water management strategies for addressing them. They consider changing demographics and changing land uses, as well as current scientific information on water sources. Local representatives from all areas are appointed to the planning group. The planning activities are coordinated and supported by the [Texas Water Development Board \(TWDB\)](#), a state commission to assure responsible development of water resources. The TWDB appoints the regional planning group members and provides the data and technical expertise. The regional planning is a grassroots process. Local needs and affordability dictate the amount of emphasis on water conservation and/or diversification of the water supply.

Another regional planning process is through the groundwater districts. Groundwater Management Areas (GMAs), also supported through the TWDB, provide a mechanism for groundwater conservation districts to make regional plans regarding groundwater supplies and usage. The CTGCD is a member of both GMA-9 and GMA-10. The EAA is a member of GMA-10. See Figure 4.

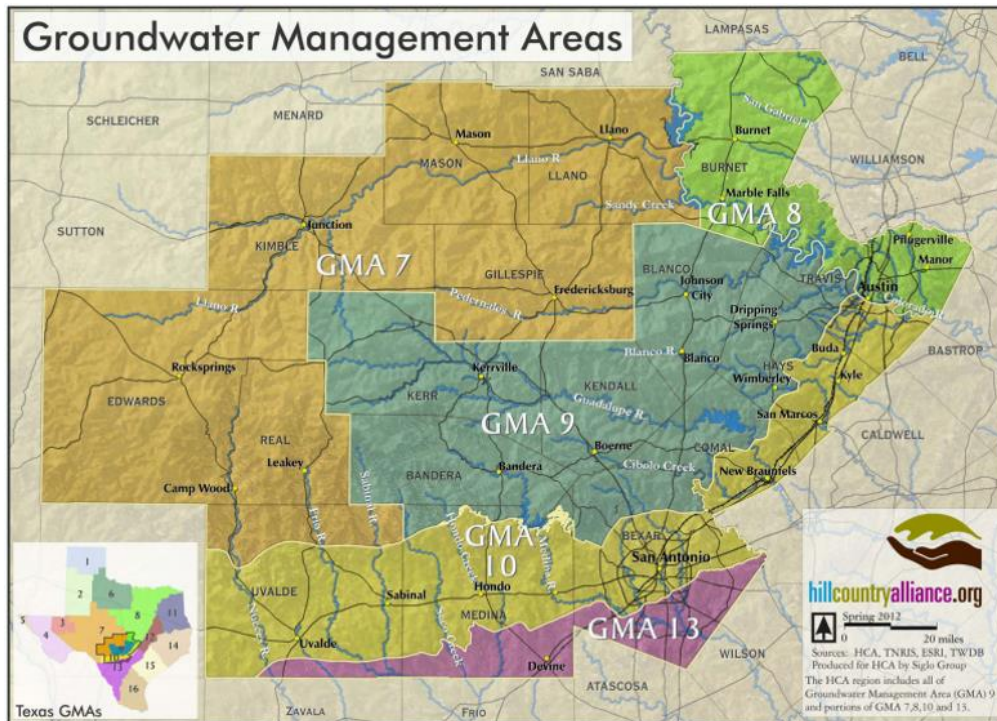


Figure 4. Map of Groundwater Management Areas (GMAs) in the Hill Country¹¹

While each groundwater district must produce a groundwater management plan every five years, the GMA makes joint decisions about certain parameters for all districts in the GMA. One parameter that is agreed upon is “desired future conditions” (DFCs) for a particular aquifer. For example, in the GMA-9 joint planning process in 2016, the DFC for the Trinity Aquifer would

¹¹ Made available by the Hill Country Alliance.

allow for a drawdown of approximately 30 feet through 2060. Thus, each groundwater district in GMA-9 agrees to monitor recharge and pumping over time to assure that the water level in the aquifer will not be drawn down more than 30 feet by 2060. The DFCs are reconsidered every five years, with consideration given to different possible future scenarios, and the process is open to public participation.

The groundwater management plan for each district is based on fifty-year projections. Data considered includes groundwater sources (projected precipitation and flow inputs and outputs) and groundwater demand (population projections and water usage from surface water sources). The TWDB uses computer modeling based on the regional data to generate Modeled Available Groundwater for each district.

Established in 2015, CTGCD will submit its first groundwater management plan by June 2018. The current [EAA groundwater management plan](#) is available.

Long-Term Solutions for Water Supply

With current water usage patterns, as the population continues to grow, water demands could likely outstrip the total local surface water and groundwater supplies. Comal County is an arid region, averaging slightly more than 30 inches of rain a year, a fact not widely recognized. The drought of the 1950s is often cited as a benchmark in water circles for what can reoccur if during a five-year period the average yearly rainfall is only about 10 inches. Notably, the 1950s' event occurred when the population was about one-third of its current size and perhaps one-tenth as great as that predicted for 2050. Water planning for the future must include provisions for cyclic drought conditions (See Figure 1, Texas Drought Graph).

Regional strategies from the 2016 round of water planning include conservation as a primary water source for future water supply. All regulatory agencies and water purveyors are required to have drought management plans that include mandatory restrictions on water use when lack of rain produces certain conditions. They also use educational efforts to encourage voluntary conservation by water users during normal conditions. Increased xeriscaping and use of native plants can often reduce water usage substantially in residential areas.

Another strategy is ASR, aquifer storage and recovery, a way to capture excess water during rain events and store it underground in rock formations that allow recovery of the water at a future time. ASR is being used effectively in San Antonio and Kerrville, and New Braunfels Utility has proposed a project locally.¹²

The regional plan also includes water procurement from aquifers and rivers outside the region. This controversial issue draws fire from some opponents who say that the plan encourages a level of water usage that is not sustainable in times of drought and does not consider downstream requirements for the freshwater estuaries along the coast to support estuarine ecosystems.

¹² <http://www.nbutexas.com/HelpfulInfo/NBUAquiferStorageandRecoveryProject.aspx>.

Desalination is also included in water planning for the region. San Antonio is experimenting with the desalination of brackish water in local aquifers. Efforts to desalinate seawater along the Texas coast and pipe it to Central Texas continue to be considered, but there are serious issues involved with the cost and energy consumption of desalination and the brine byproduct.

Even with the regional planning efforts that have taken place, ever-increasing demands on limited and unpredictable water resources will continue to be one of the important problems for local governments to consider.

Air Quality in the Comal–Guadalupe–Bexar–Wilson Counties Region

Air quality is not just a local issue. It is a regional, a statewide, a national, and an international issue, as the transport of pollutants in the air recognizes no political boundaries.

