

**COMPARATIVE ANALYSIS OF
WATER AND WASTEWATER
INFRASTRUCTURE REQUIREMENTS
IN STATES BORDERING WITH MEXICO**

Funded by:

TEXAS WATER DEVELOPMENT BOARD

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GRANTS MANAGEMENT

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December 28, 2001

Ms. Phyllis Thomas
Office of Planning
Texas Water Development Board
1700 N. Congress Avenue
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Dear Ms. Thomas:

In June 2001, the Texas Water Development Board (Board) engaged the services of Reed, Stowe and Yanke, LLC to develop a "Comparative Analysis of Water and Wastewater Infrastructure Requirements in States Bordering with Mexico" under Contract No. 2001-483-398. The attached final report presents our research, findings, and recommendations.

We appreciate the opportunity to provide our professional services to the Board and would like to express our sincere appreciation to you and other Board staff members for your assistance and thoughtful input throughout the course of the project.

Should the Board require additional information or clarification regarding our research and analysis, please do not hesitate to contact Mr. Dave Yanke or Ms. Kristin Keeling. They can both be reached at (512) 450 – 0991.

Very truly yours,

Reed, Stowe and Yanke, LLC

Enclosure

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LIST OF ABBREVIATIONS AND DEFINITIONS

Abbreviations:

MSR	Model Subdivision Rules
OSSF	On Site Sewage Facility
RS&Y	Reed, Stowe & Yanke, LLC
TWDB	Texas Water Development Board

Definitions:

Border States - refers to Texas, New Mexico, Arizona and/or California

EXECUTIVE SUMMARY

Within the past thirty years, the border region between the United States and Mexico has seen unprecedented growth in population, development, and economic opportunity. This rapid growth has been the result of several factors, including increased low-wage employment opportunities spurred by the expansion of the maquiladora industry and trade between the United States and Mexico. One consequence of this development has been the creation of “colonias.” Colonias are communities that lack the provision of basic infrastructure and can be characterized as having substandard housing construction, unpaved roads, and inadequate water and sewage facilities. Colonias have received national political and media attention and have been a growing concern for local, state and federal officials.

Colonias can be found in all states that border with Mexico, but the State of Texas has significantly more colonias than the states of New Mexico, Arizona and California combined. Recent efforts by the Texas Legislature have sought to stop the development of substandard housing along the border, but problems continue to exist. In order to better understand the problem of substandard housing development in Texas, the Texas Water Development Board (TWDB) initiated a research project to analyze and compare the subdivision regulations in border states. In June of 2001, the TWDB contracted with Reed, Stowe & Yanke, LLC (RS&Y) to perform a comparative analysis of the water and wastewater infrastructure requirements for states that border with Mexico.

The goals of the project are to:

- Provide the TWDB with a comprehensive assessment of the subdivision regulations of Texas, New Mexico, Arizona and California
- Analyze correlations between state regulations and land use development patterns
- Discuss the extent to which each state’s regulations have effectively addressed the problem of colonias
- Highlight appropriate opportunities to improve the guidelines set forth in Texas’ Model Subdivision Rules in an effort to minimize future substandard development

The research methodology utilized by the RS&Y project team began with an in-depth literature review of the issue of colonias in Texas, New Mexico, Arizona and California, and the magnitude of the problem of substandard housing in these border states. The project team then prepared a preliminary summary of the statutes and subdivision regulations that impact the development of colonias in unincorporated areas of each state bordering Mexico.

After completing the literature review and an initial summarization of the subdivision regulations in each state, the project team conducted on-site interviews. The site visits to New Mexico, Arizona and California were critical aspects of the research methodology

that provided an opportunity to have one-on-one discussions with the local and state officials that deal directly with issues related to colonias and land use regulations. In addition to on-site interviews, numerous telephone interviews were conducted with individuals involved in housing, planning, and colonia issues.

Key Findings

Texas

County subdivision regulations in Texas vary considerably across the state. The first actions taken by the Texas Legislature to address the problem of colonia development were in 1989, with additional legislation passed in 1995. As a result of this legislation, Texas counties that have been deemed eligible for the Economically Distressed Areas Program (EDAP) have the ability to utilize the Model Subdivision Rules (MSR) and to enforce development standards implemented by House Bill 1001.

The Model Subdivision Rules have been effective in significantly reducing substandard development in the border areas of the state. However, the problem of substandard development and communities that lack adequate water and wastewater facilities can be found throughout the State of Texas. A TWDB water and wastewater needs survey of non-EDAP eligible areas identified a total of 616 communities not located in the border region that lack adequate water and/or wastewater facilities. The need for increased regulatory authority to prevent colonia development is necessary to address the needs of the whole state, but currently the Model Subdivision Rules are only available to EDAP eligible counties. A summary of county land use regulation authority in Texas follows:

- County ordinance-making authority is weak and situation specific.
- Counties do not have zoning authority, except for limited cases specifically granted by the State Legislature.
- Model Subdivision Rules only apply to Economically Distressed Areas Program eligible counties and are not available to all counties in Texas.
- The Model Subdivision Rules define a subdivision as any tract of land divided into two or more parts of five or fewer acres intended for residential purposes.
- The Model Subdivision Rules:
 - ◆ Assure availability of adequate drinking water supply and sewer facilities in compliance with health and environmental standards,
 - ◆ Establish minimum setbacks of 10 feet from the road to ensure proper utility operations; and
 - ◆ Prohibit more than one single-family detached dwelling on each subdivided lot.
- All water and sewer facilities must be provided in accordance with the state standards

established by the Texas Department of Health and the Texas Natural Resource Conservation Commission.

- A land transaction through a contract for deed now requires the seller to file the transaction with the county, provide disclosure of all utility facilities on the property, and prohibits the forfeiture of the property if 40% of the total, or 48 months of payments, have been made under the contract.

New Mexico

New Mexico's subdivision regulations have evolved over time, beginning with the Land Subdivision Act of 1963. In 1995, New Mexico closed the loophole that allowed for unregulated land divisions by requiring that a subdivision of land into two or more lots must comply with all subdivision regulations. New Mexico officials report that this legislative action has significantly minimized substandard housing development. Officials report that colonia development in New Mexico was less the result of inadequate subdivision regulations, and more the result of insufficient enforcement. Local community efforts combined with a political commitment to address the problem of colonias have significantly improved the situation in New Mexico. A summary of county land use regulation authority in New Mexico follows:

- All counties have general ordinance-making authority.
- All counties have authority to develop comprehensive plans and enforce the plans through zoning ordinances.
- Subdivisions are defined as a division of land into two or more lots.
- Prior to the County Board of Supervisor's approval, subdivisions must include:
 - ◆ Preliminary and final subdivision plats
 - ◆ Quantifying the maximum annual water requirements of the subdivision and assessing water availability to meet the needs of the subdivision
 - ◆ Water conservation measures
 - ◆ Water of a quality fit for human consumption and protected from contamination
 - ◆ Liquid and solid waste disposal
 - ◆ Legal access to each parcel and adequate roads
 - ◆ Utility easements, terrain management, and phased development
- All water and sewage facilities must be in accordance with the rules set forth by the New Mexico Environment Department.
- Counties can adopt more stringent subdivision regulations than required by the Subdivision Act as long as the county has adopted a comprehensive plan.

Arizona

Arizona's county subdivision regulations are comprehensive in that they mandate the provision of adequate utilities, drainage and access for subdivisions of land into six or more lots. However, Arizona has a loophole that excludes land division into five or fewer lots from subdivision regulation. This has allowed the development of "wildcat" subdivisions in the state, which are communities that lack adequate roads, drainage and public access. Arizona officials claim that this loophole does not allow for the creation of colonia-like development because the building permit process does not allow for home construction unless the necessary utility connections for the property are present or permitted. A summary of county land use regulation authority in Arizona follows:

- All counties have general ordinance-making authority.
- All counties are required to develop a comprehensive plan and zoning ordinances.
- A subdivision is defined as a land division into six or more lots.
- Counties are required to create ordinances that require the posting of bonds to assure the installation of required street, sewer, electric and water utilities, drainage, flood control and improvements meeting minimum standards for design and construction.
- Subdivisions must comply with the established minimum state standards and rules for the provision of a domestic water supply and sanitary sewage disposal.
- Land divisions of fewer than five lots require a disclosure affidavit and counties may require compliance with zoning and access regulations.
- Counties may allow for minor subdivisions and waive preliminary plat requirements and/or reduce or waive other requirements for subdivisions of ten or fewer lots.

California

The State of California has the fewest designated colonias of any border state. Counties are granted the same subdivision regulatory authority as municipalities. All land divisions are regulated by the county and each subdivision is required to provide adequate utilities, drainage and access to the property. A summary of county land use regulation authority in California follows:

- All counties have general ordinance-making authority.
- Counties are required to develop a General Plan that acts as the official policy document that dictates the location of all land uses.
- The County Board of Supervisors must adopt zoning, subdivision and other ordinances to regulate land uses and carry out the policies of the General Plan.

- Counties can distinguish between major and minor subdivisions. A major subdivision includes land divisions into five or more lots, while a minor subdivision includes land divisions of four or fewer lots.
- Both major and minor subdivisions are regulated and must comply with local health department standards for water and sewage disposal.
- Minor subdivisions may be subject to fewer regulations, but the water supplies and sewage systems must still comply with all applicable state and county health code regulations.
- There are no “loopholes” that allow for unregulated land divisions.

Comparative Analysis Summary

Table ES: Border State Regulatory Comparison Matrix

State	Required Building Permit	General Zoning Authority	General Ordinance Authority	Subdivision Definition
Texas	No	No	No	Land divided into two or more lots.
New Mexico	Yes	Yes	Yes	Land divided into two or more lots.
Arizona	Yes	Yes	Yes	Land divided into six or more lots.
California	Yes	Yes	Yes	Any division of land.

The comparative analysis of the subdivision regulations in New Mexico, Arizona and California to the regulations in Texas resulted in five areas of distinction between the states.

1. **Texas Lagged Behind Other Border States:** Counties in New Mexico, Arizona, and California have been granted the authority to create ordinances and plan for future growth through comprehensive planning and zoning districts for several decades. Texas did not provide counties with significant authority to regulate subdivisions along the border until 1989, at which time it was optional to adopt the Model Subdivision Rules. It was not until 1995 that certain border counties were required to implement the Model Subdivision Rules.
2. **Inconsistent Authority for Texas Counties:** Unlike other border states, the Texas Legislature grants county authority to regulate land uses on a case by case basis. For instance, the Model Subdivision Rules can only be implemented by counties along the border or by counties that meet certain economic criteria. Additionally, only select counties have the ability to create zoning districts. The other border states have granted general land use authority, such as zoning authority, to all counties.

3. **Subdivision Regulation Comparison:** The county subdivision regulations in New Mexico, Arizona and California, and the Model Subdivision Regulations in the Texas border region are relatively comparable. Essentially, they all require the installation of water, wastewater, and drainage utilities according to the state's standards. Arizona is the one state that still allows for land to be split into five or fewer lots without requiring subdivision regulatory approval.
4. **Building Permits:** New Mexico, Arizona and California require that county building permits are issued for construction in unincorporated areas. This is another mechanism by which counties can be sure the proper utilities are installed on the property, as well as monitor compliance with applicable land use regulations and building codes. Some Texas counties implement a form of building permit that ensures that the property is not located in a flood plain. Additionally, some counties use the permit process as another means of ensuring that the property has adequate water and wastewater facilities. However, Texas counties do not have the authority to implement building codes or mandate land uses.
5. **Planning Authority:** New Mexico, Arizona and California have all granted counties the authority to create planning and zoning commissions for the orderly development of rural areas. In fact, these states are required to complete county comprehensive plans. The State of Texas has granted very select areas of the state the authority to zone, such as Padre Island and lands around various lakes in the state, but the large majority of counties in the state have no zoning authority.

Policy Recommendations

1. **Provide equal powers for all Texas counties.**

Consistent regulatory authority throughout the state would prevent the migration of colonia development from border counties to areas not regulated under the Model Subdivision Rules. Additionally, it would empower non-EDAP eligible counties with the authority to address problems of substandard development patterns that currently exist within their jurisdiction.

2. **Provide counties with general ordinance-making authority.**

New Mexico, Arizona and California State Legislatures have granted counties general ordinance-making authority, while the State of Texas has not. General ordinance-making authority in Texas would empower counties to proactively address issues related to the health and safety of its residents through expanding the county's ability to provide services and regulate activities that are in the best interests of the county as a whole.

3. **Provide for the creation of county zoning and planning commissions throughout the State of Texas.**

Zoning and planning are critical components of a county's ability to anticipate and plan

for the future, and these commissions help to ensure orderly and efficient development throughout the county. Currently, only EDAP eligible counties are able to establish planning commissions, and there are no provisions for the establishment of zoning regulations in the State of Texas.

4. Mandate county comprehensive plans that are directly supported through zoning districts.

Comprehensive plans are mandatory for counties in other border states, while they are very rare for counties in Texas. Zoning regulations are the most significant tool used to develop and enforce comprehensive plans, and counties in Texas are not authorized to create zoning regulations. Comprehensive plans act as a blueprint to guide growth and development in ways that conform to the goals and values of the community and require that officials take a long-term approach to development decisions. They are an important part of a county's ability to anticipate and plan for the future in other border states, and counties in Texas are currently unable to utilize this important land development tool.

CHAPTER I: PROJECT BACKGROUND

Introduction

Within the past thirty years, the border between the United States and Mexico has seen unprecedented growth in population, development, and economic opportunity. This rapid growth has been a consequence of several factors, including employment opportunities spurred by the expansion of the maquiladora industry and the North American Free Trade Agreement. Much of this opportunity has consisted of low wage jobs in the service, trade and manufacturing sectors. Local communities have often struggled to accommodate the continual influx of lower income individuals moving into the border region, resulting in a deficit of affordable housing along the border.

One result of this population explosion has been the creation of “colonias.” Colonias are rural communities that lack the provision of basic infrastructure and can be characterized as having substandard housing construction, unpaved roads, and inadequate water and sewage facilities. Colonias have received national political and media attention and have been a growing concern for local, state and federal officials.

Although all border states have colonias, the large majority of the colonias can be found in the State of Texas. Texas has approximately 1,500 designated colonias. Recent efforts by the Texas Legislature, such as the passing of the Economically Distressed Areas Program and the Model Subdivision Rules, have sought to stop the proliferation of colonias along the border, but this type of development continues to occur.

In fact, colonia-like development occurs throughout the State of Texas, not just along the border. A recent water/wastewater needs assessment performed in 2001 documented over 600 communities within the State that lack adequate water and wastewater infrastructure outside of the border region. This data illustrates that colonias are a problem not only along the Texas border with Mexico, but throughout Texas. To better understand why these problems continue to exist, the Texas Water Development Board (TWDB) contracted with Reed, Stowe & Yanke, LLC (RS&Y) in June 2001 to research the relationship between colonia development and subdivision regulations in border states.

Historically, counties in Texas have had very limited authority to regulate land development. As colonias became more numerous and the health and environmental consequences of colonia development became more apparent, the Texas Legislature was moved to action. Legislation was passed that was designed to prevent these destructive and unregulated land development patterns from continuing. Specifically, legislation gave eligible counties more authority and responsibility to regulate subdivisions for the purpose of preventing future colonia development, while also providing focused funding opportunities for the remediation of existing colonias. The legislation passed has been relatively effective at slowing the proliferation of colonias, but the problem has not been resolved.

Other border states do not appear to have colonia problems to the extent found in Texas.

Therefore, the TWDB determined that a thorough evaluation of the subdivision regulations in New Mexico, Arizona and California would provide insight into whether or not these states had effectively implemented legislation that reduced or eliminated the construction of substandard housing in rural areas.

The objective of the project is to evaluate the subdivision regulations of New Mexico, Arizona, and California, and to conduct a comparative analysis of the statutes in these states to the statutes in Texas. A thorough analysis of the policies and regulations in these states will provide the State of Texas with an opportunity to consider and/or incorporate the successful legislative initiatives of its neighboring border states¹ in order to reach the common goal of adequate and safe subdivision development.

Research Methodology

The Texas Water Development Board contracted with RS&Y in June 2001 for the purpose of reviewing existing residential community development regulations in each state that borders with Mexico. The goals of the project are to:

- Provide the TWDB with a comprehensive assessment of the subdivision regulations of Texas, New Mexico, Arizona and California
- Analyze correlations between state regulations and land use development patterns
- Discuss the extent to which each state's regulations have effectively addressed the problem of colonias
- Highlight appropriate opportunities to improve the guidelines set forth in Texas' Model Subdivision Rules in an effort to minimize future substandard development

The research methodology utilized by the RS&Y project team began with an in-depth literature review of the issue of colonias in the border states, and the magnitude of the problem of substandard housing in Texas, New Mexico, Arizona and California. This literature review, presented in Chapter II, provided the basis for understanding the issues confronting each state and how the challenge of preventing colonia development has, or has not, been effectively addressed.

The project team then summarized the statutes and subdivision regulations in Texas that impact the development of colonias in unincorporated areas of the state's border region. The project team conducted telephone interviews with various state and local officials in Texas to determine the effectiveness of the state's legislation in preventing the development of substandard housing. The summary and analysis of the statutes in Texas is presented in Chapter III.

After completing the literature review and an initial summarization of the subdivision regulations in each state, the project team began to prepare for on-site interviews. The site

¹ Throughout the report, "border states" refers to Texas, New Mexico, Arizona and/or California.

visits to New Mexico, Arizona and California were critical aspects of the research methodology. The on-site interviews provided an opportunity to have one-on-one discussions with the local and state officials that deal directly with issues related to colonias and land use regulations. In addition to on-site interviews, numerous telephone interviews were conducted with individuals involved in housing, planning, and colonia issues. The summary and analysis of New Mexico, Arizona and California statutes is presented in Chapter IV, Chapter V, and Chapter VI, respectively.

The telephone interviews continued throughout the course of the project. Opinions regarding the effectiveness of each state's legislation, as well as the extent of the problem of colonias in each state, varied considerably from interview to interview. The project team therefore conducted numerous telephone interviews in each state until a comprehensive understanding of the issues was attained. A list of local and state officials that were contacted and interviewed either through the telephone or through on-site visits is listed in Appendix A.

Once each states' subdivision regulations had been thoroughly summarized and evaluated for effectiveness in the prevention of colonia development, the land use regulations in New Mexico, Arizona and California were analyzed in a comparative format to the regulations in Texas. This analysis identified distinctions between the residential subdivision requirements for unincorporated areas of each state and is presented in Chapter VII.

The project team then developed a specific set of recommendations of how Texas could improve upon its subdivision regulations for the purpose of preventing substandard housing development. These recommendations, presented in Chapter VIII, were developed with the intent of providing the TWDB with a set of achievable goals for improving land development regulations in Texas.

CHAPTER II. LITERATURE REVIEW

The project team conducted a literature review including recent research, articles, books, and internet publications on issues related to colonia development in the border region of the United States. The purpose of this review was to provide insight into the factors that contribute to colonia development and to document existing housing deficiencies in Texas, New Mexico, Arizona, and California. Information that is specific to each state was gathered through the literature review as well as through interviews with local officials in each state. This document contains four chapters devoted to the review and analysis of subdivision regulations in each state. Each of these chapters contains an introduction that acts as an extension of the literature review, providing history and information about the extent of the problem of colonias in each state.

Overview of the U.S.-Mexico Border

Definition of Colonias

The border between the United States and Mexico extends for approximately 2,000 miles. Many of the communities that exist in this border region have characteristics unlike any other region in the country. The border region is a unique area that contains the intertwined economies and cultures of the United States and Mexico, almost serving as a region of transition from one country to the next.