The Air Improvement Resources (AIR) Executive Committee of the Alamo Area Council of Governments is a collaboration of local elected officials representing the counties and largest cities of the San Antonio Metropolitan Statistical Area who strive to improve air quality in our region. These officials direct research to develop air quality strategies and can create legislation within their local jurisdictions in order to implement region-wide strategies. The AIR Executive Committee is supported by the AIR Advisory Committee, the AIR Technical Committee, and the AIR Public Education Committee.^{13, 14}

The most common form of air pollution in the region is ground-level ozone, the primary component of smog. Ozone is one of six criteria air pollutants subject to U.S. Environmental Protection Agency (EPA) regulation under the [Clean Air Act](#). Because these six pollutants are considered to be harmful to human health and the environment, the EPA sets thresholds for their allowable concentration in the air. These thresholds form the [National Ambient Air Quality Standards](#). These standards are subject to periodic review and may be changed to ensure they are adequate to protect human health and the environment. The present threshold for ozone is 0.070 parts per million (ppm) averaged over an eight-hour period. A region is in compliance with this standard if the average of the fourth-highest daily reading for each of the previous three years is below this threshold value.

The four-county region has three regulatory monitoring stations: NW San Antonio (C23), Calaveras Lake (C58), and Camp Bullis (C59).¹⁵ As of this writing, the region is not in compliance, but a lawsuit filed by the state of Texas has blocked the EPA from any enforcement action at present.

Ground-level ozone is of particular importance because it is a respiratory toxic agent that can cause acute respiratory health effects when people breathe high concentrations of it over several hours. These effects include decreased lung function and pain with deep breaths and aggravated

¹³ <https://www.aacog.com/359/Air-Improvement-Resources-Committees>.

¹⁴ <http://www.aacog.com/97/Air-Quality---Natural-Resources>.

¹⁵ <https://www.aacog.com/410/2016-Air-Quality-Status>.

asthma symptoms. A recent study concluded that ozone exposure resulted in an early death rate of 10 per 100,000 persons in Texas.¹⁶

In addition to the six criteria air pollutants, the Clean Air Act allows the EPA to create emissions standards for the reduction of air pollutants. The [Clean Power Plan](#), announced in 2014, is designed to reduce carbon dioxide emissions from existing fossil fuel burning power plants. Carbon dioxide is the nation's largest source of human-made greenhouse gas emissions. The goal of the Clean Power Plan is to reduce carbon dioxide emissions by 32% below 2005 levels by 2030. States are given the flexibility to develop their own emissions reduction plans. While the U.S. Supreme Court has ruled that the EPA has the right to regulate carbon dioxide emissions under the Clean Air Act, the Clean Power Plan has been opposed by Texas and 23 other states. Final implementation is blocked pending resolution of the state's lawsuit.

In 2014, Texas emitted 224.8 million metric tons of carbon dioxide from fossil fuel burning at power plants. This amounts to 35% of all Texas carbon dioxide emissions. Other sources of Texas emissions include transportation (34%), industry (26%), and residential and commercial (4%).¹⁷

The Texas Commission on Environmental Quality classifies air pollutants as originating from point source or nonpoint source locations. Point source emitters include stationary sources such as

- fossil fuel fired power plants,
- smelters,
- industrial boilers,
- petroleum refineries, and
- manufacturing facilities.

Nonpoint sources emissions are classified as

- area source emissions from small-scale industrial, commercial, and residential users;
- on-road mobile source emissions from gasoline- and diesel-powered vehicles; and
- nonroad mobile source emissions from agricultural equipment, construction and mining equipment, lawn and garden equipment, aircraft and airport equipment, locomotives, and drilling rigs.

Examples of all these types of sources may readily be found in the region.¹⁸

The ideal land-use plan should recognize that

- the area continues to grow in population;
- the current political environment is very hostile to regulation;
- local control should be utilized to minimize impacts on air quality;
- public transportation that is convenient and affordable should be a priority; and

¹⁶ <http://dx.doi.org/10.1016/j.atmosenv.2013.05.081>.

¹⁷ <http://www.eia.gov/environment/emissions/state/analysis/>.

¹⁸ https://www.tceq.texas.gov/airquality/areasource/Sources_of_Air_Pollution.html.

- land-use development should emphasize mixed-use development to minimize vehicle use for everyday activities.

Transportation in Comal County

Regional Transportation Planning / Vehicles / Commuter Rail / Public Transportation / Pedestrian and Bicycle Access

Regional Transportation Planning

Transportation planning for Comal County currently is conducted at the regional level. Comal County participates in the Alamo Area Metropolitan Planning Organization (AAMPO), which oversees approximately \$200 million annually (a highly variable amount) in federal and state funding for transportation projects in our region.

This AAMPO group of elected officials and staff from Bexar, Comal, Kendall, and Guadalupe Counties do long-term planning and create a shorter-term four-year priority plan for transportation projects. The projects for the four-year plan are chosen through a process that prioritizes them according to “technical scores” that show need and benefits and “public input scores” that show high citizen involvement.¹⁹

More information about AAMPO and its current long-range plan is available in its brochure, “[Mobility 2040](#).”

In addition to AAMPO, there is another regional coordinating group, the [Greater Austin–San Antonio Corridor Council](#). The cities of New Braunfels, Bulverde, and Garden Ridge are part of this group of eight counties and eighty-three cities, encompassing 6,731 square miles. Founded by business leaders, the council provides a venue for discussion of infrastructure and economic issues shared across the region.

Vehicles

The most prevalent means of transportation in Comal County are individual cars and trucks. The county is situated between two main north–south corridors, IH 35 and US 281. As a result, the densest development in the county is also along those corridors, in New Braunfels on the east and in Bulverde on the west. The area between those population centers had remained largely rural until more recently as large subdivisions began developing along east–west corridors, particularly SH 46 and FM 306.

As new residential developments are built, more pressure is placed on existing roads (see Figure 5 in “Residential Development”). In the decade between 2005 and 2015 the county and

¹⁹ Presentation by Comal County Commissioner Kevin Webb, March 23, 2017.

the Texas Department of Transportation (TxDOT) have cooperated on many projects to widen major thoroughfares from two to four lanes within the county, including US 281, SH 46, and FM 306.

Even with the accommodation for more vehicles, travel time in Comal County is higher than the national average. According to the U.S. Census Bureau, in 2015 employees in Comal County had an average commute time of 28 minutes, and 3.1% of the workforce had “super commutes” in excess of 90 minutes.²⁰ These high commute times may reflect the burgeoning of “bedroom communities,” where people live in Comal County but work in San Antonio or Austin.

Some residents worry that widening roads will only encourage more traffic, more air pollution, and possible environmental impacts from polluted water runoff over the recharge and contributing zones of the Edwards and Trinity Aquifers (see Figure 2 in “Water in Comal County”). However, one reason planners consider widening roads is to reduce idling time, which contributes to poor air quality.