The border region is also home to thousands of residents that live in communities called “colonias.” Residents of colonias are generally very low income, although this is not always the case. The term “colonia” is the Mexican word for neighborhood. This word is not only used by locals, but is now a term used and defined by the federal government for financial assistance purposes. The 1990 National Affordable Housing Act established a federal definition for a colonia as any identifiable community that²:

- (A) is in the State of Arizona, California, New Mexico, or Texas;
- (B) is in the area of the United States within 150 miles of the border between the United States and Mexico, except that the term does not include any standard metropolitan statistical area that has a population exceeding 1,000,000;
- (C) is determined to be a colonia on the basis of objective criteria, including lack of potable water supply, lack of adequate sewage systems, and lack of decent, safe, and sanitary housing; and
- (D) was in existence as a colonia before November 28, 1990.

² United States Code, Title 42, Section 1479 (f) (8).

The U.S. Department of Housing and Urban Development administers funds to colonias based on the definition stated above.

However, the formal definition of a colonia is inconsistent and depends on which governmental agency is distributing the funds for remediation. Prior to the HUD definition of a colonia, the United States defined the “border region” as a zone within 100 kilometers, or 62 miles, of the political boundary. The Environmental Protection Agency still distributes infrastructure funds to border communities based on this 62 mile range and defines a colonia as a community that was in existence prior to June of 1989 rather than November of 1990.

Characteristics of Colonias

As mentioned earlier, the border between the United States and Mexico extends for approximately 2,000 miles. The State of Texas is about 1,254 miles, or approximately 63% of this border, followed by Arizona with 426 miles (21%), New Mexico with 175 miles (9%), and California with 145 miles (7%). Texas, which has 63% of the length of the border, has approximately 87% of the total number of designated colonias in all border states.

Colonias are distinctive communities and can differ from one another in important ways, and therefore should be recognized as having unique characteristics and histories. Colonias can vary in population, size, demographics, local economy, and housing conditions. Some colonias are relatively new, while other colonias may have been established communities for sixty years or more. However, there are commonalties among colonias that are inherent in the definition of the term. Colonias generally have the following characteristics:

- Residents living below the poverty line
- Substandard housing and/or mobile homes
- Lack of adequate water and sewage facilities
- Unpaved roads and a lack of drainage infrastructure
- High percentage of Mexican-Americans
- High levels of unemployment
- Poor health care and high rates of disease

Colonia housing conditions are similar in all border states. Housing may be constructed in stages over time or may consist of mobile homes. The housing does not usually conform to applicable building codes and may lack indoor plumbing and/or legal electric service. If potable water is unavailable, which is often the case, the homeowner must purchase water in bulk and store it on site.

Sewage facilities may also be absent or substandard. Some colonias may have septic tanks that are inadequate, malfunctioning, improperly installed, or the colonia may lack septic

tanks altogether, relying on holding tanks or cesspools. Almost all colonias lack paved roads and drainage infrastructure, creating dangerous flooding conditions in times of heavy rain and dust clouds from vehicle usage in dry weather. Lastly, many colonias have problems with access issues. The lots of land were divided and sold without government regulation, therefore no land was put aside for access or easements, creating difficulties for local emergency vehicle access.

The general characteristics of colonias discussed above can also occur in communities that are not within the border region of the state. In Texas, the problem of substandard development and housing that lack adequate water and wastewater infrastructure exists throughout the State. In 2001, the Texas Water Development Board contracted for a needs assessment survey to be performed that quantified the number of communities with inadequate water and wastewater facilities. Over 600 communities, that total over one million residents, were reported to have inadequate infrastructure throughout regions of the state that are not eligible for financial assistance through Texas' Economically Distressed Areas Program.

A similar needs assessment survey was performed by Reed, Stowe & Yanke, LLC in 2001 entitled "Study to Determine the Magnitude of, and Reasons for, Chronically Malfunctioning OSSF Systems in Texas." A survey was mailed to designated representatives in charge of permitting and inspecting on-site sewage facility (OSSF) systems across the State of Texas. The survey response rate was 64%, and the results of the survey revealed that approximately 149,000 OSSF systems are reported to malfunction chronically across Texas. This translates to approximately 13% of the total number of OSSF systems in Texas. Additionally, this number only includes those jurisdictions that responded to the survey, so the actual number is likely to be higher.

Malfunctioning OSSF systems are a serious problem, and they not only inconvenience the homeowner, but can create threats to public health and the environment. The majority of the malfunctioning OSSF systems were reported to be in central and east Texas. This data further illustrates the fact that inadequate water and wastewater facilities are problems for the whole state, rather than just along the border with Mexico. The Executive Summary for the OSSF study is located in Appendix C.

Health related issues, such as Hepatitis A, shigellosis (amoebic dysentery), and other waterborne diseases, are continuing problems in the border states due to the lack of potable water and sanitary sewage disposal facilities in many colonias. Table II.A shows the rate of several waterborne diseases per 100,000 people in the U.S. border region, Mexico border region, and the U.S. nationwide in 1998. The rates of these diseases in the border areas exceed the rates found in the general population of the United States.

Insufficient water/wastewater infrastructure and substandard housing problems in colonias are significant contributors to the health-related problems in many colonias. Additionally, the ease with which the local populations can travel across the border results in more opportunities for outbreaks on one side of the border to travel to the other side. The

Environmental Protection Agency reported in the “Status Report on the Water-Wastewater Infrastructure Program for the U.S.-Mexico Borderlands” that improvements in water and wastewater infrastructure do have a significant positive impact on the rates of waterborne diseases. For instance, the completion of the South Bay International Wastewater Treatment Plant in the Tijuana River Valley decreased levels of fecal coliform in the local waterways as well as decreased the rates of most waterborne diseases from 1988 to 1998 in San Diego County.

Table II.A: Waterborne Diseases, Cases per 100,000 U.S.-Mexico Border, 1998

Disease	Disease Rates per 100,000 People		
	U.S. Border Rates	Mexico Border	U.S. Nationwide
Amebiasis	1.4	798.8	1.4
Hepatitis A	37.1	50.1	12.6
Shigellosis	35.3	No Data Available	10.9
Typhoid Fever	0.4	36.1	0.2

Source: Environmental Protection Agency, Status Report on the Water-Wastewater Infrastructure Program for the US-Mexico Borderlands

Table II.B illustrates the rapid population growth in the border states and the counties that have relatively high numbers of designated colonias. The large majority of counties with high numbers of designated colonias had population growth rates from 1990 to 2000 that exceed the growth rates of their host states.

Table II.B: Population Growth in Border States and Select Border Counties

Jurisdiction	1990 Population	2000 Population	Numeric Change	Percentage Change
TEXAS	16,986,335	20,851,820	3,865,485	22.7%
Cameron County	260,120	335,227	75,107	28.9%
El Paso County	591,610	679,622	88,012	14.9%
Hidalgo County	383,545	569,463	185,918	48.5%
Starr County	40,518	53,597	13,079	32.3%
NEW MEXICO	1,515,069	1,819,046	303,977	20.0%
Dona Ana County	135,510	174,682	39,172	28.9%
ARIZONA	3,665,339	5,130,632	1,465,293	40.0%
Yuma County	106,895	160,026	53,131	49.7%
CALIFORNIA	29,811,427	33,871,648	4,060,221	13.6%
Imperial County	109,303	142,361	33,058	30.2%

Source: United States Census Bureau, Census 1990 and Census 2000.

The very existence of colonias predominantly results from a lack of affordable housing options and it is therefore interesting to note that the counties with established colonias are continuing to experience high rates of population growth. Therefore, the pressures of population growth that led to the creation of colonias are still factors that the counties must handle today.

One commonality between many border counties with high numbers of designated colonias is the presence of a local economy that is largely dependent upon agriculture, and specifically dependent upon farming. Depending on the type of crop, farming can be very labor intensive and requires a large amount of cheap labor. Migrant farmworkers from Mexico were attracted to many of these counties for the available work and many eventually purchased land to settle in the area.

Table II.C illustrates the ratio of farm income to total personal income in select border counties in 1999. The table provides the same data for the entire state for the purposes of comparison. The counties presented in the table are not a comprehensive list of all counties that have a high number of colonias, but it includes counties in Texas that have significant colonia development, and counties in other border states that have colonias similar to what can be found in Texas.

Table II.C: Ratio of Farm Income to Border Income in Select Border Counties

Jurisdiction	Farm Income	Personal Income	Ratio of Farm to Personal Income
TEXAS	4,256,217	537,857,064	0.79 %
Cameron County	72,427	4,699,926	1.54 %
El Paso County	35,201	12,084,353	0.29%
Hidalgo County	108,947	7,134,999	1.53 %
Starr County	24,690	485,887	5.08 %
NEW MEXICO	688,733	37,990,750	1.81 %
Dona Ana County	130,194	2,896,590	4.49 %
ARIZONA	785,882	120,287,327	0.65 %
Yuma County	232,975	2,502,356	9.31 %
CALIFORNIA	8,273,320	989,590,237	0.84 %
Imperial County	343,473	2,549,796	13.47 %

Source: Bureau of Economic Analysis, Department of Commerce, 1999 data.

Growth Along the Border

The proliferation of colonias along the U.S.-Mexico border can be attributed to a combination of factors including a rapidly increasing border population attracted by economic and employment opportunities and a distinct lack of affordable housing to absorb the new residents.

The population of the border region between the United States and Mexico began to grow significantly in the 1940's. This is due in large part to the Bracero Program that was negotiated in 1942 between the United States and Mexico as an emergency measure during World War II. Many of the United States' able-bodied men were serving their country in the war and were unable to tend to the family farms and agricultural needs of the nation. The Bracero Program was instituted to encourage the migration of Mexican workers to the United States to provide much needed labor. Under the terms of the program, American agricultural enterprises could legally bring Mexican contract laborers for seasonal work.

This legislation continued to be in effect until 1964. Through the years the program was in effect, many Mexican migrant farmworkers had relocated their families to the border region to ease the distance and trouble of traveling for work. When the program was abolished, these families were settled on the border and unemployment was a significant problem. Mexico answered the need for jobs on the border by creating the Border Industrialization Program in 1965, now commonly referred to as the Maquiladora Program. This program was intended to attract labor-intensive industries, such as manufacturing, into the border areas of Mexico.

Maquiladoras are manufacturing plants that can be found throughout Mexico, but are largely concentrated along the US-Mexico border. The growth of the maquiladoras in Mexico has corresponded to growth in border cities and colonias in the United States. This industrialization of the border area coincided with general population growth in the “sunbelt” states, including Texas, New Mexico, Arizona, and California, during the 1960s, 1970s and 1980s. These states became important centers of agricultural activity, as well as industrial growth. Therefore, as important manufacturing jobs in the United States migrated from the “rustbelt” of the northeast to the southwestern states, the industrialization along the Mexican border was also rapidly expanding.

In the mid-1980’s the Mexican peso declined in value, attracting large American firms to take advantage of the beneficial economic opportunities to relocate portions of their operations to Mexico. In Mexico, from 1970 to 1990, the border maquiladora industrial inputs to GDP grew by almost 360%, while moderate growth inputs to GDP of 80% were recorded in metropolitan areas, such as Mexico City and Guadalajara.³

Recent national and international attention has been focused on the border due in large part to the North American Free Trade Agreement (NAFTA). NAFTA provides for nearly all tariffs to be eliminated on trade of originating goods between Canada, the United States, and Mexico by January 1, 2003. NAFTA has increased trade along the U.S.-Mexico border and the maquiladora industry has continued to grow. During the first nine months of 2000, maquiladora exports reached \$57.3 billion, which represents almost 47 percent of Mexico's total exports and 54 percent of Mexico's manufacturing exports. According to the El Paso Business Frontier, maquiladora employment reached 994,379 workers in 1998, up almost 732 percent from 119,546 in 1980.⁴

This unprecedented economic growth has attracted businesses and workers alike to the border region. Additionally, the immigration policies of the United States have also lead to the relocation of many Mexicans into the borderlands over the past five decades. The Bracero Program in conjunction with the 1952 Immigration and Nationality Act marked the beginning of this trend. The 1952 Act set aside half of each nation’s immigration quota to

³ *Industrialization, Urbanization, and Population Growth on the Border*. Borderlines, Volume 7, Number 7, August 1999.

⁴ *The Maquiladora Industry in Historical Perspective*. El Paso Business Frontier, Federal Reserve Bank of Dallas, El Paso Branch. Issue 3, 1998. <http://www.dallasfed.org/html/pubs/busfront/398.html>

be divided among relatives of U.S. citizens, allowing the opportunity for recent immigrants to relocate their families to the United States. Additionally, the Immigration Act of 1965 set an even higher priority on preference for family members. Lastly, the 1986 Immigration Reform and Control Act provided amnesty for many undocumented immigrants already in the United States.⁵

The rapid expansion of economic opportunities and other factors mentioned above contributed to an unprecedented migration to the border region, and has resulted in a situation that United States border counties were largely unprepared to meet. A common consequence of rapid population growth is the inability of either the private sector or the public sector to provide sufficient housing for the expanding workforce.

Housing in the United States is largely provided by the private sector. Unfortunately, the majority of employment opportunities in border communities are comprised of low-wage jobs. Most individuals moving into these areas do not have the credit history or income needed to attain a mortgage loan, making the construction of new housing by the private sector a largely unprofitable venture.

The inability of the private or the public sector to match the demand for housing along the border left individuals and families to find alternative means of fulfilling their need for affordable housing. Some individuals along the border perceived an opportunity to profit from this inequity between supply and demand for housing. The “developer” of a colonia was able to capitalize on four factors, including high consumer demand, a supply of rural and idle agricultural land, nonexistent or weak land development regulations, and a legal mechanism for land sales called “contract for deed.”⁶ Although the specifics of colonia development vary from state to state and colonia to colonia, the general development patterns are similar.

Contract for Deed

The common mechanism for the creation of colonias was the “contract for deed” or “contract for sale.” This type of land conveyance is different from typical land sales for several reasons. First, the land being sold was usually a plot of land without a house and with no improvements such as water, wastewater or electric connections. Property sold through a contract for deed was usually on an “as-is” basis, or was sold with promises of eventual improvements that were rarely provided. It was the responsibility of the purchaser to construct the home and provide the necessary improvements to the property.

Second, under a contract for deed, the legal title to the land did not transfer to the purchaser until all of the payments were made in full. If the purchaser was delinquent in payment,

⁵ *A Short History of U.S. Immigration*. American Immigration Lay Foundation, Immigration Policy Reports, 1996. <http://www.aifl.org/polrep/1996/pr9613.htm>

⁶ Ward, Peter M., *Colonias and Public Policy in Texas and Mexico: Urbanization by Stealth*, University of Texas Press, 1999, Page 90.

they could lose their claim to the land because there was no equity accrued. If the purchaser defaulted on the monthly payments, the landowner had the right to all improvements made to the land and could retain all previous payments made. Lastly, these contracts were usually not recorded with the county and were not afforded the protection by federal and state laws that would be given to a traditional homebuyer with a mortgage.

A contract for deed is clearly risky for the buyer, but it can also be an attractive option for several reasons. Individuals who purchase land through a contract for deed are often unable to attain traditional mortgages. Additionally, buyers of land through a contract for deed are often able to attain the contract for a minimal down payment. Lastly, the purchaser can construct the home and make improvements to the property in stages and as time and money allows.

RS&Y found that contracts for deed were a significant mechanism for the creation of colonias in border states. There are issues of conflicting or non-existent records of sale for lots in colonias throughout the border region due to the lack of records kept on contract for deed transactions. The contract for deed is legal in all border states. New Mexico and Arizona have not passed any significant legislation to curtail this type of land conveyance. RS&Y was unable to attain information regarding the effects of the contract for deed method of land conveyance on housing in California. Texas has recognized the abuses of the contract for deed and recently passed legislation providing significant protections for the land purchasers.

Illegal Subdivisions

Colonias are created through the sale of idle lands, often agricultural acreage. In the process of creating a legal subdivision, a developer will divide the land into lots and create a plat that details the necessary infrastructure such as streets, access, easements, etc. The approval of a final plat is dependent upon the regulations set forth by the county that usually include certification by an engineer regarding the adequate provision of water, sewer, electric, and gas facilities.

Colonias could be created legally or illegally. One legal method of colonia creation would be for a landowner to divide acreage into lots for sale. Land divisions were historically not regulated in most border states if the land was divided into a relatively few number of lots. For instance, until 1973, rural land in New Mexico could be divided into 25 lots without subdivision regulation. These lots could be sold without any improvements or facilities for water and wastewater.

The process for the creation of a colonia through legal means includes the sale of lots that were not subject to subdivision regulation. If the original landowner had 25 acres and split the land into five, 5-acre lots, those lots could be sold to separate individuals who could in turn divide their land into five, 1-acre lots. After this process, there would be twenty-five, one-acre lots for sale, which is more than enough to establish a colonia. In this scenario, there would not have been any county regulation of the land divisions if the county defined a

subdivision as requiring the land to be divided into six or more lots. Additionally, there were usually not any county records of the sale.

Illegal subdivisions could be created in several ways. In the example provided above, there could be collusion between the buyers and sellers of the land to work together to develop a pyramid scheme with the intent of creating a colonia.

Simply dividing large parcels of land into smaller lots for sale and actively avoiding detection by the county officials also creates illegal subdivisions. A developer may offer a landowner a generous price for their land if the transaction is owner financed and not through a lending institution. The developer can then divide the land into many lots and sell the plots to willing families through a contract for deed. It might be many months before authorities are made aware of the transaction. By that time, families may be settled on the land. Prosecution for illegal subdividers of land has historically been a long, expensive, and often ineffective undertaking for counties. County enforcement against developers that create illegal colonias was often beyond the means of many small and poor rural counties.

CHAPTER III: TEXAS

Profiles of Colonias in Texas

Texas has by far the largest majority of colonias among the border states. There are 48 counties in the State of Texas that are eligible for colonia assistance through the Texas Water Development Board as of September 2000. Table III.A depicts a list of all counties eligible for colonia assistance that are within the U.S.-Mexico border region. Currently, there are approximately 1,470 designated colonias in these counties with approximately 400,000 residents.

Table III.A: Demographics for Texas Counties within 150 Miles of the Border

County	County Unemployment Rate (2000)	Designated Colonias	Border County Population		Change in Population	
			1990	2000	#	%
Brewster	2.3%	2	8,681	8,866	185	2.1
Brooks	7.3%	7	8,204	7,976	-228	-2.8
Cameron	8.7%	119	260,120	335,227	75,107	28.9
Culberson	10.2%	0	3,407	2,975	-432	-12.7
Dimmit	12.6%	6	10,433	10,248	-185	-1.8
Duval	9.3%	17	12,918	13,120	202	1.6
El Paso	8.2%	152	591,610	679,622	88,012	14.9
Frio	7.1%	3	13,472	16,252	2,780	20.6
Hidalgo	13.6%	868	383,545	569,463	185,918	48.5
Hudspeth	3.5%	3	2,915	3,344	429	14.7
Jeff Davis	2.1%	1	1,946	2,207	261	13.4
Jim Hogg	7.7%	3	5,109	5,281	172	3.4
Kinney	7.5%	2	3,119	3,379	260	8.3
La Salle	7.2%	7	5,254	5,866	612	11.6
Maverick	21.4%	45	36,378	47,297	10,919	30.0
Pecos	5.4%	5	14,675	16,809	2,134	14.5
Presidio	27.6%	7	6,637	7,304	667	10.0
Reeves	9.1%	2	15,852	13,137	-2,715	-17.1
Starr	22.3%	118	40,518	53,597	13,079	32.3
Terrell	2.6%	1	1,410	1,081	-329	-23.3
Uvalde	7.1%	9	23,340	25,926	2,586	11.1
Val Verde	6.9%	12	38,721	44,856	6,135	15.8
Webb	7.0%	44	133,239	193,117	59,878	44.9
Willacy	15.5%	8	17,705	20,082	2,377	13.4
Zapata	8.9%	11	9,279	12,182	2,903	31.3
Zavala	15.3%	16	12,162	11,600	-562	-4.6
TOTAL	-	1,470	1,660,649	2,110,814	450,165	27.1

Source: United States Census Bureau: 1990 Census Data & 2000 Census Data; Texas Water Development Board; Bureau of Labor Statistics 2000 Data

The Texas Water Development Board maintains a detailed database of colonia related information and has determined the actual number of designated colonias in Texas as presented in Table III.A. Designated colonias in Texas must meet the following criteria:

- a majority of the population is classified as low-income and very low-income as determined by the federal Office of Management and Budget;
- it qualifies as an economically distressed area⁷; and
- it has the “physical and economic characteristics of a colonia” as determined by the Texas Water Development Board.