In other counties and cities in the USA, [Low Impact Development](#) (LID) practices are being used to reduce runoff of water and pollutants from roads, thereby reducing the negative effects on streams and groundwater. Possible practices include using voids under sidewalks for storing runoff and slowing the velocity of runoff with grassy swales and grass-lined channels.²¹

Commuter Rail

The Lone Star Rail District Project, a long-hoped-for rail connection along the IH 35 corridor from Austin to San Antonio, met a major stumbling block. In February 2016, Union Pacific Railroad notified the rail district of its withdrawal from the plan, triggering the subsequent withdrawal of funding agencies. In a statement on its website, the rail district stated, “It is the hope of Lone Star Rail that this data can be used in projects that will promote mobility solutions along the Austin–San Antonio travel corridor.”²² Meanwhile, AAMPO is conducting studies with TxDOT and meeting with Capital Area MPO to investigate options.²³

Public Transportation

While San Antonio Metropolitan Transit has bus stations and routes planned in the AAMPO’s long-range plans, the only “mass transit” currently available in Comal County is Alamo Regional Transit (ART), a bus service provided by the Alamo Area Council of Governments in partnership with the City of New Braunfels and Comal County. The curb-to-curb service is provided by appointment for a fee dependent on distance.²⁴

²⁰ <https://datausa.io/profile/geo/comal-county-puma-tx/#transportation>.

²¹ U.S. Environmental Protection Agency. 2007. *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices*. EPA 841-F-07-006, p. 4. Available from: www.epa.gov/nps/lid.

²² <http://eis.lonestarrail.com/p/eis-overview>.

²³ Presentation by Comal County Commissioner Kevin Webb, March 23, 2017.

²⁴ <https://www.aacog.com/67/Alamo-Regional-Transit>.

Some residents have expressed the need for transportation for people without vehicles; however, thus far the economics of investment in public transportation have not been good. The City of New Braunfels, the most populous city in the county and the most likely candidate for buses, is seeking citizen input for their [2017 Comprehensive Plan](#).

Pedestrian and Bicycle Access

Pedestrian access via sidewalks is available mainly in downtown areas of New Braunfels. Pedestrian sidewalks and some bike lanes were also included in the widening of FM 306 in 2017. New Braunfels adopted a [Hike and Bike Trail Plan](#) in 2010, which was incorporated into the Alamo Regional Transportation Plan in 2012. Advocates have asked for sidewalks and bicycle lanes in populated areas and for hike-and-bike trails connecting the rural areas of the county. They point to plans that have been promulgated but without funding to bring the plans to fruition.

Planning for transportation needs is an important aspect of managing for growth. As municipal and county officials work together on planning for adequate roads to meet future population needs, consideration also should be given to all forms of transportation, including rail, bus, bicycle, and pedestrian.

Light Pollution

Increasingly, growth in Comal County has resulted in the [loss of night skies](#). As development increases, the lights from highways, commercial establishments, and residential areas begin to create glare for motorists, light trespass onto neighboring properties, and sky glow so that stars are obscured in developed areas of the county. Keeping starry skies visible is important for maintaining quality of life and attracting tourists, as well as protecting the nocturnal environment for wildlife.

Light inefficiently directed skyward also wastes money. Approximately 30% of the energy cost powering unshielded bulbs is uselessly illuminating the night sky. This wasted energy costs \$2.2 billion annually in the United States alone.²⁵

The City of Bulverde has included a section, “Dark Sky Ordinance,” in its building code. The purpose of this section is “to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky, by establishing regulations and a process of review for exterior lighting.” The ordinance includes provisions to provide safe roadways, to prevent light trespass, to promote efficient and cost-effective lighting, and to ensure lighting to promote safety and security, among other goals.²⁶

²⁵ Hill Country Alliance, “Issue: Preserving the Night Skies,” p. 3. Available from: http://www.hillcountryalliance.org/wp-content/uploads/2016/01/Night-Skies-for-web-ID7_7.12.17.pdf.

²⁶ City of Bulverde, Code of Ordinances, Section 3.09, “Dark Sky Ordinance.” Available from: <http://z2.franklinlegal.net/franklin/Z2Browser2.html?showset=bulverdeset>.

The ordinance requires that all exterior lighting shall be full cutoff fixtures with the light source fully shielded, which means there is no upward throw of light. Appropriate installation of light fixtures results in non-glare lighting directed to the location needed, without light trespass onto neighboring property, and without misdirected light toward the sky.

Other incorporated municipalities in Comal County could adopt a similar ordinance, and Comal County could use fully shielded, full cutoff fixtures for exterior lighting on county-owned buildings and sports parks. Light pollution is one type of pollution that is easily reversed.

Residential Development

Conventional Residential Development

The population of Comal County has been growing at a rate of about 40% per decade since the 1960.²⁷ In 2017, Comal was reported as the sixth fastest growing county in the United States.²⁸ Most of these additional people are finding homes in newly developing subdivisions (see Figure 5. Subdivision Growth in Comal County). In 2015 in Comal Independent School District there were 1,435 closings on new homes, and the district is predicting adding 5,300 new students between 2015 and 2020.²⁹

The increasing number of subdivisions has caused a dramatic change in land-use patterns. Between 1997 and 2012, the number of acres of working land (cropland, grazing land, and wildlife management) decreased by 13% in Comal County. During the same period, there was an increase in low-acreage properties and a decrease in high-acreage properties.³⁰ Rising market values encourage the sale of large ranches for subdivision development.

This continued, sustained change from rural to suburban land use has a significant impact on water resources, air quality, and transportation. Additionally, growth affects Comal County schools, fire and emergency services, and natural habitat. As stores and services open nearby, traffic congestion grows.

Subdivisions built in the years before the 2010s in the unincorporated areas of the county usually have lot sizes of 1 to 5 acres. Some have central water; many have private wells. Almost all have individual septic systems. More recent subdivisions are being built more densely, with multiple homes on 1 acre. Many newer subdivisions have central water and sewage systems

²⁷ <http://www.txcip.org/tac/census/hist.php?FIPS=48091>.

²⁸ MacCormack, Zeke. 2017. "Growth in San Antonio Area Counties Still Near the Top in US." *San Antonio Express News*, March 23, 2017. Available from: <http://www.mysanantonio.com/news/local/article/Growth-in-San-Antonio-metro-area-counties-still-11022960.php#photo-10113283>.

²⁹ Templeton Demographics, presentation, "Comal Independent School District Demographic Update, Spring 2016" (slides 4 and 23).

³⁰ Texas A&M Natural Resources Institute. "Texas Land Trends, Comal County." Available from: <http://texaslandtrends.org/data/Trends/County/Comal>.

maintained for the entire development. (See the discussion of “An Example of a Water Quality Issue” in the Water section.)