The counties with the larger populations tend to have the most colonias, such as Cameron, El Paso, Hidalgo, Starr and Webb Counties. These counties have unemployment rates that range from 8.2% in El Paso County to 22.3% in Starr County, which are considerably higher than Texas’ average unemployment rate of 4.2% in the year 2000. A high unemployment rate is the result of an economy that cannot support the available workforce. Counties with a high number of colonias usually also have high rates of unemployment and poverty.

According to the EPA’s definition, colonias must have been established prior to 1989. Interestingly, the counties that have the vast majority of established colonias continue to see rapid population growth. This is especially true of Hidalgo, Starr, Cameron and Webb counties, which had population growth rates that exceed the State of Texas’ growth rate of 22.7% from 1990 to 2000. El Paso County is somewhat unique in the border region in that it has a high number of designated colonias, but both the population growth rate and the unemployment rate are below the average in Texas.

The counties of Hidalgo, Cameron, and Willacy are located in the southern tip of Texas known as the Lower Rio Grande Valley (Valley). This region, along with neighboring Starr County, contains the largest concentration of colonias in the state. The economy of the Valley is based in border trade and agriculture. According to the Texas Comptroller of Public Accounts, total agricultural cash receipts in the region have averaged over \$522 million annually during the past five years. Approximately 88% of that total came from crop sales, while the remaining 12% were from ranching. Cotton and sorghum are the top field crops grown in the Valley, but fruits and vegetables are also important commodities for the region. Of all the Valley counties, Starr County receives the most profits from cattle ranching. Oil and gas production, as well as trade, are also important employment sectors in Starr County.

The fact that a majority of the agricultural production in the Valley consists of field crops is important. Field crops are much more labor intensive than livestock ranching and require

⁷ Economically distressed areas are defined in the Texas Water Code as an area in which, 1) Water supply or sewer services are inadequate to meet minimal needs of residential users as defined by TWDB rules, 2) Financial resources are inadequate to provide water supply or sewer services that will satisfy those needs, and 3) An established residential subdivision was located on June 1, 1989, as determined by the TWDB.

more low-wage labor. The region's history of field crop production provided opportunities for employment for many migrant farmworkers that eventually settled in the region.

El Paso County has a significant number of designated colonias. This county contains the City of El Paso, which is an important urban center and is a sister city to Ciudad Juarez in Mexico. The economy of this county is diverse, although the urban center is largely dependent upon trade, manufacturing and transportation. Rural areas are largely agricultural, with a specific emphasis on livestock enterprises. Many of the colonias in El Paso County are older established communities. The cost of land in this county has increased over the past decade and many of the lower income families have moved into the areas surrounding Las Cruces, New Mexico in search of cheaper land to settle. This has contributed to the problem of colonias in New Mexico.

There are many factors that have contributed to the proliferation of colonias in Texas. Trade between the United States and Mexico has been rising steadily for the past few decades and Texas is the major trade gateway between the United States and Mexico. According to the Texas Comptroller of Public Accounts, exports from Texas accounted for almost half of all trade between the United States and Mexico. Conversely, Texas is the largest export market for Mexico. Therefore, the relationship between Texas and Mexico can be considered unique among all the border states.

Another factor that may have contributed to the magnitude of the problem of colonias in Texas is the amount of developable land available in the state. This issue needs further research before it can be considered a valid factor in the proliferation of colonias. However, a preliminary analysis of private land available for development in Texas, New Mexico, Arizona and California shows a significant disparity between Texas and the other border states. Table III.B presents the total acreage of land in each state and then breaks the land down into the percentage that is owned by the federal and state governments, tribal lands, and lands under private ownership.

Table III.B: Comparison of Public and Private Lands in Border States

State	Total Acreage	Federal Lands	State Lands	Tribal Lands	Private Lands
Texas	168,217,600	1.4%	12.1%	0.0%	86.5%
New Mexico	77,766,400	34.1%	11.6%	10.2%	43.9%
Arizona	72,688,000	42.2%	12.8%	27.4%	17.6%
California	100,206,720	44.7%	5.0%	0.6%	49.7%

Source: Bureau of Census, General Services Administration; Texas General Land Office; New Mexico State Land Office; Arizona Public Lands Information Center; California State Lands Commission

Texas has a robust economy, important economic and cultural ties with Mexico, and significant opportunities for employment in many low-wage jobs. This combination of factors, along with cheap and available land, and historically weak subdivision regulations, has made Texas fertile ground for colonia development.

County Regulatory Authority in Texas

Constitutional Authority and Enabling Legislation

“Dillon’s Rule” is the traditionally referenced source in the United States for the powers granted to counties by state legislatures. The Dillon Rule is derived from an 1868 Iowa Supreme Court ruling stating that local governments "owe their origin to, and derive their power and rights wholly from, the legislature."⁸ **Essentially, this rule states that a county possesses only those powers that are expressly granted, or can be fairly implied, by the state legislature.** Texas counties have been granted authority according to Dillon’s Rule.

Texas generally supports private property rights and limited government. Counties in Texas have been traditionally and purposefully limited in their authority by the Texas Legislature. Article 9 of the Texas Constitution relates specifically to counties. This article allows for the creation of counties and details their very limited constitutional authority, including the ability to issue bonds for specific purposes designated by the Texas Legislature, such as for county-wide hospital districts and/or airport authorities.

Texas Statutes and County Land Use Authority

Texas politics have traditionally favored individual private property rights over the government’s authority to regulate and plan for growth. Therefore, when certain counties are confronting land use development challenges, the Legislature prefers to grant that specific county additional authority to address that specific problem, rather than provide the authority to all counties. For instance, zoning authority is only granted to particular areas of the state, including parts of Padre Island, the Amistad Recreation Area in Val Verde County, and areas surrounding certain lakes.

Counties in Texas are very limited in their authority to regulate land development. The majority of the powers over land use granted to **all** counties are provided in Section 232 of the Texas Local Government Code. Section 232.001 states that if a tract of land is divided into two or more parts, the subdivider must receive approval of their plat from the county commissioner’s court. Section 232.003 mandates that approved subdivision plats must include the proper arrangement and construction of streets, setbacks, access, public rights-of-way, and drainage requirements. However, there are few mentions of provisions for adequate water, wastewater or other utilities. In some cases, counties may require certifications for adequate groundwater and many counties act as authorized agents for the State’s on-site sewage facility system (OSSF) program, but for most counties in Texas, the authority to regulate water and wastewater provisions is very limited.

Additionally, counties have **not** been granted general ordinance-making authority from the Texas Legislature, which would allow counties to act as necessary to protect the public health and safety. Regulatory requirements for land development across the state have been spelled out for the applicable counties by the Texas Legislature. This has resulted in a

⁸ City of Clinton v. Cedar Rapids & Missouri River R.R. Co., 24 Iowa 455, 475 (1868).

patchwork of regulatory authority granted to specific counties. This pattern can be also seen in the development of the Model Subdivision Rules that relate to only EDAP eligible counties. While the majority of counties in the State of Texas are relatively powerless over land development, the regulatory authority granted to EDAP counties provides strict guidelines for subdivision regulation. The Model Subdivision Rules and other colonia-related legislation are discussed below.

Significant Subdivision Regulation Legislation

Senate Bill 2 (EDAP and Model Subdivision Rules)

The earliest action taken by the Texas Legislature to address the problem of inadequate infrastructure in colonias was Senate Bill 2. This bill was passed in the 71st Legislative session in 1989 and had two major components: the Economically Distressed Areas Program (EDAP) and the Model Subdivision Rules (MSR).

The establishment of EDAP allowed counties that meet certain requirements to access state and federal funds for water and wastewater infrastructure improvements. EDAP funds are only available to economically distressed areas within “affected counties.” An affected county must have a per capita income level at least 25% below the state average for the most recent three consecutive years and unemployment levels at least 25% above the state average for three consecutive years, and/or, must be adjacent to an international border. An economically distressed area means an area where (1) water supply or sewer services are inadequate to meet minimal needs of residents, (2) financial resources are inadequate to provide water or sewer services to satisfy the needs, and (3) an established residential subdivision was in place prior June 1, 1989.

The EDAP will fund construction, acquisition, or improvements to water supply and wastewater collection and treatment works, including all necessary engineering work. All political subdivisions, including cities, counties, water districts, and nonprofit water supply corporations, are eligible to apply for funds. Once the project is completed, the applicant must be capable of maintaining and operating the system.

Before an application for financial assistance from EDAP can be considered, documentation must be presented to the Texas Water Development Board that the county has adopted the necessary regulations to meet the requirements of the Model Subdivision Rules. **The MSRs were residential development guidelines set forth by the Texas Legislature that were designed to ensure the provision of water and sewer infrastructure to subdivisions along the border and in other economically distressed areas.** The purpose of the MSRs is to assure that an adequate supply of safe drinking water and safe sewer facilities are available to residential areas in accordance with standards established by the Texas Department of Health and the Texas Natural Resource Conservation Commission.

Originally, the Model Subdivision Rules applied only to residential subdivisions with lots of one acre or less, but in 1991 the coverage of the rules was expanded to apply to residential

subdivisions with lots of five acres or fewer. This made a considerable difference in closing the loophole that allowed for unregulated subdivisions. MSRs required eligible counties to adopt regulations that would (1) assure that adequate drinking water is available to the residential areas in accordance with federal and state standards, and (2) assure that adequate sewer facilities are available to the residential areas through either septic tanks or an organized publicly or privately owned sewage disposal system.

Senate Bill 336

Senate Bill 366 was adopted in the 74th Legislative Session in 1995, and provided the first measures of protection for individuals who were purchasing land under a contract for deed. As discussed in Section II, the contract for deed was the main mechanism for land development in the colonias for decades. Senate Bill 366 details strict and comprehensive requirements that the land developer must comply with in order to minimize the abuses that were so prevalent in contract for deed land purchases.

Any contract for deed negotiation must follow specific guidelines. The seller must notify the county of the contract and the county in turn must post a public notice of the deed. This is designed to alleviate the problem of land developers contracting with multiple purchasers for ownership of the same property. A survey plat of the property, and copies of all documents that might affect the title to the property, such as restrictive covenants and easements, must be provided to the purchaser of the property.

The seller must provide the purchaser with a copy of all written documents in Spanish if the negotiations were in Spanish. The seller must also disclose to the purchaser the availability of water, sewage, and electric service to the property. A critical aspect of Senate Bill 336 is detailed in Section 5.101 of the bill entitled Equity Protection; Sale of Property. This section prohibits the seller from enforcing forfeiture of the property if the purchaser has paid 40 percent or more of the amount due on the deed or the equivalent of 48 monthly payments under the contract.

House Bill 1001

House Bill 1001 was adopted in the 74th Legislative Session in 1995. This bill was an additional measure created to address the problem of inadequate water and wastewater infrastructure in the colonias. **The passing of this bill was another turning point in colonia land development practices related to the provision of basic utility services.** It set forth new requirements for subdivision platting and provided for civil and criminal penalties for non-compliance.

House Bill 1001 required affected counties to apply the Model Subdivision Rules to residential subdivisions, regardless of whether an affected county had EDAP applicants located within its boundaries. The definition of a subdivision originally applied to land divided into four or more lots that are five acres or fewer, but was amended to apply to divisions of land into two or more lots. The land must be intended for primarily residential uses and must be located in the unincorporated areas of the counties. The new rules required

a subdivider to prepare a plat and submit it to the county for approval. The requirements for a plat include:

- Certification by an engineer and definition of plat by metes and bounds
- Definition of the subdivision by metes and bounds and descriptions of the lots, including the dimensions of each lot, street, alley, square, park and/or other area intended for public use
- Description of the water and sewer facilities that will be installed to service the subdivision, and a statement specifying the date by which the facilities will be fully operable (written in both English and Spanish)
- Preparation of a document by an engineer stating that the water and sewer facilities are in compliance with the Model Subdivision Rules
- Provision of drainage for the subdivision

Essentially, HB 1001 requires that developers provide subdivision plats to the county that demonstrate the provision of water, sewage and drainage services. The plat must be approved by the commissioner's court and the court must determine that the subdivision complies with the Model Subdivision Rules before approval. The necessity to approve plats according to the MSRs also applies to unsold lots in existing colonias and to lots that were repossessed under a contract for deed.

Another method put forth in HB 1001 designed to ensure that illegal subdivisions do not evade county regulation involves rules pertaining to the utility providers. Utility companies may not connect to a property unless a final plat has been approved by the commissioner's court. The process of approval for a plat ensures that the water and sewage facilities conform to all the necessary state and federal regulations. In order to connect electric or gas service, the water and sewer services must be installed.

Senate Bill 1421

Senate Bill 1421 was approved in the 76th Legislative Session in 1999. The bill contained a series of measures designed to improve the regulation of subdivision development in colonias. The rules set forth in SB 1421 only apply to counties in which any part of the county is within 50 miles of an international border and applies to land divided into two or more lots intended for residential use. Subchapter D of the bill enables counties to establish a county planning commission that has the authority to act on behalf of the commissioner's court in matters related to land use, health and safety, planning, and development.

The bill also required the TWDB to formally adopted Model Subdivision Rules, which had been issued by the TWDB as guidelines since 1990. This change gave the Texas Attorney General's Office the ability to investigate a MSR enforcement action directly against a developer that created an illegal subdivision in a county that is required to adopt the MSRs but where the county has not done so fully or accurately. Formal adoption of the MSRs was intended to give the Attorney General a more reliable and uniform standard on which to

prosecute illegal subdividers, rather than relying on local authority.

Of additional significance was the reaffirmed requirement for subdivision developers to “build or bond it” before a plat may be approved. In the event that water and wastewater facilities were not constructed at the time a plat was submitted to the commissioner’s court for approval, the developer was required to execute an agreement to construct the facilities and to provide a sufficient financial guarantee to pay for the construction.

Senate Bill 873

Senate Bill 873 was approved in the 77th Legislative Session in 2001. This bill expands the authority of certain counties, including those near the Mexico border with a population of 150,000 or more, to regulate specific development practices. The bill allows certain counties to adopt “reasonable standards” for lot frontages on existing county roads, setbacks lines for buildings, and require rights-of-way on major thoroughfares. This authority is only provided to specific counties that meet certain population criteria and it does not allow for the regulation of land use, bulk, height, or number of buildings, building size, or the number of residential units on a property. However, the passing of this bill does provide some additional tools for counties to regulate development, and it may be an indication that the Texas Legislature is acknowledging the need for counties to have more authority over development in unincorporated areas.

Summary of County Regulatory Authority in Texas

- County ordinance-making authority is weak and situation specific.
- Counties do not have zoning authority, except for limited cases specifically granted by the State Legislature.
- Model Subdivision Rules only apply to Economically Distressed Areas Program eligible counties and are not available to all counties in Texas.
- The Model Subdivision Rules define a subdivision as any tract of land divided into two or more parts of five or fewer acres intended for residential purposes.
- The Model Subdivision Rules:
 - ♦ Assure availability of adequate drinking water supply and sewer facilities in compliance with health and environmental standards
 - ♦ Establish minimum setbacks of 10 feet from the road to ensure proper utility operations; and
 - ♦ Prohibit more than one single-family dwelling on each subdivided lot.
- All water and sewer facilities must be provided in accordance with the state standards established by the Texas Department of Health and the Texas Natural Resource Conservation Commission.

- A land transaction through a contract for deed now requires the seller to file the transaction with the county, provide disclosure of all utility facilities on the property, and prohibits the forfeiture of the property if 40% of the total, or 48 months of payments, have been made under the contract.

Analysis of Texas Subdivision Regulations

The subdivision regulations discussed above are specifically applicable to EDAP eligible counties and are not powers granted to all counties throughout the State of Texas. Counties in most other areas of the State are as weak (in terms of land use development regulation) as border counties were before Senate Bill 2 and the Model Subdivision Rules. Some of the same colonia-like development patterns have been seen in unincorporated parts of non-EDAP eligible counties, but these jurisdictions are not granted the regulatory authority to address the problems.

After the implementation of the Model Subdivision Rules, House Bill 1001, and other colonia related legislation, the subdivision regulations in place along the border became more comprehensive in that there were no apparent loopholes in the rules that could allow for unregulated land subdivisions. The subdivision of any land into two or more parts of five acres or fewer must be fully serviced with water and sewage facilities. Additionally, utilities cannot be connected until the final plat is approved by the county commissioner's court.

Most local officials in Texas report that colonias cannot be created today due to the subdivision requirements in place. House Bill 1001 requires that all affected border counties give final plat approval contingent upon the provision of adequate water and wastewater facilities. Therefore, the issue of how colonias continue to develop in light of the subdivision requirements in place is a complex one.

An important consideration in the development of colonias was the fact that all counties were not required to adopt the MSRs. The MSRs are only required if the county would like to access EDAP funds, and there are many EDAP eligible counties across the state that have chosen not to implement them. In border counties, the passing of House Bill 1001 essentially resolved this issue because it required affected counties to apply the MSRs to all residential subdivisions. However, HB 1001 was only passed in 1995 and is not applicable to existing or "grandfathered" colonias. Therefore, if a lot in a colonia was sold prior to 1995, but is only now being built upon, these regulations cannot apply.

This issue of grandfathered colonia lots could be addressed through the use of building permits. Building permit requirements vary by county and not all counties make the granting of building permits contingent upon the provision of water and sewer services. Another issue is the lack of resources and staffing to thoroughly enforce the MSRs. Most EDAP eligible counties are poor and lack the resources necessary to police the unincorporated areas of the county for illegal subdividers. Many of the smaller counties may have only one or two individuals responsible for all code enforcement duties

throughout the entire county.

In some counties, a lack of political will to either adopt or enforce the Model Subdivision Rules may have been a contributing factor to recent colonia development. This was an issue in the past when it was discovered that certain elected officials were tied directly to illegal colonia developments. This is unlikely to be a significant factor today because counties realize the value and importance of accessing the EDAP funds. If counties are found to be weak on enforcement, then their eligibility for EDAP may be revoked. However, county regulatory systems can be slow to change and the enforcement processes will likely take time to be fully established and effective.

Even though certain eligible counties have the MSRs to help enforce the creation of safe housing, counties are lacking certain powers in Texas that are present in other border states. For instance, counties in Texas are generally not granted the authority to zone, which severely limits their ability to proactively plan for future growth and development. Counties are limited to participating in land development decisions on a reactionary basis in that they have the power to approve or deny proposed developments created by private sector interests. Counties are not well equipped to proactively plan for the future.

County comprehensive plans are rare in Texas because there is no authority to enforce the plan through zoning restriction. Counties that wish to plan are limited to using tools such as restrictive covenants with landowners and tax incentives through empowerment zones. Until counties are able to actively anticipate growth and channel that development in ways that are healthy and in line with the values and desires of the community, the problem of colonia development will likely continue in some form.

Another aspect of county regulatory authority in Texas that is different from the other border states is the unequal distribution of land use authority among counties. The Model Subdivision Rules only address the problem of colonia-like communities in EDAP eligible counties, but the problem of housing with inadequate water and wastewater facilities can be found in communities throughout the State of Texas.