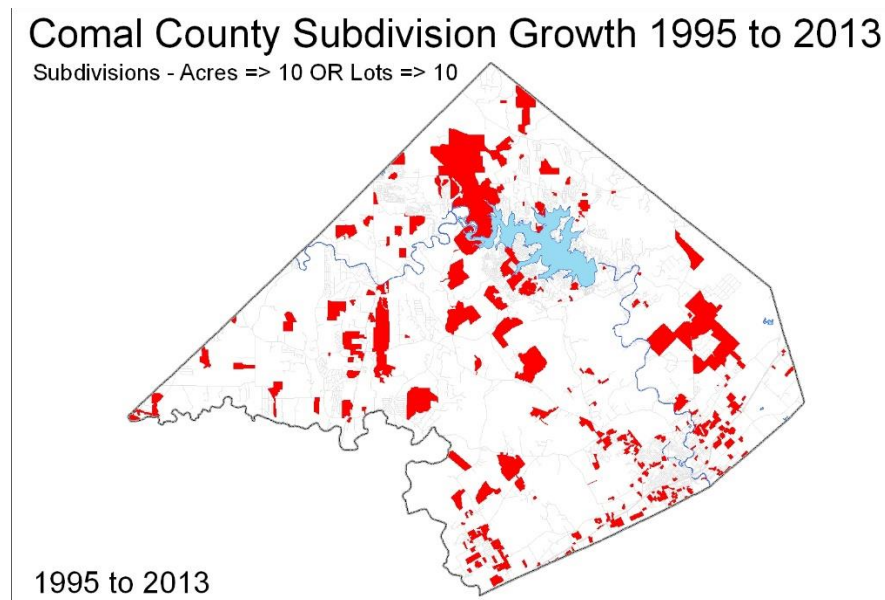


Figure 5. Subdivision Development in Comal County³¹

The negative effects of conventional development are many. As land previously covered in grass, understory, and trees is converted to rooftops and roads, the impervious cover increases, resulting in less recharge to groundwater and more runoff. Additionally, the runoff contains nonpoint source pollution from petroleum products on roads and driveways and from pesticides and herbicides on lawns. There are also impacts on the natural world. Temperature increases due to heavy concentrations of asphalt and cement affect wildlife populations. Habitat fragmentation caused by roads, curbs, easements, and fencing leads to loss of diversity in wild populations. Lack of diversity is an indicator of an unhealthy and unhealthful ecosystem. By protecting current levels of biodiversity, Comal County could become a center for ecotourism. Development without consideration of impacts on natural resources, human health, and wildlife could threaten the quality of life that residents of Comal County are seeking.

Alternatives to Conventional Development

Some developers in Texas have rejected the conventional model for subdivision development and are working on new models.

Conservation development is one concept that can address the needs for both growth and preservation of environmentally sensitive areas. Conservation developments use the natural features of the property to determine the best place for homes, roads, and natural areas. Natural

³¹ Figure courtesy of Tom Hornseth, Comal County Engineer.

swales and drainage areas are kept intact to collect runoff. Homes are clustered on smaller lots, with fewer roads and easements for utilities. The result is that the same number of families is living on a given property as in conventional development, but there is less negative environmental impact. Families have a large natural area for hike-and-bike trails, birding, and other eco-friendly recreation. Developers benefit because the infrastructure is less expensive to create and maintain.

Local governments can encourage conservation developments by writing water and septic regulations that allow clustered housing, stormwater management regulations that allow ponds and other natural features rather than concrete drainage, and weed ordinances that permit native grasses and plants to remain intact.

See the section, “Special Districts,” for a discussion of Public Improvement Districts (PIDs) used in Comal County in 2016 and 2017 to preserve natural areas in two developments.

Low-Impact Development is a design approach to managing stormwater runoff by means of on-site natural features to divert stormwater and protect water quality. Bioretention fields naturally filter pollutants through grasses and plants and then through gravel and rocks before they enter the water table. Permeable pavers reduce impervious surfaces and allow infiltration of stormwater.³² Other LID techniques include rain gardens, rainwater harvesting, and green roofs.³³

Greenbelt Zoning is a tool cities can use. The zoning requires that new construction be “clustered” housing on only half of the developed land and that the remaining natural area be preserved and maintained for parks, recreation, and protected habitat for wildlife. In unincorporated areas, greenbelts could be maintained and protected by a property owners’ association or could become part of a land trust managed by an environmental or other organization. Greenbelt Zoning can offer advantages to developers by reducing infrastructure costs, to local governmental entities by reducing maintenance costs, and to property owners by lowering property costs.

Conservation Easements are tools for protecting open space or environmentally sensitive areas. A conservation easement is a legal agreement between a property owner and a land trust. The agreement is a restriction on a selected property right, and the restriction is monitored and enforced by the land trust organization. The easement can be donated or voluntarily sold to the land trust, and the landowner may continue current use of the property.³⁴ Conservation easements provide a way for individual property owners to protect their land from unwanted development while keeping their land in private ownership, providing tax incentives for the landowner, and retaining land management responsibility by

³² Low Impact Design Center. “LID Urban Design Tools.” Available from: http://www.lid-stormwater.net/lid_techniques.htm.

³³ Jaber, Fouad H. “Stormwater Green Infrastructure: Evaluation, Performance, and Modeling.” Texas A&M Agrilife Extension, Dallas Research & Extension Center. Available from: <http://www.nctcog.org/envir/SEEclean/wq/documents/LID-Fouad-Jaber-Stormwater.pdf>.

³⁴ Hill Country Alliance. 2014. “Conservation Easements and Working with Land Trusts.” Available from: http://www.hillcountryalliance.org/wp-content/uploads/2014/06/THC_Conservation-Easements_7.pdf.

Federal

(1) U.S. Army Corps Engineers ([Canyon Lake](#))

Overnight Camping: Potter's Creek, Canyon Park, Cranes Mill Park, and North Park

Day Use: Canyon Beach Park, Comal Park, Guadalupe Park, Overlook Park

The U.S. Army Corps of Engineers and Canyon Lake

In addition to responsibilities for flood control and water conservation through regulation of Canyon Lake Dam, the U.S. Army Corps of Engineers (USACE) maintains several parks for camping, beaches for recreation, and four hiking trails around Canyon Lake. Beginning in 2016 USACE began the process of revising the Canyon Lake Master Plan.* The revised Master Plan includes revised land classifications, including 338 acres as environmentally sensitive, new natural and recreational resource management objectives, recreation facility needs, and special topics such as invasive species management and threatened and endangered species habitat. The draft of the Master Plan was released in July 2017, with adoption by December 31, 2017.**

* <http://www.swf.usace.army.mil/About/Lakes-and-Recreation-Information/Master-Plan-Updates/Canyon-Lake/>

**http://www.swf.usace.army.mil/Portals/47/docs/Lakes/Canyon/MasterPlan/Canyon_Lake_Master_Plan_Draft_Final.pdf

State of Texas

(2) [Guadalupe River State Park](#) is approximately 1,940 acres acquired by the state in 1974. The park opened in 1983. Camping sites, day use sites, trails, and river access are available.