In 2001, the TWDB documented the problem of inadequate water and wastewater infrastructure in non-EDAP eligible areas throughout the State of Texas. The statewide water and wastewater needs assessment study identified a total of 616 communities, not located in the border region, which lack adequate water and/or wastewater facilities. Additionally, a similar survey performed by Reed, Stowe & Yanke, LLC in 2001 was designed to determine the magnitude of the problem of malfunctioning on-site sewage systems in Texas. The survey respondents reported that approximately 13% of the OSSF systems in the reporting jurisdictions are chronically malfunctioning throughout Texas, and the highest rates of malfunction were found in central and east Texas.

These two studies demonstrate the extent of the problem of inadequate water and sewage facilities throughout Texas, not just along the Texas-Mexico border. The problem of substandard developments is a statewide phenomenon that is not currently addressed on a statewide basis. If the regulatory constraints are too restrictive in border counties as a result

of recent legislative initiatives, residents are likely to move to other areas where the counties are less able to regulate development. Until Texas addresses the complex issues of rural land development on a comprehensive basis for the **entire** state, the problems associated with colonia-type development may continue to plague the state.

CHAPTER IV: NEW MEXICO

Profiles of Colonias in New Mexico

The majority of New Mexico's colonia population lies in Dona Ana County between Las Cruces and El Paso, Texas. Dona Ana County is one of the poorest and fastest growing counties in the State of New Mexico. In 1998, it was estimated that approximately 45,000 people reside in Dona Ana's colonias. Table IV.A depicts a list of all counties eligible for colonia assistance that are within 150 miles of the U.S.-Mexico border. A total of 137 communities have been designated as colonias according to the definition used by the Department of Housing and Urban Development.⁹

Table IV.A: Demographics for New Mexico Counties within 150 Miles of the Border

County	County Unemployment Rate (2000)	Designated Colonias	Border County Population		Change in Population	
			1990	2000	#	%
Catron	8.1%	33	2,563	3,543	980	38.2
Chaves	6.3%	1	57,849	61,382	3,533	6.1
Dona Ana	6.5%	37	135,510	174,682	39,172	28.9
Eddy	6.6%	2	48,605	51,658	3,053	6.3
Grant	6.1%	34	27,676	31,002	3,326	12.0
Hidalgo	10.6%	7	5,958	5,932	-26	-0.4
Lea	4.8%	0	55,765	55,511	-254	-0.5
Lincoln	4.2%	0	12,219	19,411	7,192	58.9
Luna	22.9%	5	18,110	25,016	6,906	38.1
Otero	5.1%	16	51,928	62,298	10,370	20.0
Sierra	2.9%	1	9,912	13,270	3,358	33.9
Socorro	5.5%	1	14,764	18,078	3,314	22.4
TOTAL	-	137	440,859	521,783	80,924	18.4

Source: United States Census Bureau: 1990 Census Data & 2000 Census Data; HUD: Colonias in New Mexico; Bureau of Labor Statistics 2000 Data

Table IV.A also illustrates the population growth and unemployment rates for the counties located within 150 miles of the U.S. Mexico border. The growth rate for the State of New Mexico from 1990 to 2000 was 20.0%. Dona Ana County has the largest population of any county in the border region of New Mexico and the increase in the number of people in

⁹ HUD's definition of a colonia is any identifiable community within 150 miles of the U.S.-Mexico border, excluding Metropolitan Statistical Areas with populations exceeding one million, that is determined to be a colonia on the basis of objective criteria, including lack of a potable water supply, inadequate sewage systems, and a shortage of decent, safe, and sanitary housing.

Dona Ana County from 1990 to 2000 was four times greater than any other county. Dona Ana County also has the highest number of designated colonias. Other counties with a significant number of designated colonias include Catron, Grant and Otero counties and all of these counties had an unemployment rate higher than the 4.9% average unemployment rate in 2000 for the State of New Mexico.

Many of the conditions that led to colonia development in Texas have also been significant factors in the proliferation of colonias in New Mexico. Dona Ana County is located only 15 miles from Juarez, a city of more than 1.5 million residents in Mexico. A survey conducted by the Diocese of Las Cruces in Dona Ana County found that the majority of colonia residents are Mexican-American and are employed as seasonal farmworkers or perform other jobs related to the agricultural industry. Many of the residents are recent immigrants that were granted citizenship through the 1986 Immigration Reform and Control Act.¹⁰ Additionally, almost all of the surveyed residents expressed an interest in remaining as permanent residents of the colonia.

Many colonias in New Mexico are unincorporated communities in rural areas, and therefore do not have the authority to enter into formal agreements for colonia financial assistance programs. These colonias rely on the local water and sewer associations or the county to apply to the state on their behalf for financial assistance. Remediation needs in local colonias include water and/or wastewater infrastructure, paved roads, and drainage. The large majority of colonias in Dona Ana County have a potable water supply, while fewer than 20% of colonia residents are connected to wastewater facilities. Many homes rely on cesspools or inadequate septic tanks¹¹.

Other counties in New Mexico have designated colonias, but they are not necessarily comparable to the colonias or the development issues found in Dona Ana County. Dona Ana is the only border county with a significant urban center and relatively large population. Other border counties are more rural and sparsely populated with smaller economies. Dona Ana County is also a neighbor with two of the largest border cities, El Paso in Texas and Ciudad Juarez in Mexico. Important factors in the creation of colonias in this part of New Mexico include the availability of land for sale at cheaper prices than could be found in Texas or Mexico, opportunities for employment in the productive agricultural economy of Dona Ana County, and the networks of migrant workers in the local community.

Counties such as Luna, Hidalgo and Grant have colonias that are similar to those that are found in Dona Ana County, consisting of predominantly Mexican-Americans that are employed as seasonal farmworkers or perform other jobs related to the agricultural industry. However, counties such as Sierra and Catron report a different situation. The majority of the designated colonias in counties located further from the border are older communities that

¹⁰ *The Border Colonias Region: Challenges and Innovative Approaches to Effective Community Development*, Housing Assistance Council, 1998.

¹¹ *Ibid.*

were established as early as the turn of the century. These colonias may lack sufficient water and wastewater facilities due in part to the old age and inadequacies of the systems to accommodate new growth, and not necessarily because of shortfalls in the county regulatory processes.

Colonias are an issue of great concern to many local officials and non-profit organizations. It is generally believed that the problem of colonia development is being adequately addressed through the current regulatory system, including subdivision regulations. Another method that counties in New Mexico use to prevent the development of colonias is through the building permit process. All construction requires a building permit, and the acquisition of a building permit requires proof of adequate water and wastewater facilities to be either present or permitted on the property.

Whether New Mexico's colonias are communities that consist of relatively new residents or are communities that have existed for over fifty years, they are areas in need of remediation and are eligible for federal and state assistance. The regulatory powers granted to counties in New Mexico are important factors in addressing infrastructure problems in new colonias, as well as older communities. These regulatory powers are discussed below.

County Regulatory Authority in New Mexico

Constitutional Authority and Enabling Legislation

New Mexico counties are subdivisions of the State and, as dictated by "Dillon's Rule," only have governing powers that are specifically granted by the State Legislature.

Article 10, Section 5 of the New Mexico Constitution allows counties of at least 10,000 residents to adopt a charter. The charter of an incorporated county must provide for the form and organization of the county government, and must designate which officers will be elected and which will perform the duties assigned by law to county officers. A charter county may exercise all powers and are subject to the same limitations as municipalities regarding indebtedness, and are subject to the same limitations and granted the same powers that are granted to municipalities by statute.

The New Mexico Constitution also allows for the creation of "urban counties," which include counties with a population of more than 300,000 people. This provision only impacts Bernalillo and Santa Fe counties. An urban county may exercise all legislative powers and perform all governmental functions not expressly denied to municipalities, counties or urban counties by general law or charter. The Constitution states that the purpose of an "urban" county is to provide for maximum local self-government, and "a liberal construction shall be given to the powers of urban counties."

New Mexico Statutes and County Land Use Authority

Chapters 3 and 4 of the New Mexico Statutes describe the powers specifically granted to municipalities and counties, respectively. Section 4-57-1 allows counties to establish

planning commissions with the general purpose of guiding coordinated and harmonious development in the county. Counties were explicitly granted zoning authority in 1953 and the powers have evolved over time. Statute 3-21-1 grants counties zoning authority, and the power to regulate and restrict within its jurisdiction the

- Height, number of stories, and size of buildings and other structures
- Percentage of a lot that may be built upon
- Size of yards, courts and other open space
- Density of population
- Location and use of buildings, structures and land for trade, industry, residence or other purposes

County zoning can be enforced by the district attorney and the sheriff, and may be prosecuted in the district court of the county. Penalties for violation must not exceed a \$300 fine and/or imprisonment for ninety days.

Statute 3-21-2 allows counties to adopt a zoning ordinance applicable to all or any portion of the territory within the county that is not within the zoning jurisdiction of a municipality. Cities and counties have joint authority to zone within the extraterritorial zoning (ETZ) jurisdiction of cities. The size of the ETZ depends on the size of the municipality. Statute 3-21-3 allows for the creation of an ETZ commission with equal numbers of members appointed by the city and county officials for the purposes of zoning within the extraterritorial area of the municipality.

Counties are granted the same ordinance-making powers that are granted to municipalities except for those inconsistent with constitutional limitations placed on counties. According to Statute 4-37-1, county commissioners may make any ordinance that is necessary to “provide for the safety, preserve the health, promote the prosperity and improve the morals, order, comfort and convenience of any county or its inhabitants.”

It is important to note that according to Statute 3-21A-3, “no governing body of a political subdivision of the state or any planning and zoning agency thereunder shall exclude multi-section manufactured homes from a specific-use district in which site-built, single-family housing is allowed.” This was noted through interviews to be an important factor in the availability of affordable housing in New Mexico.

The statutes specifically related to county subdivision rules can be found in Chapter 47. This chapter is referred to as the New Mexico Subdivision Act, and it details all county requirements and restrictions for the regulation of subdivisions. The progression of modifications to the Subdivision Act in 1963, 1975, and 1995 is detailed below. Section 47-6-9 of the statutes details the requirements for the approval of a subdivision. County requirements include:

- Preliminary and final subdivision plats

- Quantifying the maximum annual water requirements of the subdivision and assessing the water availability to meet the needs of the subdivision
- Water conservation measures
- Water of a quality fit for human consumption protected from contamination
- Liquid and solid waste disposal
- Legal access to each parcel and adequate roads
- Utility easements, terrain management, and phased development

Significant Subdivision Regulation Legislation

1963 Land Subdivision Act:

The 1963 Land Subdivision Act (1963 Act) granted counties in New Mexico the authority to approve subdivision plats in unincorporated areas. A subdivision was defined as land divided, or proposed to be divided, into 25 or more lots or parcels for the purpose of sale or lease. **Until a developer actually divided or framed a definite proposal to divide land into at least 25 specific parcels, the Land Subdivision Act did not apply.**

Any subdivided land, as defined by the requirement of dividing the land into 25 or more lots or parcels, had to be approved by the county commission and was required to provide legal access to an existing public right-of-way. The sale of land did not require the provision of infrastructure other than dedicated access and relied on seller disclosure to ensure that the buyer was informed of the details of the sale. The sale of the subdivided land included the written *disclosure* of:

- all restrictions or reservations of record which subject the land to any unusual conditions affecting its use or occupancy;
- the fact that any street or road facilities have not been accepted for maintenance by a governmental entity when such is the case;
- availability of public utilities in the subdivision including water, electricity, gas, and telephone facilities;
- if water is available only from subterranean sources, the average depth of such water within the subdivision;
- the complete price and financing terms or rental, and;
- the existence of blanket encumbrances, if any, on such subdivision, unless it provides for proper release of said encumbrances to such lot or parcel.

Any individual who failed to comply with the 1963 Act would be guilty of a misdemeanor and would be punished with a fine up to \$100,000.

The creation of the 1963 Act was an important step toward enabling counties to control

subdivision development patterns. However, the definition of a subdivision as pertaining to the division of land into 25 or more lots or parcels was an indication of the unwillingness of legislators to get involved in the regulation of smaller residential developments. This left a significant amount of leeway in the regulations for unregulated development, as long as the land was divided fewer than 25 times.

1973 Subdivision Act

Changes to the Subdivision Act in 1973 (1973 Act) were extensive and represented a significant tightening of the regulations regarding subdivision development in the counties. The definition of a subdivision was amended to be defined as “an area of land within New Mexico, the surface of which has been divided by a subdivider into five or more parcels within three years for the purpose of sale or lease.” Individual, sporadic sales of fewer than five parcels were not considered subdivisions. This change from 25 to 5 parcels represented a significant narrowing of the loophole for developers that wanted to avoid regulation.

Additionally, “any person desiring to subdivide land shall have a plat of the proposed subdivision certified by a registered, licensed surveyor” and that plat must “clearly state that the subdivider has agreed to build the roads within the subdivision in full conformance with the requirements of the county subdivision regulations.”

Most important to these changes was the mandate to the boards of county commissioners to set forth regulations regarding the county’s requirements for:

- enough water for subdivision use
- water of an acceptable quality for subdivision use
- liquid waste disposal
- solid waste disposal
- sufficient and adequate roads
- terrain management

A critical aspect of the 1973 changes in the Subdivision Act was the mandatory cooperation and communication between the State and county officials. Section 47-6-20 required that state agencies had to provide counties with information and/or opinions on water, water quality, liquid or solid waste disposal adequacy, terrain management and/or highway access when such information was requested by the county. Section 47-6-26 sets forth the authority of the county commissioners, the attorney general and the district attorneys to seek injunctive relief or bring mandamus to compel compliance with the Subdivision Act.

This legislation significantly strengthened county authority to regulate land development, but the subdivision loophole that allowed the division of land into four or fewer lots to go unregulated, provided the opportunity for colonia development. The 1980s were a time of accelerated growth in New Mexico, specifically border counties, and the Land Subdivision Act proved to be inadequate in the battle against unscrupulous

developers.

This loophole led to development schemes resulting in the colonias of today. For example, a landowner that had a 3-acre parcel of land and divided one of the acres into three lots to sell. The landowner could hold the remaining lots for three years, and then subdivide the next acre. If a landowner had several lots, then there could be several small subdivisions of land at once, creating a colonia development to be sold on a contract for deed basis that was never regulated under the Land Subdivision Act.

Additionally, a purchaser was only given a three-year window of opportunity to recover restitution for all money paid to the seller of subdivided land that had not been approved under the 1973 Act. This was an inadequate timeframe for individuals who had purchased lands that were not in compliance with the Land Subdivision Act, according to Nancy Simmons, attorney for the Colonias Development Council.

My experience suggests that colonia residents may not have any reason to know there is a problem until many months after they sign their agreements, due to ongoing promises by developers to improve the infrastructure. Moreover, even if such promises might toll the running of the statute of limitation period, residents might not know their rights under the 1973 Act or be able to find legal assistance until after the running of the limitations period.¹² – Nancy L. Simmons

1995 Land Subdivision Act (House Bill 1006)

House Bill 1006, sponsored by Representative (now Senator) Cisco McSorley in 1995, created important reforms to New Mexico's Land Subdivision Act (1995 Act). Most importantly, the reforms closed the four-lot split loophole in the definition of a subdivision. **A “subdivision” was redefined to mean, “the division of a surface area of land, including land within a previously approved subdivision, into two or more parcels for the purpose of sale, lease or other conveyance or for building development.”**

For many in New Mexico, the closing of the four-lot split loophole was a significant victory for advocates of assistance to colonias and land use planning. This loophole was perceived to be the main mechanism by which developers created “legal” colonias. The window of opportunity that allowed for purchaser restitution against someone who sold illegally subdivided land was extended from three to six years. The 1995 Act also imposed a fine on any water, sewer, or electric utility that connects service to a property before the final plat has been approved by the Board of Supervisors.

Section 47-6-9 was amended to provide for stricter rules related to water provisions by setting forth requirements not just for adequate water, but by quantifying “the maximum annual water requirement of subdivisions, including water for indoor and outdoor domestic

¹² Nancy L. Simmons. *Memories and Miracles- Housing the Rural Poor Along the United States-Mexico Border: A Comparative Discussion of Colonia Formation and Remediation in El Paso County, Texas and Dona Ana County, New Mexico*. New Mexico Law Review. Winter 1997. Volume 27.

uses,” and assessing the water availability to meet those needs. The requirements for liquid and solid waste disposal, and sufficient and adequate roads remained the same.

Additionally, the counties were granted the ability to adopt more stringent subdivision regulations than were required by the 1995 Act as long as the county had adopted a comprehensive plan in accordance with Section 3-21-5 of the Act. This enabled counties to essentially adopt any regulations deemed necessary to promote sustainable land use development and prevent haphazard and inadequate development.

Summary of County Regulatory Authority in New Mexico

- All counties have general ordinance-making authority.
- All counties have authority to develop comprehensive plans and enforce the plans through zoning ordinances.
- A subdivision is defined as a division of land into two or more lots.
- Prior to the County Board of Supervisor’s approval, subdivisions must include:
 - Preliminary and final subdivision plats
 - Quantification of the maximum annual water requirements of the subdivision and an assessment of the water availability to meet the needs of the subdivision
 - Water conservation measures
 - Water of a quality fit for human consumption protected from contamination
 - Liquid and solid waste disposal
 - Legal access to each parcel and adequate roads
 - Utility easements, terrain management, and phased development
- All water and sewage facilities must be in accordance with the rules set forth by the New Mexico Environment Department.
- Counties can adopt more stringent subdivision regulations than required by the Subdivision Act as long as the county has adopted a comprehensive plan.

Analysis of New Mexico Subdivision Regulations

The New Mexico Legislature granted counties extensive local authority over subdivision development beginning in 1973 through the regulation of infrastructure and platting. The ability to divide land into four or fewer lots without regulation and the availability of contracts for deed were regulatory loopholes that allowed for the continuation of colonia development. Nevertheless, New Mexico’s county land use authority far exceeded the

powers granted to counties in Texas at that time. Therefore, according to Nancy Simmons,¹³ much of the proliferation of colonias in New Mexico could be attributed to a lack of enforcement resources rather than to a lack of regulation. This lack of emphasis on enforcement, or inadequacy of resources to consistently enforce the laws, continued into the 1990's, according to interviews with state and local officials.

In 1995, the loophole that allowed for unregulated lot splitting was essentially closed when the definition of a subdivision changed to include division of land into two or more lots. The effectiveness of the 1995 changes to the Land Subdivision Act in preventing the further development of colonias is debatable. There is no doubt among the various county planning staff that the changes closed the loophole in the previous incarnation of the Act, and that the changes have had a positive impact on land development in unincorporated areas of the State. However, the proliferation of colonia-like communities throughout the border region of New Mexico has not been halted. There are still opportunities for unscrupulous developers to take advantage of those in need of affordable housing.

Many counties, including Dona Ana, have worked towards alleviating this problem through building permitting requirements. The State of New Mexico already has a uniform building code, but building permits are under the jurisdiction of the counties. For instance, in order to place a mobile home or manufactured home on property in Dona Ana County, a mobile home installation permit must be granted. The mobile home permit requires recorded proof of ownership for the property and a legal description of the property showing legal subdivision. Additionally, the permit requires a copy of a septic tank permit to ensure proper sewage disposal as well as a copy of a well permit or letter from the water company ensuring adequate water facilities. Building permit requirements for new construction and/or additions to residential structures require a septic tank permit from the Environmental Department, as well as proof of water service from either a water company or through a well permit.

However, there are still communities that are able to pass under the regulatory arm of the county. One factor that contributes to the proliferation of colonias and colonia-like development in the border region of New Mexico is the legal method of land purchase through a contract for deed. The deed may be structured such that the actual subdivision of the property does not happen until all payments have been made for the property. Under this scenario, a landowner could sell off parts of property and as long as the land is described in the contract by metes and bounds, the contract is legal. The land sale may be documented with the county clerk, but not platted or recorded with the county planning department.