[Honey Creek State Natural Area](#), 2,294 acres, was acquired by deed from the Texas Nature Conservancy in 1985 and by deed from a private individual in 1988. It was opened for limited access in 1985, and entry is by guided tours only.

Comal County Parks

(3) Curry Nature Center was donated to the county in 2013. It is 52 acres and features a ¾-mile hiking loop.

(4) Kleck Park was donated to the county in 2014. It is 43.5 acres and features three looped walking trails that total just over 1 mile.

(5) Jumbo Evans Sports Park is a 65 acres park developed for sports.

(6) Hidden Valley Sports Park is 75 acres of land leased by Comal County from the U.S. Army Corps of Engineers. It includes a recreation center and various playing fields.

New Braunfels Regional Parks

(7) Landa Park (51 acres) is a recreational park along the Comal River. Adjacent to it are Hinmann Island Park (10 acres), Prince Solms Park (19 acres), Landa Park Golf Course (122 acres), and Panther Canyon (46 acres), which comprises a hiking trail.

(8) **Fischer Park** (62 acres) is a recreational park that includes a Nature Education Center.

Preserves

(9) **Morton Golden-cheeked Warbler Preserve** is a 288-acre property that was acquired by the county in 2007 and is administered by it in perpetuity for the endangered Golden-cheeked warbler and other rare species.

(10) **Cibolo Bluffs Preserve** is a 2,765-acre property of pristine Golden-cheeked Warbler habitat and encompasses nearly 3 miles of Cibolo Creek. The Nature Conservancy initially established [Cibolo Bluffs](#) as a 1,244-acre protected parcel and added a little more than 1,500 acres in 2013 to help protect nearby **Bracken Bat Cave**. A coalition of public and private organizations that includes the city of San Antonio, Bat Conservation International, the Edwards Aquifer Authority, Forestar, the U.S. Army, Bexar County, and the Nature Conservancy acquired the property separating Cibolo Bluffs and Bracken Bat Cave to create an uninterrupted expanse of nearly 5,000 protected acres.

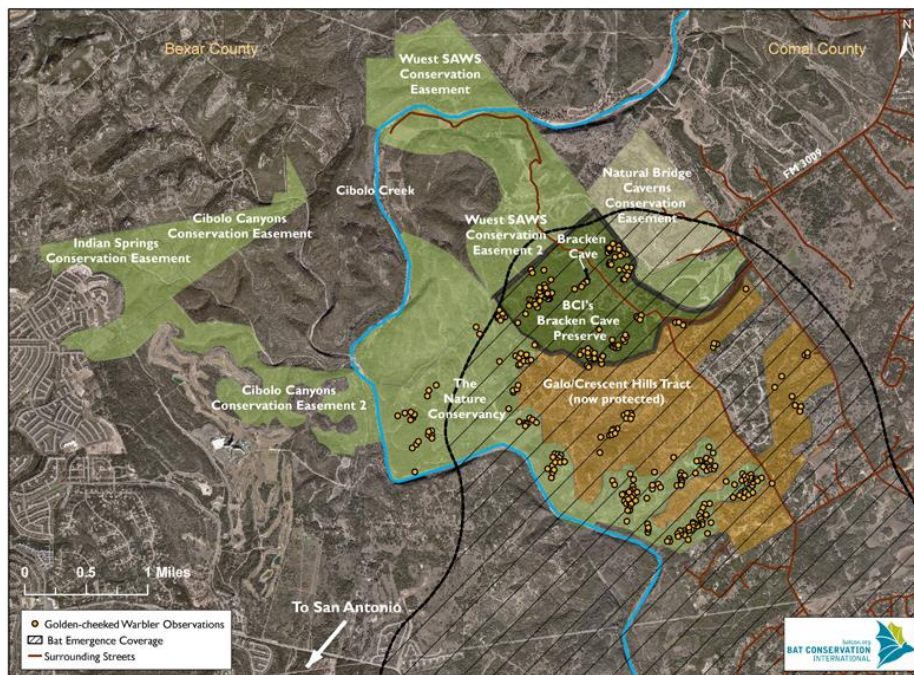


Figure 7. Protected Properties Associated with Bracken Bat Cave³⁶

Bracken Bat Cave is the summer home of more than 15 million Mexican Free-tailed Bats, making it the world's largest bat colony. Bat Conservation International (BCI) purchased the land on which the cave is located in 1992. Since then BCI and conservation partners have continued to purchase land around the cave to conserve not only the bats but also the many other native and endangered species found on the Bracken Cave Preserve (see Figure 7). The BCI stewards the

³⁶ Source: <http://www.batcon.org/our-work/regions/usa-canada/protect-mega-populations/bracken-cave/saving-bracken-cave>.

entire property, protecting endangered birds and rehabilitating the land by removing invasive vegetation and reviving native plants.

Planned Educational Centers

[Headwaters at the Comal](#) is a 16-acre renovation project of the former site of New Braunfels Utilities operations. Situated on the banks of the Comal Springs and Blieders Creek, the facility will highlight the hydrological, environmental, and cultural history of the region and will be a living demonstration of sustainable practices for the local community and nation. New Braunfels Utility has established a designated fund with the New Braunfels Area Community Foundation to complete the project to its fullest potential.

Guadalupe–Blanco River Authority (GBRA)/Gorge Preservation Society is working with the Guadalupe River Foundation to raise funds to build an education center overlooking the gorge, which was formed in 2002 when an historic flood topped the Canyon Lake Dam spillway and created the 64-acre gorge. The GBRA manages the site and has bought 21 adjacent acres for the planned facility. The [Gorge Preservation Society](#) offers tours.

Comal County Regional Habitat Conservation Plan

In 2006 work on a county regional habitat conservation plan was initiated. It was expected that growth within the county would lead to a loss of habitat of species protected under the U.S. Endangered Species Act (ESA)—the Golden-cheeked Warbler and Black-capped Vireo. The plan’s objectives were to 1) protect and preserve open space, 2) conserve and protect the county’s endangered species and collect data on potentially threatened species, and 3) facilitate landowners and other entities’ compliance with the ESA. The application was submitted to the U.S. Fish and Wildlife Service in April 2010 and was finally approved with negotiated amendments in January 2016.

Under the plan, the incidental “take” of the Golden-cheeked Warbler or Black-capped Vireo (that is, the loss of their habitat) associated with various types of development and construction by public and private entities in these species’ habitat would be offset by the purchase of mitigation credits. Mitigation credits would then be used to purchase acreage in suitable preserved habitat. The plan calls for a 500-acre preserve in Comal County to protect these species. Benefits would also accrue to other wild fauna and flora within the preserve. At the time of writing, Comal County has made no plan for acquiring a preserve for the RHCP.