This type of land transaction contributes to colonia-like developments throughout the state, most commonly in the form of mobile home communities. These illegal mobile home communities have not been approved through the permitting process and are generally

¹³ Simmons, Nancy L. "Memories and Miracles, Housing the Rural Poor Along the United States - Mexico Border: A Comparative Discussion of Colonia Formation and Remediation in El Paso County, Texas, and Dona Ana County, New Mexico." *New Mexico Law Review*. Winter 1997

discovered only after they are already established and settled. Because the land is not formally subdivided within the county, there are no legal ramifications for the lack of infrastructure provisions, such as inadequate water and/or wastewater facilities.

According to some local officials, there are two remaining issues that need to be addressed regarding substandard development in New Mexico. First, the legality of contract for deed land sales must be amended to prevent abuses, much like the changes made in Texas. Second, colonia-like developments may continue to proliferate, not because of a lack of regulatory authority, but because of a lack of enforcement.

Historically, the border counties of New Mexico faced enforcement challenges because there was a lack of political will at both the state and local levels of government to intensify the regulation of private property development. In recent years, state and local officials have been more receptive to efforts to support, and adequately staff, positions devoted to enforcement. County personnel are often responsible for many job duties and the task of adequately monitoring development in rural areas is a difficult one. Therefore, some local officials report that inadequate enforcement remains a problem in some areas because of insufficient financial/staffing resources.

CHAPTER V: ARIZONA

Profiles of Colonias in Arizona

Cochise, Pima, Santa Cruz, and Yuma are the four counties in Arizona that border Mexico. Colonia developments can be found in all four of the border counties. A total of 53 communities have been designated as colonias in these border counties since 1993. Counties that are located in the central region of the State, but have areas that are within the 150-mile zone of the US-Mexico border, contain an additional 23 colonias. Additionally, seven tribal reservations have been designated as colonias. Communities listed in Table V.A are designated as colonias in Arizona according to the definition used by the Department of Housing and Urban Development.¹⁴

Table V.A: Demographics for Arizona Counties within 150 Miles of the Border

County	County Unemployment Rate (2000)	Designated Colonias	Border County Population		Change in Population	
			1990	2000	#	%
Cochise	4.5%	18	97,624	117,755	20,131	20.6
Graham	6.5%	12	26,554	33,489	6,935	26.1
Greenlee	5.6%	1	8,008	8,547	539	6.7
La Paz	7.2%	2	13,844	19,715	5,871	42.4
Maricopa	2.6%	2	2,122,101	3,072,149	950,048	44.8
Pima	2.8%	13	666,880	843,746	176,866	26.5
Pinal	4.2%	6	116,379	179,866	63,348	54.4
Santa Cruz	13.8%	7	29,676	38,381	8,705	29.3
Yuma	27.5%	15	106,895	160,026	53,131	49.7
TOTAL	-	76	3,187,961	4,473,674	1,285,574	40.3

Source: United States Census Bureau: 1990 Census Data & 2000 Census Data; HUD: Colonias in Arizona; Bureau of Labor Statistics 2000 Data

Table V.A illustrates the population growth and unemployment rates for the counties located within 150 miles of the U.S. Mexico border. Yuma County has the second highest number of designated colonias, the highest rate of population growth with 49.7% over the past ten years, and the highest unemployment rate of any county in the state within 150 miles of the border. All counties, with the exception of Maricopa and Pima counties, had an

¹⁴ HUD's definition of a colonia is any identifiable community within 150 miles of the U.S.-Mexico border, excluding Metropolitan Statistical Areas with populations exceeding one million, that is determined to be a colonia on the basis of objective criteria, including lack of a potable water supply, inadequate sewage systems, and a shortage of decent, safe, and sanitary housing.

unemployment rate higher than the 3.9% rate of unemployment for the State of Arizona. These two counties contain the urban centers of Tucson and Phoenix.

Arizona local government officials were initially reluctant to designate communities as colonias in the early 1990s due to the stigma attached and the connotations of poverty and desperate living conditions. In fact, no communities took advantage of the first year of available HUD appropriations for colonias. As funding for colonias grew and local jurisdictions realized the opportunities for improving the living conditions of areas in need, colonia “designations” became more prevalent. In contrast to Texas and New Mexico, many of the designated colonias in Arizona are incorporated cities.

“Colonia” is a term that is not commonly used in Arizona. The term was originally adapted and used to describe communities with substandard living conditions along the Texas border and many state and local officials believe it does not necessarily translate to the circumstances found in Arizona. **The term “colonia” is largely understood to be a federal designation that allows certain qualifying communities to receive federal assistance rather than a term that has cultural, political, community health, and social connotations as it does in Texas.**

In order for a community to be designated as a colonia according to the federal definition, there must be a lack of potable water supply, lack of adequate sewage systems, and a lack of decent, safe, and sanitary housing. This is a broad definition that can be interpreted to apply to many different situations. Some designated colonias in Arizona are lacking only one of the criteria discussed above. If a community chooses to designate itself as a colonia and meets the broad federal definition, then it becomes a priority for federal and state assistance.

Arizona does have colonias throughout the border counties that are comparable to the colonias found in Texas. Yuma County may have more colonias that have similar characteristics to those found in Texas. They are predominantly settled by Hispanic migrant farmworkers, have insufficient water and/or sewer facilities, and contain unsafe housing construction. Yuma County’s economy is predominantly based in agriculture and the military. The population grew by almost 50% from 1990 to 2000.

Many of the cities in Yuma County, including San Luis and Somerton, have been designated as colonias and have had to accommodate much of this unprecedented growth. The utility infrastructure in these areas has generally been unable to keep pace with the rapid growth in population. As a result, subdivisions that lack adequate infrastructure are a continuing problem. **One common solution to these problems has been to annex the developments into the nearest municipality.**

Communities that have the characteristics of rapid population growth, close proximity to the border, agricultural based economy, and large migrant worker population, have the critical combination of factors that create a high demand for rural affordable housing. This combination of factors increases the likelihood that colonia development will occur.

However, the issue of colonia development is generally not perceived to be a growing

problem in Arizona. Colonias are reported to be creations of the past that are being remediated through federal and state financial assistance, and prevented through development regulations. One way the counties ensure that colonias will not develop is through the building permit process. All construction requires a building permit, and the acquisition of a building permit requires proof of adequate water and wastewater facilities to be either present or permitted on the property.

Currently, the attention of Arizona lawmakers is focused on a similar, but more pervasive problem called “wildcat” subdivisions. These communities are analogous to colonias in some ways but have defining characteristics that distinguish them from the colonias that can be found in Texas. Wildcat subdivisions are communities that have developed on land that was divided in such a way as to avoid subdivision regulations, much like the process used to develop colonias. However, wildcats do not fit the generally agreed upon definition of a colonia. Many of them do not consist of impoverished residents, but rather middle to upper income homeowners, and they do not pose the same public health hazards due to inadequate water and wastewater facilities.

These wildcat communities are most often created through the sale of empty lots that have no provisions for water or sewer systems, insufficient roads, no drainage systems, and limited access to public right-of-ways. However, the health issues associated with colonias such as inadequate water and wastewater facilities are not usually a problem for wildcat communities. The property owners must attain building permits, and therefore show proof of access to proper water and wastewater facilities. However, the fact that it is the responsibility of the homeowner to pay for the installation of the wells and septic systems at their own expense often presents unanticipated financial challenges.

Wildcat land sales are attractive to many residents who enjoy the freedom of “country living” and the markedly cheaper cost of the rural land. The idea of being able to buy land and develop it with minimal government regulation is appealing to many in Arizona. By purchasing land in a wildcat subdivision, landowners are purposely avoiding the costs associated with mandatory subdivision constructs, such as sidewalks, paved roads and other improvements that are invariably incorporated in the cost of the land. Many believe that wildcat subdivisions are an acceptable and even preferable method of addressing the state’s needs for affordable housing.

Although colonias are found in all of Arizona’s border counties, many of the designated colonias in counties such as Pima and Cochise may resemble wildcat communities more than colonias. These subdivisions have significant problems with drainage and inadequate roads and access issues. Some may have older or inadequate water or wastewater facilities, but these counties are not necessarily experiencing the same type of problems with poverty and substandard housing usually associated with colonias.

Nevertheless, wildcat subdivisions are problematic for local governments, and the issue is controversial for several reasons. Wildcat communities are growing at an unprecedented

rate. In Pima County in 1999, four out of ten new homes were built on wildcat lots.¹⁵ Additionally, wildcat subdivisions are expensive for the county as a whole. The costs associated with providing wildcats with county services, such as emergency medical and police service and schools, is often tens of thousands of dollars more expensive than what the subdivisions contribute to the county in tax revenue. Additionally, wildcats may be eligible for colonia financial assistance programs.

Most of the recent legislation passed regarding the authority of counties to regulate development has been the result of wildcat subdivisions rather than colonias. Whether they are called “colonias” or “wildcats,” they are communities that have escaped the requirements of subdivision regulation. A discussion of the subdivision regulations employed by Arizona’s counties to address these developments is presented below.

County Regulatory Authority in Arizona

Constitutional Authority

Counties in Arizona are creations of the State and, like Texas and New Mexico, only have the authority to act with powers that are specifically granted by the State Legislature. Article 12 details the constitutional authority granted to counties. Section 5 of the Arizona Constitution provides counties with populations of over 500,000 the authority to adopt a county charter. Section 7 states that charter counties shall provide the same state mandated services and perform the same functions as non-charter counties. Charter counties may exercise, if provided by the charter, all powers over local concerns of the county consistent with, and subject to, the constitution and the laws of the state.

Arizona Statutes and County Land Use Authority

The Arizona Legislature has granted counties considerable authority to create ordinances and regulations that assure the adequate provision of utility services to subdivisions. Section 11-802 grants counties the authority to adopt and enforce rules, regulations, ordinances, and plans that “provide for the future growth and improvement of its area of jurisdiction.” Essentially, counties must create ordinances that mandate the provision of water and sewer facilities that meet state and federal standards for health and safety. The Arizona Department of Environmental Quality sets forth the rules over water supply and sewage disposal that must act as the minimum regulatory standards for each county.

Senate Bill 108 was passed in 1971 and was the enabling legislation regarding subdivision regulation. It was amended many times and Section 11-806.01 of the state statutes presents the current requirements of counties relating to subdivision platting and regulation. The board of supervisors is required to regulate the subdivision of all land not subject to municipal authority.

¹⁵ “Arizona’s Rural Sprawl: Fast Growth Spawns Wildcat Subdivisions” Wall Street Journal. Tuesday, January 30, 2001.

The board of supervisors must review and approve subdivision plats before the plat can be recorded with the county clerk. The county is also required to create regulations that dictate the extent to which water, sewer, or other utility facilities are to be provided as a condition to plat approval. Additionally, boards must create regulations that require the posting of bonds, or other securities that assure the installation of required street, sewer, electric and water utilities, drainage, flood control, and improvements meeting minimum standards for design and construction.

Therefore, the county determines the necessary specifics for water and wastewater facilities depending on the size and other features of the land. For instance, in Cochise County, the minimum rural lot size is 4 acres, which is large enough to have permitted well water and septic tanks. However, areas like Yuma County, with a very high groundwater table, may require alternative sewage treatment options. Regardless of the specific county regulations, all counties are required by law to ensure that subdivisions provide the proper sewer, electric and water utilities that meet the minimum state standards.

The State of Arizona defines a subdivision as land divided into six or more parcels. If the land is divided into five or fewer parcels, then it is referred to as a lot-split, not a subdivision, and therefore is basically unregulated. The only requirement for land divisions, or “lot-splits,” is a disclosure affidavit to the new property owner. Counties may require compliance with zoning and public access rules for lot-splits, although implementing such rules is optional.

Counties in Arizona are required to adopt comprehensive long-term plans and the plans are required to provide for zoning. If the county has a population of more than 125,000, the county comprehensive plan must include standards for population density, building intensity, specific programs that promote compact development, considerations of air quality, and planning for transportation circulation patterns. Counties of over 200,000 must include an inventory of open space and recreational resources, planning for growth areas, and environmental planning elements in the comprehensive plan. Additionally, counties can create overlay zoning districts to further specify land uses for individual areas.

Significant Subdivision Regulation Legislation

Planning and Zoning Act of 1949

The 1949 Act was the first legislation that provided for county land use authority. This legislation allowed for the county board of supervisors to create a planning and zoning commission and it marked the beginning of county planning in Arizona. The commissions were required to formulate a comprehensive long-term county plan for the purpose of guiding and accomplishing “harmonious development.” The plans were required to incorporate zoning districts.

Senate Bill 1001: Active Groundwater Management Areas

Senate Bill 1001 was approved in June 1980 and established the requirement for designating

“active groundwater management areas.” It provided for the management of groundwater “in the interest of protecting and stabilizing the general economy and welfare of the state.” Groundwater management areas were deemed necessary to “conserve, protect and allocate the use of groundwater resources and provide a framework for comprehensive management.”

In the Arizona Statutes, Section 9-463.01 (H), the approval of every preliminary and final plat is contingent upon compliance by the subdivider with the rules as may be established by the county health department relating to the provision of domestic water supply and sanitary sewage disposal. Additionally, if a subdivision is within a groundwater active management area, the preliminary plat shall not be approved unless accompanied by a certificate of assured water supply issued by the director of water resources. **Section 45-576 defines an assured water supply as “sufficient groundwater or surface water of adequate quality will be continuously available to satisfy the water needs of the proposed use for at least one hundred years.”**

Senate Bill 1008

This legislation was passed in 1994 and it widened the “loophole” in the subdivision regulations. Previous to the passing of this bill, a subdivision was defined as any land divided into four or more lots. This legislation changed the requirements for mandatory subdivision regulation to include land divided into six or more lots. This legislation increased the number of legal “lot-splits” that can be performed without county subdivision regulation, resulting in more opportunity for the creation of wildcat subdivisions. This is the definition of a subdivision that is currently used throughout the State of Arizona.

Growing Smarter

In the late 1990’s, the Arizona Chapter of the Sierra Club organized the Citizens Growth Management Initiative to develop a plan that would limit unregulated and inefficient development patterns and channel the State’s growth in a more sustainable manner. In response to this plan, the Governor designed the “Growing Smarter Act” that was a more moderate initiative with a similar intent. The Growth Management Initiative failed and the Governor’s Growing Smarter Act was passed in May 1998. This Act affected how cities and counties conduct and administer long-range planning activities.

Counties were primarily impacted through new requirements for comprehensive plans. Each county was required to address open space, housing, water quality, and public services in their comprehensive plan. Counties with populations exceeding 125,000 persons were required to adopt policies to address land use and circulation. Counties with populations over 200,000 persons were required to include the same elements as cities and towns to address open space, growth, the environment, water resources, and the costs of development. Counties were given the authority to assess development fees on an approved capital

improvement plan. The fees could be used to offset the capital costs required to finance streets, water, sewer, and public safety facilities.¹⁶

Growing Smarter Plus

In the 2000 legislative session, House Bill 2001 was passed. This act, called “Growing Smarter Plus,” expanded upon the requirements set forth in the Growing Smarter Act of 1998. Specifically, it had more of an impact on the county regulation of wildcat subdivisions.

The Act changed Section 11-806.01 of the Arizona Statutes to allow for the creation of a minor subdivision. Any subdivision consisting of ten or fewer lots may have the requirement of preliminary plat approval waived. Additionally, infrastructure standards or other requirements may be reduced or waived. This constituted a relaxation of subdivision requirements and could be construed as counterproductive to the goal of preventing substandard development. However, the purpose of the amendment was to encourage developers of smaller subdivisions to pursue approval of their lot-splits through the county regulatory process rather than creating wildcat developments. It was believed that much of the appeal of creating a wildcat subdivision was due to stringent regulations, and therefore a relaxation of certain requirements would encourage regulated development.

Section 11-806.03 of the Arizona Statutes was added by Growing Smarter Plus. This section set forth disclosure requirements for land divisions other than subdivisions. **A seller of five or fewer parcels of land, other than subdivided land, in an unincorporated area of a county must furnish a written affidavit of disclosure to the buyer.** The disclosure affidavit must include:

- Whether there is physical and legal access to the property.
- Whether the roads are publicly maintained, privately maintained or not maintained, whether there is a road maintenance agreement.
- Whether any portion of the property is located in a regulatory floodplain and whether the seller knows if the property has ever been flooded.
- Whether water, sewer, electric, natural gas, single party telephone or cable television services are currently provided to the property.
- Whether the property will be served by a private well, a shared well or no well, and if it is served by a shared well, whether the shared well is a public water system, as defined by the safe drinking water act.
- Whether the property has a septic tank or will require installation of a septic system and whether the property has been subject to a percolation test.
- Whether emergency vehicles have access to the property to provide emergency service.

¹⁶ Hunderson, Ronald, J. Summary of Growing Smarter- Legislation in Arizona.
http://www.cba.nau.edu/bber/BBER%20Site/BofA%20Monitor/2000/3rdQ/1_3rdQ2000.htm

- Whether the sale of the property meets the requirements of section 11-809, subsection B regarding land divisions. If those requirements are not met, the seller or property owner shall disclose each of the deficiencies to the buyer.

In addition to the disclosure affidavit, this legislation provided counties with the ability to adopt regulations over lot-splits that required compliance with minimum county zoning requirements and legal and physical on-site access. Counties are able to enforce the zoning by withholding building permits. Therefore, prior to Growing Smarter Plus, lot-splits into five or fewer lots were unregulated by the county. Now counties must enforce disclosure affidavits and have the option of requiring conformance with zoning districts.

Summary of County Regulatory Authority in Arizona

- All counties have general ordinance-making authority.
- All counties are required to develop a comprehensive plan and zoning ordinances.
- A subdivision is defined as a land division into six or more lots.
- Counties are required to create ordinances that require the posting of bonds to assure the installation of required street, sewer, electric and water utilities, drainage, flood control, and improvements meeting minimum standards for design and construction.
- Subdivisions must comply with the established minimum state standards and rules for the provision of a domestic water supply and sanitary sewage disposal.
- Land divisions of fewer than five lots require a disclosure affidavit and counties may require compliance with zoning and access regulations.
- Counties may allow for minor subdivisions and waive preliminary plat requirements and/or reduce or waive other requirements for subdivisions of ten or fewer lots.

Analysis of Arizona Subdivision Regulations

Arizona has a population that is growing at an unprecedented rate. The need for reasonably priced housing to accommodate this growth has led many to move outside the city limits and into wildcat subdivisions. Most county and state officials agree that although colonias are an issue of concern for some areas, current regulations are adequate to prevent these developments in the future. The priority for county planners and local policymakers is the issue of wildcat subdivisions.

Regulatory requirements for subdivisions are comprehensive and include the mandatory provisions for adequate street installation, sewer, electric and water utilities, drainage, flood control, and other improvements that meet minimum standards of design and construction. The subdivider must even certify that there is an assured water supply of 100 years, if the

land is in an active groundwater management area.

However, current subdivision regulations allow a landowner to divide his/her property up to five times without adhering to subdivision regulations. The only requirement for lot-splits is a disclosure to the purchaser of the land about the improvements present and available to the property, such as access, drainage, water, sewer or septic tank, and the availability of county services. Therefore, Arizona is still a “buyer-beware” state in that sellers of lot-splits are only required to provide a disclosure statement.

Lot splitting, which is considered to be a “loophole” in the county subdivision regulations, can lead to the development of wildcat subdivisions. However, according to local planning officials, it is unlikely that a colonia could be established under the current regulatory system. One way county officials prevent the development of colonias is through the building permit process.

Even though land may be legally divided into five or fewer lots without improvements or provisions for water and wastewater infrastructure, actual construction on the property requires a building permit. The building permitting process is the mechanism used by counties to ensure that a development adheres to all building code requirements. A building permit will not be granted unless all other applicable permits, such as on-site sewage facility and/or water well permits, are attained. This places the responsibility and costs associated with adequate water and sewage facilities on the landowner.

In order to ensure that building permits are not issued for properties that are unable to attain septic or water well permits, counties must maintain systems of checks and balances between divisions. Some counties have established “development services” departments that contain all services associated with land development, such as permitting, zoning, and planning. The creation of a “one-stop” development department provides for consistent and systematic communication among different divisions regarding land development issues and prevents the granting of building permits to non-compliant properties.

The subdivision regulations and building permits are reported to be sufficient by local officials to prevent colonia development. However, one area that local officials have reported to be inadequate relates to enforcement authority. According to interviews with local officials, one barrier to the full enforcement of subdivision regulations is the lack of staffing, financial resources, and political commitment at the state level to prosecute cases of illegal subdividing.

According to Chapter 32-2183, county commissioners are granted the authority to prohibit the sale or lease of illegally subdivided land, to investigate and examine the books and records of the subdivider, to issue orders deemed necessary to insure compliance with the law, and to bring court action against the person to enjoin the person from continuing the violation. However, in order to prosecute those who have illegally subdivided and sold property, the county must prepare all supportive documentation for the case and defer to the Department of Real Estate for prosecution.

The Arizona Department of Real Estate is responsible for several subdivision regulation responsibilities, including the prosecution of cases against violators of the subdivision rules. They perform the inspections on subdivisions to determine general compliance with disclosed improvements, issue public reports for subdivisions and unsubdivided lands, suspend sales of lots, and issue cease and desist orders in incidents of illegal subdividing.

Very few cases have been prosecuted at the state level against illegal subdividers in Arizona. Because the Department of Real Estate is specifically responsible for prosecuting these violations of the law, some local officials feel powerless to discourage illegal lot splits. Local officials report that the state government has not committed adequate resources to the enforcement of county land development issues and that the state is reluctant to provide the county governments with adequate authority to address these problems. Therefore, the result is reported to be a state enforcement system that is only marginally effective.

CHAPTER VI: CALIFORNIA

Profiles of Colonias in California

Of all the border states, California has the fewest designated colonias. California only has two border counties, San Diego County and Imperial County. The large majority of California's colonias can be found in Imperial County. San Diego has no designated colonias, although the HUD regional office in San Diego contends that there are undesigned colonias in the area. Riverside County has one designated colonia. All three counties are located within 150 miles of the border with Mexico, and are therefore eligible for federal colonia assistance programs. Communities listed in Table VI.A are designated as colonias in California according to the definition used by the Department of Housing and Urban Development.¹⁷

Rapid population growth can be correlated to an increase in the cost of housing and therefore a decrease in the available stock of affordable housing. The border region of California has grown significantly over the past ten years. Table VI.A shows the population growth rate for each county and the respective unemployment rate.

San Diego County and Riverside County have the largest populations of any county in the United States within 150 miles of Mexico. San Diego County is one of the wealthiest regions in the United States, with an annual operating budget of approximately \$3.0 billion in FY 2000. The economy of San Diego County is very diverse. The county has several well respected medical research institutions and biotech firms, significant defense industry employment, tourism and service sector employment, educational institutions, and agricultural employment.

Table VI.A: Demographics for California Counties within 150 Miles of the Border

County	County Unemployment Rate (2000)	Designated Colonias	Border County Population		Change in Population	
			1990	2000	#	%
Imperial	26.3%	10	109,303	142,361	33,058	30.2
Riverside	5.5%	1	1,170,413	1,545,387	374,974	32.0
San Diego	3.0%	0	2,498,016	2,813,833	315,817	12.6
TOTAL	-	11	3,777,732	4,501,581	723,849	19.2

Source: United States Census Bureau: 1990 Census Data & 2000 Census Data; HUD: San Diego Regional Office; Bureau of Labor Statistics 2000 Data

¹⁷ HUD's definition of a colonia is any identifiable community within 150 miles of the U.S.-Mexico border, excluding Metropolitan Statistical Areas with populations exceeding one million, that is determined to be a colonia on the basis of objective criteria, including lack of a potable water supply, inadequate sewage systems, and a shortage of decent, safe, and sanitary housing.

Imperial County's economy is predominantly based in agriculture. The agricultural industry produced a gross income of \$1,045,092,000 during 1999 and the County ranks as one of the top 10 agricultural counties in the State of California. In addition to the agricultural land uses, Imperial County can be characterized as having vast expanses of desert and open space lands. Approximately two-thirds of the County's lands are public, including the Chocolate Mountain Naval Reserve, and other various federal and state lands. The majority of the people in Imperial County live in one of the seven incorporated cities where infrastructure, such as water and sewer facilities, is available.

The unincorporated parts of the County contain over 400,000 acres of primarily low-density cultivated agricultural land. In order to both encourage the continuation of agricultural production and to reduce the inherent conflict between agriculture and urban populations, the County has long designated a majority of the unincorporated area as low-density with 40-acre minimum lot sizes, allowing one single-family dwelling per parcel.

Imperial County has ten designated colonias. They range in size from approximately 10 to 20 acres, and none have more than 40 households. Because the County does not currently have a county-wide sewer or water system, an important aspect of the remediation process for colonias in Imperial County has been annexation into a neighboring city or township. Fortunately, most colonias are located in close proximity to cities and townships, making annexation and connection to the centralized water and wastewater systems a viable option.

One colonia too far from a city to consider annexation is approximately two miles outside the City of Brawley. This colonia has presented challenges for the County for several reasons which include problems with the administration of federal housing dollars and the dilemma of servicing 25 homes with water and wastewater service. The plan is to extend a waterline from Brawley to the colonia to service the residents of the area. Since it is prohibitive to also connect to the City's wastewater systems, the County is working with the USDA to address the sewer needs through either a lagoon system or centralized treatment facility.

Once the colonias in Imperial County have been entirely remediated, County Planning staff report that the problem of colonias will be resolved and will not resurface in the future due to the stringent land use regulations employed by the County. All of the County's designated colonias were established before 1960. There have not been any new colonia developments since that time.

San Diego County is unlike any other border county because of its size, demographics, vibrant economy, and very low unemployment rate. The only new problems associated with substandard housing analogous to colonia-like conditions can be found in the northern reaches of the county where migrant workers "set up camp" and essentially settle on lands as squatters. Riverside County reports the same problems with temporary make-shift shelters set up in rural parts of the County.

Although this phenomenon is comparable to the development of colonias and stems from a lack of affordable housing, these temporary shelters are legally distinguishable from

colonias. The problems found in San Diego and Riverside counties are temporary settlements that have no land ownership or land development issues. Once these developments are discovered, they are reported to the County Health Department and disbanded.

However, colonias are reported to exist in San Diego and Riverside counties in higher numbers than are currently designated. California Department of Housing and Community Development, an agency that administers colonia funds to assist in remediation, reported that there are some communities that may be qualified to receive financial assistance but have not pursued the money. This may be because colonias in California are not widely recognized as being a significant problem, and colonia remediation is therefore not a priority.

County Regulatory Authority in California

Constitutional Authority

In California, counties are subdivisions of the state and the State Legislature may delegate to the counties, and conversely take back, any of the functions that belong to the state. The California Constitution recognizes two types of counties: general law counties and charter counties. The purpose of the constitutional provision that permits counties to adopt charters is to give counties certain powers of self-government in local affairs, or home rule. General law counties, such as Imperial County, adhere to state law as to the number and duties of county elected officials. Charter counties, such as San Diego, have a significant degree of "home rule" authority.

Article 11, Section 7 of the California Constitution states that, “a county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws.” This police power and ordinance-making authority, by definition, gives counties the authority to institute and enforce ordinances to meet the needs of local governance, such as zoning and other land use planning measures deemed necessary.

California Statutes and County Land Use Authority

Whether through general rule or charter, counties in California have as much land use planning authority as municipal governments. Local land use and planning procedures are established through statutory requirements of the State and are detailed in Section 65000 of the California Government Code. Although state law is the foundation for local planning in California, the State rarely becomes involved in local land use or development decisions. The cities and counties of the State are required to adopt their own ordinances and regulations to address the specific needs within their jurisdictions.

Section 65100 sets forth the authority for each county to create a planning commission that is responsible for preparing a general plan, implementing the plan through zoning and subdivision ordinances, and reviewing other projects and capital improvement plans for their

consistency with the general plan. Each county must adopt a comprehensive, long-term general plan that addresses the physical development of all land within its jurisdiction. **The general plan is the foundation for land use planning in all counties and all future growth and development must conform to the tenets of the plan.** Under 65300, General Plans must consist of seven mandatory elements:

- Land use elements with standards for population and building density for each use
- Circulation elements including transportation routes and proposed thoroughfares
- Noise element
- Housing elements that facilitate the improvement and development of housing towards fulfilling the state housing goals as defined in Section 65580
- Conservation elements for the utilization of natural resources such as water, soils, minerals, fisheries, wildlife and other resources
- Open space element
- Safety elements for the protection of community during natural disasters

Section 65352.5 mandates that there be close coordination between the water supply agencies and land uses agencies to ensure that proper water supply planning occurs in order to accommodate future projects. The Legislature created a standardized process for determining the adequacy of water supplies to meet existing and future demands on these supplies. When a county announces amendments to the general plan, local public water systems must provide the county with information about current and future sources of water, the amount and quality of the water, and the adequacy of the systems to meet the planned demands.

Counties are granted significant authority to plan for development through the general plan and zoning ordinances. Section 65850 permits any county to adopt zoning ordinances that do any or all of the following:

- Regulate the use of buildings, structures, and land as between industry, business, residences, open space, including agriculture, recreation, enjoyment of scenic beauty, use of natural resources, and other purposes
- Regulate signs and billboards
- Regulate (1) the location, height, bulk, number of stories, and size of buildings and structures (2) the size and use of lots, yards, courts, and other open spaces (3) the percentage of a lot which may be occupied by a building or structure (4) the intensity of land use
- Establish requirements for offstreet parking and loading
- Establish and maintain building setback lines
- Create civic districts around civic centers, public parks, public buildings, or public grounds, and establish regulations for those civic district

Enforcement authority is an important component in subdivision regulations. Section 66499.30 details the county's enforcement authority against violators of subdivision regulations. The section states that it is illegal to sell or lease any land that is not in full compliance with all state mandated subdivision regulations and all relevant local ordinances. Any violation that is committed by the subdivider or landowner, "shall be punishable by imprisonment in the county jail not exceeding one year or in the state prison, by a fine not exceeding ten thousand dollars (\$10,000), or by both that fine and imprisonment."

Significant Subdivision Regulation Legislation

Subdivision Map Act

The Subdivision Map Act became effective in March of 1975. This Legislative Act contains the planning, zoning, and development laws mandated by the State, and these laws are the cornerstone of city and county land use regulations. The Subdivision Map Act establishes the requirements for local planning procedures, but local governments are responsible for developing ordinances to regulate and control the design and improvement of subdivisions.

Prior to the Subdivision Map Act, the definition of a subdivision contained a loophole that allowed land to be divided four or fewer times without needing to abide by the regulatory requirements of subdivision. Therefore, much like New Mexico, California's regulatory authority did allow the opportunity for the creation of colonias through legal land divisions of four or fewer lots. Illegal subdivisions and colonias could have been created as a result of this loophole by the pyramid scheme of continually buying and selling parts of land to be divided four or fewer times that would end up containing numerous lots that never were reviewed by the subdivision regulatory process.

Division 2 of the California Government Code, beginning with Section 66410, is the Subdivision Map Act. According to Section 66411, counties are required to create ordinances that "regulate and control" the initial design and improvement of common interest developments and all subdivisions of land.

Subdivisions are defined in Section 66424 of the California Government Code as "the division, by any subdivider, of any unit or units of improved or unimproved land, or any portion thereof, shown on the latest equalized county assessment roll as a unit or as contiguous units, for the purpose of sale, lease, or financing, whether immediate or future." **Therefore, any division of land for the purposes stated above is considered to be a subdivision and is required to adhere to the county regulations.**

Subdivisions are either categorized as major or minor subdivisions depending on the number of lots created. In either case, an application for a subdivision is required to be submitted to the local government for approval. A minor subdivision consists of four or fewer lots and the regulation of minor subdivisions is limited to "the dedication of rights-of-way, easements, and the construction of reasonable offsite and onsite improvements for the parcels being created."

A major subdivision is defined as any division of land that results in the creation of five or more lots. Prior to the approval of a major subdivision, a public hearing must be held and an environmental impact analysis must be prepared. Prior to the approval of any subdivision, whether major or minor, the improvements such as streets, drainage and sewer lines must be secured by bond. Specific minor subdivision requirements vary from county to county.

Imperial County has more designated colonias than any other county in California. In order to illustrate pertinent land use regulatory tools, a general overview of Imperial County's Land Use Ordinance is discussed below.

Imperial County Land Use Ordinance

Imperial County's Land Use Ordinance is extensive and detailed. Division 3 of the Land Use Ordinance entitled "Site & Design Standards", details the development standards for residential, commercial, industrial and other land uses; including the appropriate infrastructure requirements. Section 90301.01 provides the development standards in residential zones. Prior to the issuance of any building permits for new projects, plans for the disposal of all surface drainage water must be approved by the Imperial County Public Works Department. All necessary easements, right-of-ways or grant deeds must be granted to the County for the purpose of drainage or access.

Additionally, the methods of water supply and sewage disposal must meet the requirements of and be approved by the Imperial County Environmental Health Services Department. Therefore, no residential construction can be permitted in Imperial County unless all necessary water and sewage requirements are met, essentially eliminating any opportunity to develop land into colonias.

Section 91012.01 states that a single family or multiple family residence cannot be constructed or moved onto any lot where the sewage disposal will be located on-site, unless the construction adheres to strict guidelines. The regulations state that the development must meet the requirements of the Uniform Plumbing Code, minimum lot size requirements, and must be approved by a registered civil engineer.

The specific requirements of major and minor subdivisions can vary from county to county. Major subdivisions include divisions of land into five or more lots. In Imperial County, Section 90806.27 describes the requirements on a major subdivision before a final plat can be approved. If the County determines a public sewer disposal system will be required to preserve the public health, the subdivider will be required to install, or agree to install, a public sewer disposal system prior to the approval of any final map. Subdividers of major subdivisions are also required to:

- Grade and improve all land dedicated for streets and easements
- Comply with necessary drainage and flood control structures to conform to Imperial County Standards
- Provide proof that there exists an adequate potable water supply available to each lot and

that there is a water district created to insure the continuity, maintenance, and operation of an adequate water system to the subdivision

- Provide all necessary easements and rights-of-way to accommodate all streets, drainage and flood control structures and facilities, and sewer systems existing beyond the boundaries of the subdivision

Section 90805.14 discusses Imperial County’s requirements for minor subdivisions. Minor subdivisions include divisions of land into four or fewer lots. Prior to final plat approval, the subdivider must:

- Improve in accordance with Imperial County standards all rights-of-way offered for dedication for street purposes
- Install other improvements and facilities in accordance with the requirements set forth in Imperial County standards
- Install necessary hydrants with water facilities and sanitary sewers pursuant to Imperial County standards.

Imperial County standards require that all subdivisions provide for methods of potable water supply and sewage disposal that meet the requirements of the Imperial County Environmental Health Services Department. Although the requirements for a minor subdivision are less restrictive, all water and sewage facilities in minor subdivisions are required to conform to the same county health department standards as major subdivisions. Therefore, a minor subdivision does not constitute a “loophole” that would provide the opportunity for the creation of a colonia. Water and sewer provisions to all subdivided land must conform to the same standards.

Summary of County Regulatory Authority in California

- All counties have general ordinance-making authority.
- Counties are required to develop a General Plan that acts as the official policy document to dictate the location of all land uses.
- The County Board of Supervisors must adopt zoning, subdivision and other ordinances to regulate land uses and carry out the policies of the General Plan.
- Counties can distinguish between major and minor subdivisions. A major subdivision includes land divisions into five or more lots, while a minor subdivision includes land divisions of four or fewer lots.
- Both major and minor subdivisions are regulated, must comply with local health department standards for water and sewage disposal, and must be approved by the Board of Supervisors.

- Minor subdivisions may be subject to fewer regulations, but the water supplies and sewage systems must still comply with all applicable state and county health code regulations.
- There are no “loopholes” that allow for unregulated land divisions.

Analysis of California Subdivision Regulations

California is unlike other border states in several ways. First, it has only 145 miles of the border between the United States and Mexico and only two border counties. Additionally, one of the border counties, San Diego County, is one of the wealthiest counties in the nation. Second, the regulatory requirements in California, whether for the preservation of the natural environment or the regulation of land use, are quite extensive. Third, counties in California are granted more land use authority and are required to become more deeply involved in land use planning than any other border state.

These factors combine to make California a difficult place to create illegal subdivisions. The regulatory requirements for subdivisions are extensive and every subdivision development must conform to zoning and general plan rules, as well as attain approval from the local board of supervisors. Approval from the board of supervisors is contingent upon compliance with all water and sewage disposal standards of the county environmental health department.

Until 1973, a subdivider of land could avoid county subdivision regulations if the land was divided into four or fewer lots. This provided a loophole for the creation of colonias. Given that this loophole has been closed for almost thirty years and the current regulatory powers of local government to plan for growth are extensive, it is understandable how California has been able to minimize the proliferation of colonias.

This is not to say that San Diego, Riverside, and Imperial counties do not have housing problems. Developable land is scarce in California, and there are many lower income people in need of housing. The result of this disparity between supply and demand is manifested in the temporary settlements of migrant workers and other low-income individuals that appear in rural areas of these counties. However, opportunities to purchase unimproved land through a contract for deed and place a mobile home or construct substandard housing on the property without adequate water and wastewater facilities are almost nonexistent.

CHAPTER VII: BORDER STATE COMPARISON ANALYSIS

This section provides an analysis and comparison of the subdivision regulations in each state. The purpose of this section is to summarize correlations between state regulations and development patterns, and to conduct a comparative analysis of the statutes in these states to the statutes in Texas.

Subdivision Regulation Summary

Table VII.A: Border State Regulatory Comparison Matrix

State	Required Building Permit	General Zoning Authority	General Ordinance Authority	Subdivision Definition
Texas	No	No	No	Land divided into two or more lots.
New Mexico	Yes	Yes	Yes	Land divided into two or more lots.
Arizona	Yes	Yes	Yes	Land divided into six or more lots.
California	Yes	Yes	Yes	Any division of land.

Texas Lagged Behind Other Border States

Colonias can be found in New Mexico, Arizona and California, but the vast majority of them are in the State of Texas. Colonias in Texas are an extensive and pervasive problem for many reasons. Some of the reasons are common to colonia development in all border states, such as a regional lack of affordable housing and a continual influx of low-wage workers enticed by economic opportunity. However, Texas has one critical factor that made the state more conducive to colonia development than other border states. Texas lagged considerably behind New Mexico, Arizona and California in granting counties regulatory authority over land development.

- New Mexico’s counties have had the power to zone since the early 1950s and were granted the authority to approve subdivision plats in 1963.
- Arizona’s Planning and Zoning Act of 1949 was the first legislation that provided for county land use authority. The legislation allowed for the creation of a planning and zoning commission, and it granted counties the authority to adopt and enforce rules, regulations, ordinances, and plans for the purpose of county planning.
- California’s Subdivision Map Act was not enacted until 1973, but counties were granted police powers through the constitution. Included in these powers is the authority to zone, and counties have essentially the same land development regulatory authority as municipalities.