The county has begun to process applications for permits for “taking” of habitat through the RHCP. In 2016 a permit was granted to Capital Aggregate. A second permit was granted to CEMEX Construction Materials in July 2017. Both companies paid mitigation credits to a land conservation bank in Bandera County.³⁷

³⁷ Communication from Tom Hornseth, Comal County Engineer.

Acquisition of Land for Preserves or Parks

City and county governments typically have little money in their budgets for acquiring parks or preserving open space. Generally some combination of land donation, grants, and public funding is needed.

Financing for Conservation. The two major ways that local governments can generate income is through bonds and sales tax. (Comal County does collect sales tax, but the funds can be used only to reduce revenue from property tax. Sales tax do not provide additional funds.) Some nearby cities and counties have been successful in receiving voter approval to collect public funds for the purpose of obtaining or protecting natural areas for parks or preserves (see Table 1). Despite those successes, officials have been reluctant to propose bonds for conservation purposes in Comal County.

Texas Local Conservation Measures 2010-2015

Jurisdiction Name	Date	Mechanism	Status	% Yes	Conservation Funds Approved
Harris County	11/3/2015	Bond	Pass	63%	\$4,000,000
San Antonio	5/9/2015	Sales tax	Pass	75%	\$80,000,000
San Antonio	5/9/2015	Sales tax	Pass	78%	\$100,000,000
Frisco	5/9/2015	Bond	Pass	77%	\$21,125,000
Arlington	11/4/2014	Bond	Pass	67%	\$1,000,000
Buda	11/4/2014	Bond	Pass	59%	\$1,100,000
Williamson County	11/5/2013	Bond	Pass	55%	\$5,000,000
El Paso	11/6/2012	Bond	Pass	75%	\$5,000,000
Austin	11/6/2012	Bond	Pass	56%	\$30,000,000
Travis County	11/8/2011	Bond	Pass	59%	\$49,995,000
San Antonio	11/2/2010	Sales tax	Pass	66%	\$90,000,000
San Antonio	11/2/2010	Sales tax	Pass	67%	\$45,000,000
McKinney	5/8/2010	Bond	Pass	72%	\$6,000,000
Richardson	5/8/2010	Bond	Pass	57%	\$4,083,500



Table 1. Texas Local Conservation Measures 2010–2015³⁸

Special Districts and Tax Incentives. County officials cite the success of two Public Improvement Districts (PIDs) in 2016 and 2017 as a way that a private development can fund the preservation of a natural area within the development (see discussion in “Special Districts”). The county and cities also may offer property tax incentives to new businesses that agree to specific sustainable development practices.

Conservation easements. Property owners, through agreements with land trusts, may

³⁸ Source: Will Abberger, Trust for Public Land, presentation February 2, 2017.

voluntarily donate or sell conservation easements to preserve natural areas in the county. The easement may be purchased using public funds, through a grant, or some combination of funding. (See Conservation Easements in “Residential Development.”)

Foundations. The City of New Braunfels benefitted by the establishment of the New Braunfels Parks Foundation, formed in 2006. Through a combination of land donation, fund raising, grants, and city funding the foundation was able to help secure Fischer Park for the city. The foundation, as a 501-c-3 organization, can accept land donations and financial donations that can then be used for applying for matching grants. The foundation can then donate all proceeds to the city.

Role of Local Governments

Municipalities / Comal County / Special Districts / Extraterritorial Jurisdiction (ETJ)

Municipalities

Cities have authority to make land-use regulations that include zoning, subdivision controls, annexation and municipal boundaries, and capital improvements plans as well as septic, drainage, flood, building, signs, and landscaping regulations. Cities can use their authority to balance growth with protection of natural resources (see “Alternatives to Conventional Development”).

There are four incorporated cities located either entirely within Comal County or have boundaries primarily within Comal County: Bulverde, Garden Ridge, New Braunfels, and Spring Branch. Three other cities have boundaries that include a portion of Comal County: Fair Oaks Ranch, Schertz, and Selma. Cities fall under either Home Rule or General Law A, B, or C. When a General Law Type city reaches a population of 5,001, it may hold an election to adopt a home rule charter. There are two primary differences between the [types of cities](#). Home Rule cities have authority to enact regulations unless prohibited by state law, and General Law cities only have the authority given by the Texas Constitution. Home Rule cities are limited to an ad valorem tax of \$2.50 per \$100 valuation. A General Law Type A city is limited to \$1.50 per \$100; a Type B city is limited to \$0.25 per \$100; and a Type C city is limited to \$0.25 or \$1.50 per \$100, depending on population. Various state laws certainly affect how much authority cities have.

Bulverde is a Home Rule type city that incorporated in 1997 and had an estimated 2016 population of 55,022.³⁹ The home rule charter was adopted in May 2015. The [City of Bulverde Comprehensive Plan](#), “Sunrise 2025,” was adopted by the City of Bulverde in 2004 after a two-

³⁹ 2016 population estimates in this section are from the U.S. Census.

year process of gathering citizen input and establishing goals and priorities. The completed plan contains specific goals for land development/growth management, public safety and community services, infrastructure, transportation, historical and heritage preservation, economic development, and community development. In alignment with the comprehensive plan, the City Council adopted a [Future Land-Use Plan](#) on August 9, 2016, and a [Zoning Ordinance and Zoning Map](#) on September 13, 2016.

Garden Ridge is a General Law Type A city that incorporated in 1972 and had an estimated 2016 population of 3,957. In April 2017, Garden Ridge began the process of creating a [Master Use Plan](#). The urban planning consultant firm, Freese and Nichols, was hired to lead the project, which began with the creation of a steering committee and scheduled public meetings. The City Council expects to adopt the plan in October 2017. The plan's website states that, "The plan will be specific to Garden Ridge's unique context, incorporating realistic recommendations and strategies that will help shape the future, while protecting the natural environment and community character."

New Braunfels is a Home Rule city that incorporated in 1846 and has an estimated 2016 population of 73,959. The Comprehensive Plan was first adopted in 1999 and updated in 2006. In 2016 the city began the process of creating "[Envision New Braunfels](#)," a new "roadmap for the future." The process is very citizen and community driven with surveys, workshops, a steering committee, and nine plan-element advisory groups. The nine elements are growth and future land use; urban design and cultural, heritage and historic preservation; parks and recreation; economic competitiveness; tourism; transportation; natural resources and infrastructure; education and youth; and facilities, services and capital improvements. The plan should be completed in February 2018.

Spring Branch is a General Law Type C city that incorporated on November 19, 2015 and has approximately 250 residents.⁴⁰ Spring Branch does not have a land-use plan, but [subdivision regulations](#) have been adopted that set requirements for building, road, sewage, and water.