Texas has not granted counties any general ordinance-making authority. Other border states had granted counties the authority to create ordinances regarding land use planning decades ago. The earliest regulatory restrictions placed on subdivisions in Texas' border counties, other than general platting approval, were the Model Subdivision Rules in 1989. Additionally, not all counties adopted the optional MSRs, and land divisions continued to go unregulated in unincorporated areas of many counties.

Texas had unregulated land divisions along the border well into the 1990s. The fact that Texas has lagged so far behind in county subdivision regulatory authority accounts for much of the disparity in the numbers of colonias between Texas and the other states.

There are several relatively new colonias in Texas, and some of the older colonias have continued to experience development. Many of the lots in colonias were sold years ago, but are only recently being built upon. These grandfathered colonias are problematic for the counties and much more difficult to regulate than new subdivisions. Therefore, Texas continues to be confronted with relatively new colonia development, while most of the other border states are focused upon remediation of older and more established colonias.

Inconsistent Authority for Texas Counties

Unlike counties in New Mexico, Arizona, and California, all counties in Texas do not share the same regulatory authority for subdivision regulation. The Texas State Legislature has endowed certain counties with the authority to utilize the Model Subdivision Rules, while other counties only have the authority to approve plats that lay out streets and public right-of-ways. Certain counties have been granted authority to utilize zoning around specific areas of interest to the state such as lands surrounding lakes, recreational areas such as Padre Island, and military zones, while other counties have no zoning authority.

Texas has created a patchwork of county regulatory authority that has resulted in inconsistencies and inequities. Inconsistency is an issue that could specifically affect colonia development. If the regulatory authority in border counties is effective and efficient enough to prohibit the development of colonia neighborhoods, the problem may simply move to other areas farther from the border. People are mobile and, as evidenced by the development of colonias along the border, are willing to move if the opportunity arises and the cost is manageable.

For many families along the Texas border, colonias are the best option for attaining land and homeownership. For some, it may be the only affordable housing option available. If it is easier to create colonias in counties further removed from the border, then there is a possibility that the problem may migrate from one county to the next. Texas' subdivision regulatory system does not systematically address the problem, and in fact may simply transfer the problem from border counties to more central counties.

There are many counties in Texas that currently have problems with substandard and deficient housing construction similar to colonias, but are not EDAP eligible. These

counties are unable to implement the same subdivision regulations available to border counties, even though the nature of the problem is the same. In the most recent legislative session, this issue was voiced as a concern for many counties across the state.

Subdivision Regulations Comparison

The regulatory structures of the past in Texas, New Mexico, Arizona, and California allowed for loopholes in the definition of a subdivision that contributed to the creation of colonias. Additionally, many colonias were created illegally and without detection. As a result, all of the border states have adjusted and evolved the authority granted to counties to better anticipate and plan for growth, as well as eliminate opportunities for colonia development.

Texas specifically has made great strides over the past decade to address the problem of colonias through regulatory improvements. The regulatory requirements of Texas' border counties are now more comprehensive for new developments in terms of ensuring that subdivisions have adequate water, wastewater and drainage facilities. Additionally, electric or gas utility providers may not connect to a property unless a final plat has been approved by the county commissioner's court; which certifies that the water and sewer services are available to the property.

The State of New Mexico has also closed any loopholes that would allow for the creation of colonias. The definition of a subdivision includes land divisions into two or more parcels. Subdivision regulations in New Mexico mandate that counties have ordinances that set forth the requirements for adequate water, sewage, roads, and solid waste disposal in accordance with the rules of the New Mexico Environment Department.

The State of Arizona is having continuous problems with unregulated development in part because they have not closed the loophole in the definition of a subdivision. Subdivision regulations only apply to lands divided into six or more lots. This has allowed for the development of "wildcat" subdivisions that lack adequate roads, easements, access, and drainage. However, local officials claim that colonias could not be developed even with this regulatory loophole. Arizona attributes its ability to prevent colonia development to their system of building permits. A building permit would not be granted to any developer that did not have the necessary water and sewer permits either on the property or bonded for construction.

The State of California grants counties the same land use regulatory authority as a municipality. Therefore, counties have extensive authority to regulate and plan for growth. Counties are required to create a General Plan, to which all development must conform. All land divisions are regulated as either minor or major subdivisions, but in either case, improvements such as streets, drainage, water lines, and sewer lines must be platted and designed in accordance with state standards.

In summary, Texas has made significant progress towards implementing an effective

regulatory system in border counties. However, there are several regulatory tools utilized in New Mexico, Arizona and California that are not available to counties in Texas. These regulatory tools include the ability to issue building permits, authority to zone and ability to institute and enforce comprehensive planning.

Building Permits

Building permits in New Mexico, Arizona and California must be granted by the county before any construction or alteration to a property may be legally performed. These permits allow county governments to review the property for compliance with development regulations such as the mandatory provision of appropriate water and wastewater facilities on the property, as well as compliance with applicable zoning laws, building codes, and comprehensive plans. These building permits are followed by periodic inspections until the construction is complete.

Some Texas counties require a building permit for development on property in unincorporated areas, but the use of the term “building permit” may be a misnomer. In Texas, counties do not have the authority to regulate land uses through zoning and only municipalities, not counties, are granted the authority by the State of Texas to adopt and enforce building codes. The use of building permits in unincorporated areas does not include a review of the land use or conformation with the adopted building codes, as it does in other border states. Therefore, the “building permits” utilized by some Texas counties are simply a tool to ensure that homes are not constructed in a floodplain and occasionally used as an additional means of ensuring that the property has the necessary water and sewage facilities.

Planning Authority

New Mexico, Arizona and California have granted counties the authority to zone and plan for growth and development. Zoning allows governments to regulate land by dictating which uses are allowable and which are not. Common categories of zoning include residential, agricultural, commercial, and industrial. Zoning promotes the orderly development of land and the protection of public health, safety and general welfare. Ideally, zoning allows for the enjoyment of private property rights so long as the owner does not infringe upon or impair the exercise of the same rights of others.

In Arizona, counties are required to develop comprehensive plans that show the zoning districts. Counties in Arizona are not only able to enforce zoning requirements on subdivisions, but may also enforce the zoning on lot-splits. California is the most strict in this regard, requiring that counties develop General Plans that are tied to zoning, and all development must conform to the stringent tenets of the plan. Such plans usually involve many overlay districts that apply additional development requirements, depending on certain environmental or other special considerations.

The Texas Legislature has not provided counties with the authority to zone. Counties are

able to take into consideration a floodplain and may regulate certain development features dependent upon that factor, but this is essentially the extent of a county's preventative authority. Without zoning, counties cannot actively anticipate growth or provide for orderly and efficient development. Comprehensive planning is essentially ineffective because the county has no authority to enforce the plan without zoning.

CHAPTER VIII: POLICY RECOMMENDATIONS

Colonias in Texas are the result of many factors and circumstances including high consumer demand for housing, a constant influx of low-wage workers, a supply of rural and idle agricultural land, nonexistent or weak land development regulations, and a legal mechanism for land sales called contract for deed. This combination of factors contributed to the creation of colonias along the Texas-Mexico border. When evaluating the problem of colonias from a holistic perspective, two significant policy needs become apparent.

1. Increasing the availability of affordable housing
2. Increasing the planning and regulatory authority of counties

This document is concerned with the policy issue related to increasing the planning and regulatory authority of counties in Texas. The Model Subdivision Rules, in conjunction with the changes implemented by House Bill 1001, provided counties along the Texas border with fairly comprehensive subdivision regulations. The regulations in these select counties are as thorough as the subdivision regulations in any other border state. Local officials in Texas report that the Model Rules have been effective at preventing further colonia development. Effective implementation and enforcement systems of the Model Rules are now the priority for many border counties.

Regulation is one critical component of preventing further colonia development, but counties must also be able to anticipate, and plan for, future growth. New Mexico, Arizona, and California have significantly more authority to plan for development through the use of zoning districts, comprehensive plans, and other ordinances and regulations. As Texas continues to expand both economically and in population, and as the amount of developable land across the state becomes less plentiful, the value and necessity of planning for rural areas will become more evident. Currently, Texas counties do not have adequate authority to implement meaningful planning initiatives.

Based on the analysis of each border state's subdivision regulations presented in Chapters III through VI, as well as the comparative analysis to the subdivision regulations in Texas presented in Chapter VII, the project team has five recommendations for improving county land use regulations in Texas.

1. Provide equal powers for all Texas counties.

New Mexico, Arizona and California counties have all been granted the same basic authority regarding land use planning. The exceptions to this include counties that are urban in nature, which may be provided additional land use authority. The Texas State Legislature has allocated county land use authority on an "as needed" basis, depending on the specific circumstances of certain counties.

Instituting equitable basic land use planning authority to all counties would be advantageous to the entire State of Texas. Currently, the inequities between counties are a source of contention for many counties that would like to be able to address substandard development, inefficient growth, and land use patterns, but are not empowered to do so. Additionally, the problem of colonia development patterns is not necessarily specific to the border region of the state. If circumstances are conducive to colonia-like development in other areas, then the problem may simply relocate to counties that are not able to implement the Model Subdivision Rules.

2. Provide counties with general ordinance-making authority.

New Mexico, Arizona and California counties have all been granted the authority to create ordinances that support the general welfare of the residents within its jurisdiction, so long as they are not in conflict with the state laws. Texas has not granted counties either general or limited ordinance-making powers. Counties are therefore hindered in their ability to adequately and proactively address the needs of their communities.

The provision of general or limited ordinance-making powers to counties in Texas would expand each county's ability to provide services to its residents and its power to regulate their activities to the best interest of the county as a whole. Counties in Texas face many challenges and having the authority to address issues of concern in a timely and specific manner is an important component of effective government.

3. Provide for the creation of county zoning and planning commissions throughout the State of Texas.

New Mexico, Arizona and California counties have all been granted the authority to create planning and zoning commissions that have the responsibility of ensuring orderly growth and development of the community through comprehensive plans and zoning districts. These commissions are an important component of the county's ability to anticipate and prepare for future growth and they provide the county commissioners with assistance and guidance on local planning efforts.

Only counties near an international border and EDAP eligible counties are able to establish planning commissions, which assist the counties in the implementation of the MSRs. The large majority of Texas counties has not been granted the authority by the State Legislature to create planning commissions, and Texas counties do not have authority to zone for specific land uses except in a few select counties.

Zoning is an important land use tool for many reasons. It provides a vehicle for the implementation of planning. The community works together to develop zoning districts that put the residents' vision for their community into a working document or comprehensive plan. Zoning can also be used to separate incompatible land uses, such as the juxtaposition of residential homes and certain commercial businesses or industries. Therefore, zoning also allows a county to anticipate and avoid possible community health and environmental justice issues.

Planning and zoning are fundamental tools utilized by New Mexico, Arizona and California to guide development in ways that are in the best interests of their communities as a whole. These states have embraced the concept that community planning and the interests of individual property owners do not have to be at odds with one another. Planning and zoning can help property owners maintain the land uses that are most appropriate for their property. Texas counties are currently unable to adequately plan for growth and productively channel development into appropriate areas because counties have not been granted this authority from the Texas Legislature.

4. Mandate county comprehensive plans that are directly supported through zoning districts.

New Mexico, Arizona and California counties must have a comprehensive plan. The requirements of the plans vary from state to state, but each state recognizes the importance of planning for future growth. Texas counties rarely utilize comprehensive plans because there are very few tools at the county's disposal for the implementation and enforcement.

Comprehensive planning serves several functions. It acts as a blueprint to guide growth and development in ways that conform to the goals and values of the community. Planning allows county governments to anticipate important community issues such as new growth, housing needs, and environmental protection, or project demand for services such as sewer, water, roads, etc. It also serves to prioritize planning and growth issues as important considerations in the county. Zoning provides for the enforcement of a plan and further spells out the immediate allowable uses for lands within the county's jurisdiction. Comprehensive plans are more effective if they are tied directly to zoning districts.

Conclusion

The implementation of the recommendations discussed above would grant counties in Texas the ability to actively plan for future growth within their jurisdiction. Colonias along the border are the result of many circumstances, not all of which the government can control. However, subdivision regulations and land use planning are necessary tools that can have a significant impact on the development of colonias.

The Texas Legislature has historically preferred to minimize government authority in favor of private property rights. This willingness to allow land development to be governed by private property interests has essentially permitted the development of colonias along the border. Texas has spent millions of dollars remediating colonias in border counties and will likely spend millions more. Perhaps one lesson that can be learned from other border states is that prevention through regulation and planning is preferable and is an effective means of not only minimizing colonia development, but also anticipating the community's needs for the future.

APPENDIX A: BIBLIOGRAPHY AND TELEPHONE/ON-SITE INTERVIEWS

Bibliography:

Borderlines 42. "Desperate Situations, Local Innovations: Colonias: Problems and Promise." February 1998. Internet.

---. "Water in the Colonias." February 1998. Internet.

--- "Health in the Colonias." February 1998. Internet.

Canales, Dr. Alejandro. Borderlines 58. "Development at a Steep Price: Industrialization, Urbanization, and Population Growth on the Border." August 1999. Internet.

Colonias: Office of Colonia Initiatives, Communities Under Development. "Contract for Deed Conversion Program." Internet.

Cuellar, Henry, PhD. Secretary of the State, Texas. Report discussing state agency expenses in the border region. 22 March 2001.

Federal Reserve Bank of Dallas. "Texas Colonias: A Thumbnail Sketch of the Conditions, Issues, Challenges and Opportunities." 6 July 2001. Internet.

Henneberger, John. Borderlines 58. "Despite economic growth, little credit and few options for working families: Affordable Housing on the Border." March 2000. Internet.

Housing and Urban Development. "Colonias in New Mexico, Background information for HUD's Report for the Task Force on the Economic Development of the Southwest Border." 5 December 2000. Internet.

---. "Colonias in Texas, Background information for HUD's Report for the Task Force on the Economic Development of the Southwest Border." 5 December 2000. Internet.

---. "Colonias in Arizona, Background information for HUD's Report for the Task Force on the Economic Development of the Southwest Border." 5 December 2000. Internet.

Housing Assistance Council. "The Border Colonias Region: Challenges and Innovative Approaches to Effective Community Development." 1998.
<http://www.bordercoalition.org>

Massey, Douglass S. Borderlines 70. "Free Trade and the Economic Underpinnings of Mexico U.S. Migration." September 2000. Internet.

Peach, James and James Williamson. Borderlines 58. "Borderlands Demographic Trends." August 1999. Internet.

Pepin, Madeline, PhD. "What Policies Led to Texas' Colonias?" 6 July 2001.

Simmons, Nancy L. "Memories and Miracles, Housing the Rural Poor Along the United States - Mexico Border: A Comparative Discussion of Colonia Formation and Remediation in El Paso County, Texas, and Dona Ana County, New Mexico." New Mexico Law Review. Winter 1997.

Status Report on the Water-Wastewater Infrastructure Program for the U.S-Mexico Borderlands. Environmental Protection Agency, Office of Water, EPA-832-R-00-001 January 2001.

Texas. House of Representatives. 71st Legislature. Chapter 624. Passed May 12, 1989. Effective June 14, 1989.

---. House of Representatives. House Research Organization. "Colonias Legislation: History and Results." 16 April 1999.

---. Secretary of State Office. Federal Reserve Bank of Dallas, Office of Community Affairs' publication. "Texas Colonias: A Thumbnail Sketch of Conditions, Issues, Challenges, and Opportunities." Internet.

---. Senate Research Center. "Border Affairs Special." SB 1421. July 27, 1999.

---. State Statutes. Internet.

---. State Constitution. Chapter 232. County Regulation of Subdivisions.

---. Water Development Board. Chapter 364-Model Subdivision Rules. Effective February 10, 2000.

---. Water Development Board. "Economically Distressed Areas Program", As of July 31, 2001.

---. Water Development Board. "Model Subdivision Rules Adopted". January 2001.

---. Water Development Board. "Texas Water Development Board's Water and Wastewater Survey of Economically Distressed Areas – December 1996." 23 January 1997.

DRAFT- for TWDB review only

United States. Department of the Interior, Bureau of Land Management. Table 1-3 Comparison of federally owned land with total acreage of States, fiscal year 1995.

---. General Accounting Office: Report to Congressional Requesters, U.S.-Mexico Border: Issues and Challenges Confronting the United States and Mexico, July 1999.

Ward, Peter M., Colonias and Public Policy in Texas and Mexico: Urbanization by Stealth, University of Texas Press, Austin, Texas, 1999.

CALIFORNIA

California. "A Guide to Planning in California". Governor's Office of Planning and Research. March 1998, Revised August 1990.

---. California State Constitution, Article 11, section 7.

---. Department of Housing and Community Development. State Community Development Block Grant Program.

---. California Government Code Sections 66410 – 66424.6. Subdivision Map Act.

Ganster, Paul. Environmental Issues of the California-Baja California Border Region. Border Environmental Research Reports (Number 1 – June 1996).

Gratton, Thomas F. Letter to Honorable Ruby Stone and Honorable Ralph Wheeler., State of Idaho Office of Attorney General. 19 September 1995.

ARIZONA

Arizona. Arizona Constitution. Internet.

---. Arizona Statutes. Internet.

---. House. Forty-fourth Legislature. Supplement to Growing Smarter. HB 2001.

Davis, Tony. "Wildcat subdivision fuel fight over sprawl." High Country News April 24, 2000. Internet.

Kemp-Rye, Mark. "Groups Work To Improve Life in Colonias." Small Flows, Winter 1999.

Pima County Code. Chapter 18.69, Subdivision Standards. Internet.

Qaheri, A. Mobin. "Arizona Border Communities." Office of Housing and Infrastructure Development, Arizona Department of Commerce. June 1998.

DRAFT- for TWDB review only

Robichaux, Mark. "Just Deserts? Arizona's Rural Sprawl: Fast Growth Spawns 'Wildcat' Subdivisions." The Wall Street Journal 30 Jan. 2001: A1+.

"Unregulated Development is Costly, Ugly, Dangerous 'Wildcat' builders are cancer on state." Editorial. The Arizona Republic 9 Feb. 2001: B10.

NEW MEXICO

Dona Ana County. Land Use Regulations and Zoning Ordinance. Ordinance No. 158-95. Effective October 12, 1995.

Lucero, Lora A., Esq., AICP. 1999 National Planning Conference, Approaching the Millennium. "Planning Statutory Reform in New Mexico." 1999. Internet.

New Mexico. State Statutes.

Wakefield, Chad K. "Colonias Along the United States/Mexico Border: The Issue and Impact of Colonias In Southern New Mexico." American Planning Association 2001 National Planning Conference. 14 March 2001.

Telephone and On-Site Interviews

Texas

Campos, Nat. Director, Planning Department, El Paso County, telephone communication. August 2001.

Juarez, Blanca. Colonia Coordinator, Texas Secretary of State, Rio Grande City Office, personal communication. 10 July 2001.

Sesin, Raul. Planning Administrator, Hidalgo County Planning Department, telephone communication, 14 September 2001

Sugg, Paul. Legislative Liason, Texas Association of Counties, telephone communication. December 2001

Vidaurri, Rafael. Colonia Coordinator, Texas Secretary of State, Laredo Office, telephone communication. 10 September 2001

New Mexico

Garcia, Rose. Executive Director, Tierra Del Sol Housing Corporation, personal communication, 25 July 2001

Grinnell, Wayne. Assistant Director, Community Development Department, Dona Ana County, personal communication. 25 July 2001

Hughes, Ken. Regional Planning and Development Section Chief, Local Government Division, Department of Finance and Administration, State of New Mexico, personal communication. 26 July 2001

Lucerol, Thaddeus. County Managers Office, Bernalillo County, telephone communication. August 2001

Polley, Adam. Sierra County, telephone communication. 29 August 2001.

Racelis, Albert. Associate Utilities Director, Water Utilities Department, Dona Ana County, personal communication. 25 July 2001.