Vesting

Local Government Code Chapter 245 of the Texas Local Government Code is entitled "Issuance of Local Permits." However, it is generally referred to as the "vested rights statute." In 2005, the Texas Legislature passed two bills amending Chapter 245 that reduced, even more, the ability of cities to enforce building and zoning regulations. The purpose of the law is to "freeze" regulations once a permit has been filed. The law gives a wide latitude as to what constitutes filing and the beginning of the vesting period. Also the regulations for preventing dormancy are not very stringent. This has created [problems for cities](#) and [project protection for developers](#).

⁴⁰ A map of Spring Branch can be found at <http://nebula.wsimg.com/c8601ce1cd25fcc12bdb52493bf3be5b?AccessKeyId=78CDC7B87738592D34D4&disposition=0&alloworigin=1>.

Comal County

Unlike city governments, which have zoning authority and other ordinance-making powers, county government in Texas is restricted by state law to certain functions as outlined in the Texas Local Government Code. Section 232 restricts county rule-making authority to promoting the health, safety, morals, or general welfare of the county and the safe, orderly, and healthful development of the unincorporated area of the county.

Comal County has used this authority to develop subdivision rules that are required when a developer seeks a platting permit. To ensure sufficient water supply, an engineer must certify that the subdivision has identified a water source that will meet the needs for 30 years at full build-out. To protect groundwater quality, lots including both an individual well and septic system require at least 5 acres, and lots with a public water supply and septic system require 1 acre. For flood control, stormwater drainage is required, and no adverse impact due to runoff to neighboring property is allowed. Roads within the subdivision must be built to county specifications, reducing the cost of county maintenance after build-out.

To deal with ongoing health and safety issues, county authority includes enforcement powers for on-site septic systems and for removal of sanitation nuisance or litter through the Comal County Engineer's Environmental Health Department. The county also provides resources to Home Owner Associations (HOAs) and Property Owner Associations (POAs) for dealing with health and safety issues within their neighborhoods. Some associations would like legal help from the county in supporting HOA and POA Declarations of Conditions, Covenants, and Restrictions (DCCRs), commonly known as "deed restrictions." Other advocates would like the county to give technical assistance to be sure DCCRs have landscape rules that do not require excessive water use.

Comal County also protects historic land use through its Historical Commission. In 2017 the Fischer Historic District will be placed on the National Register of Historic Places, joining the Gruene Historic District as the only two designations in Comal County. Preservation of historic resources is important to Comal County.

In planning for the future, county elected officials and staff participate in several regional planning processes for water supply, transportation, and air quality. Despite these county activities, some residents see the need for Comal County to do more to address the rapid changes taking place because of the increased pressures of population growth.

County-Wide Plan. While counties do not have authority to zone, or to designate areas of the county for specific uses, some counties are designing plans to help guide future decisions. The [Travis County Land, Water, and Transportation Plan](#) identifies critical natural resources to protect, plans possible roads, parks, and drainage systems, and provides guidance for county policies and growth-related decisions. A similar process in Comal County, involving residents, could identify areas for protection or preservation.

Preservation of Natural Areas. Comal County is a desirable place to live because of the natural beauty of its springs, creeks, rivers, woodland areas of old-growth hardwoods and

juniper, song birds and other wildlife, and the scenic vistas of rolling hills. Some areas have already been protected (see Figure 6 in “Parks and Open Spaces”). To protect sufficient area for future generations, many residents are suggesting that the county spear-head projects to preserve large areas now, including a preserve for the Comal County Regional Habitat Conservation Plan and riparian greenbelts to protect watersheds and support hiking trails for ecotourism.

Legislative Changes. In 2007, 2009, and 2011, counties in fast-growing areas like Comal County unsuccessfully asked for legislation that would give counties more authority to implement guidelines for development and land use. Tools that counties would find helpful include authority to establish density rules; to require setbacks between incompatible land uses, for example between an existing neighborhood and a proposed quarry; to limit impervious cover; or to collect impact fees to offset costs to existing infrastructure, like roads. Legislation could be written so that counties could propose which powers they would want and then request voter approval. Creating legislation that both meets the needs of growing counties and protects the rights of property owners has proven elusive.

Special Districts⁴¹

Special districts are typically board-governed political subdivisions of the state that are independent from the general-purpose local government and perform just one or limited functions. Texas has more than 40 types of special purpose districts, including school districts. Between 1992 and 2012 the number of special districts increased by over 45%.⁴²

Utility districts provide basic infrastructure for new development and can take the form of a Municipal Utility District (MUD), a Water Control and Improvement District (WCID), or a Public Improvement District (PID). These districts are often proposed for unincorporated areas of a county where there is no land planning or infrastructure in place.

MUDs and WCIDs allow the developer to issue tax-exempt bonds to finance infrastructure such as drainage, water distribution, and wastewater collection and treatment systems. An elected or appointed board sets the taxing policy. Besides the powers to issue bonds and impose taxes, both districts can have powers of eminent domain. The review and approval authority for bond issuance for WCIDs and MUDs is the Texas Commission on Environmental Quality (TCEQ). Once a WCID has over \$50 million in public bond improvement requests, it can qualify as a MUD, which requires approval from the TCEQ. A MUD may be given power by the state legislature to annex land outside its district boundaries to create a new MUD; in this case, a new MUD can be created by the legislature without public consent or review by the TCEQ. The following special districts have been used by developers in Comal County to provide

⁴¹ Primary source: Michalec, Milan J. 2013. “We Really Need to Pay Attention to Special Districts.” Hill Country Alliance April 25, 2013.

⁴² Winter, Deena. 2015. “Special Districts—with Power to Tax—Grow Like Weeds in Texas.” Available from: <http://watchdog.org/252328/special-districts/>.

infrastructure and amenities: Johnson Ranch MUD and Meyer Ranch MUD; Comal County WCID 6 and Comal County Water Improvement District (WID) 1 and 2.

PIDs allow developers to finance trails, open spaces, drainage improvements, and roads in these communities at a cost to be borne by those who purchase homes within the development. Developers hold that such arrangements are to the benefit of both the county and residents. The Comal County Commissioners have approved two PIDs—one for the 88-acre Crossing and one for the 250-acre Grove in Village Oaks.⁴³

Special districts can be created legislatively, by the local county commissioners court, or through petition to TCEQ.

The use of special districts is seen as advantageous in that they allow a particular area to address its specific needs by taxing only within its jurisdiction. They are also touted as providing large economic benefits to the host community. However, the true economic effect is difficult to determine as the benefit–cost analysis is provided by the developer.

There are concerns about the use of special districts to meet rapid growth in the Hill Country. MUDs and WCIDs are confirmed by the popular vote of those who live within the new boundaries of the new district. Often when they are created, it is only a handful of citizens who control and implement the policy decisions for thousands of future residents. Sometimes these districts are approved even if there is local opposition, such as in the case of the Needmore Ranch MUD in Wimberley.⁴⁴ The proposal to create a district may occur after local government declines to alter subdivision development rules to accommodate a developer. When this happens, the use of these districts bypasses, and therefore undermines, county rules, rules that often are used to limit density to protect natural resources. Given that MUDs and WCIDs have an appointed or elected board that can implement policy and has taxing authority, special districts do create the appearance, if not the reality, of hidden government. There is also concern that small districts “are subject to little or no supervision by the state, leading to administrative, personnel, and financial practices that are inefficient and sometimes ethically and morally questionable.”⁴⁵

⁴³ Term Minutes of the Comal County Commissioners Court Meeting February 4, 2016 and April 13, 2017.

⁴⁴ Price, Asher. 2015. “Next Wimberley Water Fight: Needmore Ranch.” *Austin American-Statesman* November 8, 2015. Available from: <http://www.mystatesman.com/news/local/next-wimberley-water-fight-needmore-ranch/HhxjwewUz7DxrduqANW3mN/>.

⁴⁵ Peebles, Jennifer. 2011. “Growing Governments: How 'Special Districts' Spread across Texas with Limited Oversight and Accountability— but with Plenty of Power to Tax.” Available from: <http://www.texaswatchdog.org/2011/02/growing-governments-how-special-districts-spread-across-Texas-power-to-tax/1297796531.story>.

Extraterritorial Jurisdiction

Texas Local Government Code 42 gave cities the ability to extend their authority, that is, certain regulations, to an area outside their city limits (the areas must be contiguous with a city's boundaries and applies to unincorporated areas only). Such areas are known as extraterritorial jurisdictions (ETJs). An ETJ's boundaries are legally defined by the population size of the city and may be changed over time.

The current boundaries are

- (1) within 0.5 mile of those boundaries, in the case of a municipality with fewer than 5,000 inhabitants;
- (2) within 1 mile of those boundaries, in the case of a municipality with 5,000 to 24,999 inhabitants;
- (3) within 2 miles of those boundaries, in the case of a municipality with 25,000 to 49,999 inhabitants;
- (4) within 3.5 miles of those boundaries, in the case of a municipality with 50,000 to 99,999 inhabitants; or
- (5) within 5 miles of those boundaries, in the case of a municipality with 100,000 or more inhabitants.

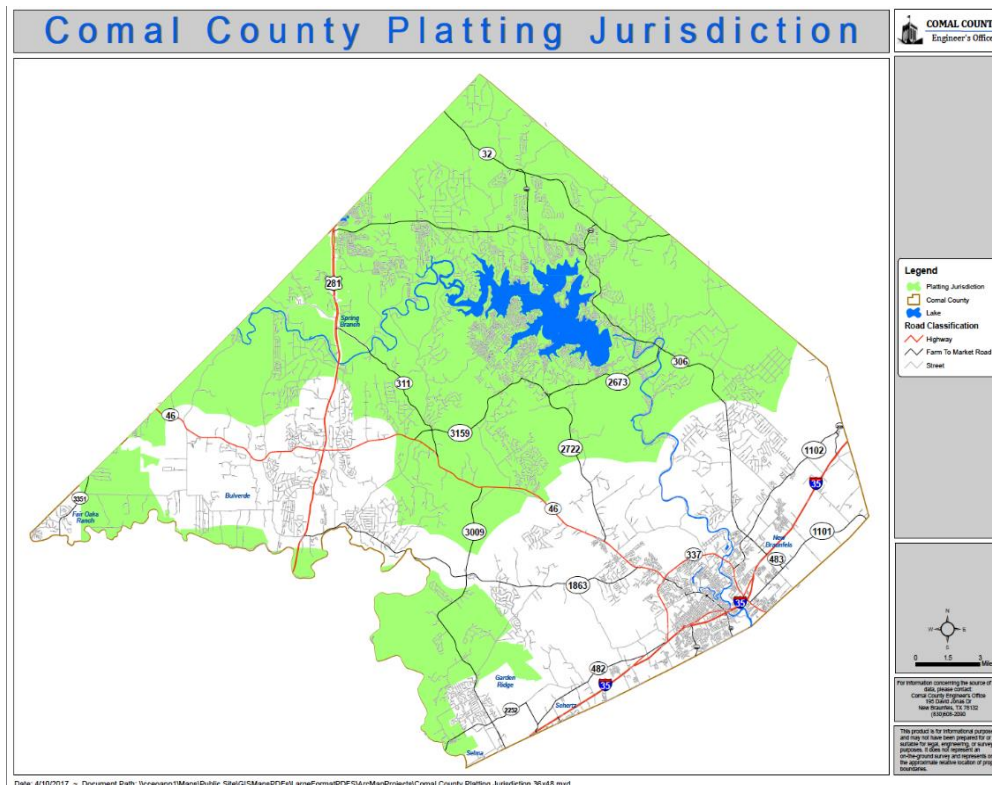


Figure 8. Comal County Platting Jurisdiction.⁴⁶ The green area of the map is where Comal County has platting jurisdiction. The white areas are where individual cities have platting authority as part of their ETJ.

⁴⁶ Available from: <\\cceaopp1\Maps\Public Site\GISMapsPDF\LargeFormatPDFS\ArcMapProjects\Comal County Platting Jurisdiction 36x48.mxd>.

The idea is that eventually the city would annex this area and should be able to enforce their subdivision regulations and infrastructure standards (and a very limited number of other regulations) in their ETJ. This ensures that cities will not have to assume maintenance responsibilities for substandard infrastructure upon annexation and generally results in a higher standard of development than would have occurred otherwise.

Local Government Code 242 limits subdivision regulations within an ETJ to one entity. Counties and cities have to agree which one would be authorized to enforce their regulations. Comal County has entered into interlocal agreements with the cities of Bulverde, Fair Oaks Ranch, Garden Ridge, New Braunfels, San Antonio, San Marcos, Schertz, and Spring Branch.⁴⁷ In each case, the county has given their authority to regulate subdivisions to the municipality. (See Figure 8. Comal County Platting Jurisdiction.)

Acknowledgements & Resources

Production

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<http://www.aquiferalliance.net/comal/>

⁴⁷ <http://www.cceo.org/subdivision/ilas.html>.

Scott Haag, Comal County Commissioner, Pct. 2, interviews.

Hill Country Alliance. *Toward a Regional Plan for the Texas Hill Country.*

<https://soa.utexas.edu/sites/default/disk/Toward-a-Regional-Plan-for-the-Texas-Hill-Country.pdf>

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The League of Women Voters, a nonpartisan political organization, encourages the informed and active participation of citizens in government, and influences public policy through education and advocacy.

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