Arizona

Anderson, Judy. Assistant Director, Planning and Zoning Department, Cochise County, telephone communication. 27 August 2001.

Colton, Arlen. Director, Director, Arizona Preserve Initiative, State Land Department, telephone communication. August 2001.

DRAFT- for TWDB review only

Cadwallader, Bill. Community Planner, Department of Development Services, Yuma County, personal communication. 8 August 2001.

Donelson, Angela. Community Builder, U.S. Department of Housing and Urban Development, personal communication, 8 August 2001.

Ngai, Nancy. Community Planning Coordinator, Department of Development Services, Yuma County, personal communication. 8 August 2001.

Nixon, Leslie. Pima County Board of Supervisors Staff, telephone communication. 5 September 2001.

Knox, Rivko. CDBG Program Manager, Office of Housing Development, Arizona Department of Commerce, personal communication. 7 August 2001.

California

Hueberger, Jurg. Director, Planning/Building Department, Imperial County, California. personal communication. 9 August 2001

Bishop, Jim. CDBG Program Administrator, California Department of Housing and Community Development, telephone communication. July 2001

Kahn, Jawaid, U.S. Department of Housing and Urban Development, San Diego Office. telephone communication. 6 September 2001

Porter, Susan. Regional Planner, Department of Planning and Land use, County of San Diego, personal communication, 9 August 2001

Santillan, Jerry. City Manager, City of Brawley, Riverside County, telephone communication. 10 September 2001.

Attachment 1
Texas Water Development Board Review Comments
"Comparative Analysis of Water and
Wastewater Infrastructure Requirements in States Bordering with Mexico"
TWDB Contract No. 2001-483-398

1. The MSR on page 18 of the report needs to be addressed in the executive summary.
- 1
2. The study has shown that the "colonia problem" exists in each of the border states surveyed even though it may be more or less noticeable and may have a different name in each of the states. This does not seem to be a clear conclusion - recognizing that none of the various regulatory schemes has successfully addressed/eliminated the problem.
3. Please add a few sentences to the executive summary and in chapters 1, 2 and 3 regarding the growing proliferation of colonias outside the border region. We documented this with the Statewide Needs Study by finding over 600 areas lacking adequate water and/or wastewater outside of the border region. The Reed, Stowe & Yanke study takes on an even more important role in proposing policy recommendations so that the colonia issue can be addressed on a statewide basis. Colonias are a big problem in the entire state of Texas not just the border region.
4. It is the Board's understanding that Reed, Stowe, and Yanke recently completed a statewide on-site study of their own that identified on-site sewage problems statewide; the results of that study could be included into this study.
5. In the beginning of Chapters III thru VI, there is a number identified for "designated colonias". Please make clear how the designation was made, i.e. the definition of "colonia" used, and the entity or persons' responsible for ascertaining the number for each state
6. Provide a reference for the source of "Dillon's rule".
7. P. 18; "Model Subdivision Rules only apply to economically distressed areas in affected counties". Provide reference since this assertion is at variance with the Board's practice. MSR should apply county-wide.
8. Enforcement resources are identified only generically as creating problems without any reference to actual resources devoted to enforcement (by state or otherwise) or the source/reference of the information for the conclusion. Of particular note are the references at pages 28 and 29 (New Mexico chapter) and page 38 (Arizona chapter). Please provide more complete explanation of lack of resources or source for conclusion that lack of resources can lead to colonia creation.
9. Page 29, New Mexico; First full paragraph; Please state whether proof of water supply is required for mobile home permit. Third full paragraph identifies colonia like conditions resulting from mobile home communities. However, first paragraph on that page states that mobile home permits require septic tank permits. Please provide a more complete statement of the problems arising in the mobile home communities.
10. Page 32, Arizona; 2nd full paragraph states that the wildcat communities don't have the poverty or substandard housing problems of colonias. Please address the question of whether these communities have public health problems. 4th full paragraph, please more clearly state what the problems associated with wildcat communities are.

11. Page 50, Building permits, "Texas Counties do not necessarily tie the provision of building permits to the availability of water and sewage facilities In fact, some border counties in Texas do not even require building permits for construction on private property." Please identify source authority for Texas counties to issue building permits for residential construction outside of flood plain; authority for Texas counties to issue building permit conditioned on adequate water or wastewater facilities.
12. Page 50, Building permits, "Therefore, a subdivider's plat could be approved, but when the time comes for the homeowner to build upon the property, construction may or may not conform to the plat" Please explain.

**Study to Determine the
Magnitude of, and Reasons for,
Chronically Malfunctioning On-Site
Sewage Facility Systems in Texas**

Funded by:

**Texas On-Site Wastewater
Treatment Research Council**

September 2001

Prepared by:

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EXECUTIVE SUMMARY

The State of Texas contains approximately 1.5 million households that rely upon on-site sewage facility (OSSF) systems for wastewater disposal and the numbers are increasing each year. Approximately 55,052 OSSF systems were installed in Texas in 1999, and approximately 49,616 systems were installed in 2000. Unlike households connected to centralized systems, households with OSSF systems are required to have a general understanding of the operation and maintenance needs of the system in order to ensure that it functions properly.

When an OSSF system is not functioning properly, it cannot only become an inconvenience for the homeowner, but it can create threats to public health and the environment. This threat to public health can reach beyond the individual household and extend to the community at large. Recent research completed by the United States Environmental Protection Agency (U.S. EPA) identified a number of public health and environmental problems related to the malfunction of OSSFs.¹ Effluent from malfunctioning OSSF systems can provide a medium for the transmission of disease. For example, the U.S. EPA has estimated that approximately 169,000 viral and 34,000 bacterial illnesses occur each year as the result of drinking contaminated groundwater. Malfunctioning OSSFs have been identified as a potential source of this contamination. Within the context of the natural environment, malfunctioning OSSFs have also been considered a primary reason for reduced harvests in many shellfish growing areas.

Project Overview

In 2000, the Texas On-Site Wastewater Treatment Research Council (Council) determined that there was a need to study the magnitude of, and reasons for, chronically malfunctioning OSSFs in the State of Texas. Given the large size of Texas and the various soil types and climate conditions within the state, the Council decided to approach the research from a regional perspective. Reed, Stowe & Yanke, LLC (RS&Y) was retained by the Council in October of 2000 to research the issues and factors that contribute to OSSF malfunction, as well as determine the extent of the problem in the various regions of Texas.

After reviewing the existing literature and the available data on OSSF systems, RS&Y determined that the Council's project goals would best be attained through the administration of a survey to the Designated Representatives across Texas. It was decided that Designated Representatives were the appropriate survey population due to their comprehensive knowledge of issues related to OSSF malfunctions within their respective jurisdictions. The survey contained questions that were designed to ascertain the reasons for chronically malfunctioning OSSF systems and covered topics such as

¹ *EPA Guidelines for Management of Onsite/Decentralized Wastewater Systems (Draft)*. United States Environmental Protection Agency. September 26, 2000. Pages 1-2.

system design, operation and maintenance, OSSF owner education, effective treatment technologies, soil type, and climate conditions. The survey was mailed to 278 Designated Representatives in January of 2001.

Figure ES.1 On-Site Wastewater Regions of Texas

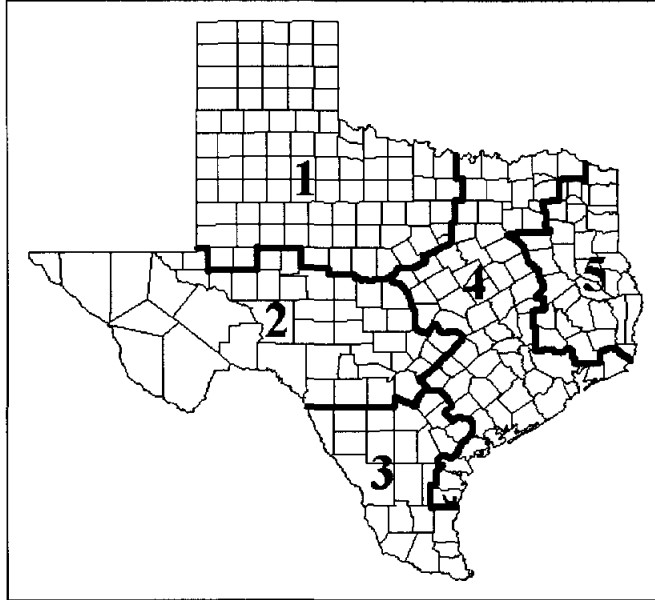
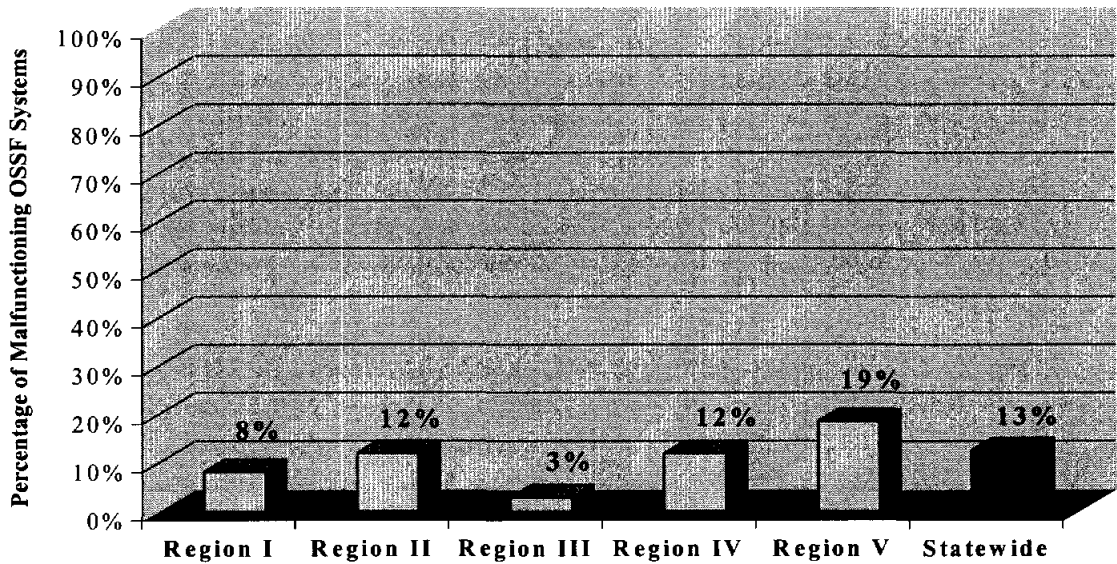


Chart ES.1 Percentage of Chronically Malfunctioning OSSF Systems

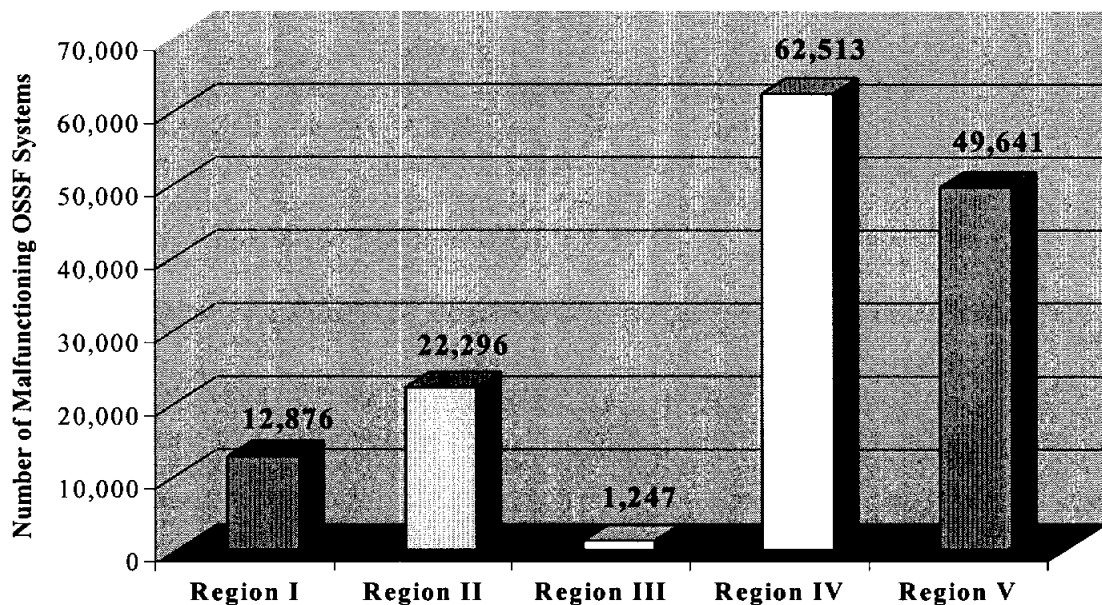


The statewide survey response rate, based on the number of completed surveys returned, was 64%. The survey results were compiled and analyzed on a regional basis and these

regions are presented in Figure ES.1. The analyzed survey results were successful in fulfilling the project goals, and will be an important resource for OSSF professionals and policymakers alike. Important trends in the factors that contribute to OSSF malfunction were revealed through the survey results, as well as data that offers insight into the number of chronically malfunctioning OSSF systems in the State of Texas.

Chart ES.1 shows the percentage of OSSF systems that were reported to malfunction chronically in each region of the State. Statewide, approximately 13% of the OSSF systems were reported to be chronically malfunctioning. Chart ES.2 shows the approximate number of chronically malfunctioning OSSF systems by region. The total number of chronically malfunctioning systems reported through the survey results in the State was approximately 148,573.

Chart ES.2 Total Number of Chronically Malfunctioning Systems per Region



The actual total number of malfunctioning OSSF systems in Texas is certain to be higher, as the survey's response rate was less than 100%. However, the rate of OSSF malfunction for the entire State is still unknown and cannot be projected based on survey responses. The project team determined that it would not be statistically valid to use the regional rates of chronic OSSF malfunction for the jurisdictions that responded to the survey, and extrapolate those figures to determine the rate of malfunction for all OSSF systems across the State. Although it might be a useful exercise for the purposes of antidotal discussion, it would not necessarily be representative of the opinions and situations in the remaining jurisdictions.

Document Format

This document is divided into five sections. Section 1 describes the methodology used to determine the type of research instrument used in the project, the process of creating the survey instrument, the survey distribution process, and the limitations of the survey. This section also illustrates the regional approach used to analyze the survey results, including a map that depicts the State of Texas divided into the five regions. A copy of the survey questionnaire is located in Appendix A.

Section 2 presents the regional analyses of the survey results. The survey results are presented from Region I through Region V, with the analyzed data discussed in the order in which it was listed on the actual survey questionnaire. The survey results are described in a text format as well as in various tables that illustrate the raw data results and percentage ratios. Key findings from each region are summarized in the next section, “Key Findings Summary” of the Executive Summary.

Section 3 of this report presents a regional comparison of the survey results from the five regions of the State. This section compares and contrasts the significant factors in OSSF malfunction reported in the survey results from each region. Section 4 discusses in detail the major policy issues and key findings that resulted from the survey analysis presented in Section 2. These policy issues are summarized on page xi of the Executive Summary.

The recommendations of the report are presented in Section 5. In this section, the project team has developed a set of recommendations based on the policy issues discussed in Section 4. The project team would like to emphasize that the recommendations presented in this discussion are not intended to provide a comprehensive resolution to all problems effecting OSSF systems. The purpose of these recommendations is to highlight actions that the Council could take based on the findings of this study. These recommendations have also been developed to help identify and prioritize future Council research projects based on the major reasons for malfunctioning OSSFs.

Key Findings Summary

Region I: Key Findings Summary

- Region I reported that approximately 8% of the OSSF systems in the reporting jurisdictions were chronically malfunctioning.
- The age of the OSSF system was ranked as the highest contributor to malfunction. Pre-regulatory “grandfathered” systems were found to be a severe contributor to malfunction by 51% of survey respondents and a moderate contributor by 29%.
- Operation and maintenance issues were ranked as the second highest contributor to malfunction. Problems with operation and maintenance practices were reported to

severely contribute to OSSF malfunction by 34% of the respondents and to moderately contribute by 34%.

- The lack of education for OSSF owners was reported to contribute severely to OSSF malfunction by 34% of the respondents and moderately contribute by 31%. Additionally, 60% of the respondents in Region I reported that OSSF owners do not receive sufficient information about how to properly operate their system.
- Region I did not report significant OSSF problems due to climate or a high water tables and septic tanks/leaching chambers were reported to function well in the region.

Region II: Key Findings Summary

- Region II reported that approximately 12% of the OSSF systems in the reporting jurisdictions were chronically malfunctioning.
- The age of the OSSF system was ranked as the highest contributor to malfunction. Pre-regulatory “grandfathered” systems were found to be a severe contributor to malfunction by 22% of the survey respondents and a moderate contributor by 37%.
- The factors that contribute to OSSF malfunction in Region II were varied and were generally reported as being less severe than in other regions of the State. Areas of concern for many respondents included: a lack of education for OSSF owners, improper operation and maintenance, and problems with soils, such as tightly-packed clay soils that do not allow for proper leaching and fractured limestone soils that allow sewage to flow directly into the ground.

Region III: Key Findings Summary

- Region III reported that approximately 3% of the OSSF systems in the reporting jurisdictions tend to chronically malfunction. This is the lowest reported rate of OSSF malfunction for any region in the State.
- Region III had an unusually low response rate of 44% and the returned surveys only represent approximately 32% of the total number of OSSF systems in the region. Due to this low regional response rate and the lower OSSF representation, the results from this regional analysis may not be representative of the OSSF issues in the entire region, nor can they be assumed to represent the opinions of the majority of Designated Representatives in the region.
- According to the Designated Representatives that responded to the survey, the age of the OSSF system was ranked as the highest contributor to malfunction. Pre-regulatory “grandfathered” systems were found to be a severe contributor to malfunction by 50% of the survey respondents and a moderate contributor by 25%.
- Improper system design ranked as the second highest contributor to malfunction and 38% of the respondents reported that it severely contributes to malfunction, while

19% stated it was a moderate contributor. Examples of system design issues reported in the region include OSSF systems that are too small for the sewage load from the facility and lot sizes and/or drainfields that are too small.

Region IV: Key Findings Summary

- Region IV reported that approximately 12% of the OSSF systems in the reporting jurisdictions were chronically malfunctioning.
- Soils were ranked as the highest contributor to OSSF malfunction in Region IV. Soils were found to severely contribute to malfunction by 42% of the respondents and to moderately contribute by 36%. Specifically, tightly-packed clay soils that do not allow for proper leaching were reported to be severe contributors to malfunction by 51% of the respondents and a moderate contributor by 22%.
- The age of the OSSF system was ranked as the second highest contributor to malfunction. Pre-regulatory “grandfathered” systems were found to be a severe contributor to malfunction by 46% of the survey respondents and a moderate contributor by 32%.
- Lack of education for OSSF owners was reported to contribute severely to malfunction by 28% of the respondents and moderately contribute by 46%. Additionally, 85% of the respondents in Region IV stated that OSSF owners do not receive sufficient information about how to properly operate their system.
- Operation and maintenance was generally reported to be a moderate contributor to malfunction in Region IV. A total of 15% of the respondents reported that operation and maintenance was a severe contributor to malfunction while 51% reported it was a moderate contributor. Specifically, failure to renew maintenance contracts and failure to add the proper disinfectant to the system were identified as the two main contributors to malfunction under the operation and maintenance category.

Region V: Key Findings Summary

- Region V reported that approximately 19% of the OSSF systems in the reporting jurisdictions were chronically malfunctioning. This is the highest reported rate of malfunction for any region.
- Soil was ranked as the highest contributor to malfunction, with 66% of the respondents reporting severe contribution to malfunction, and 14% reporting moderate contribution. Tightly-packed clay soils were reported to contribute severely to malfunction by 69% of the respondents and moderately by 24%.
- High water tables were ranked as the second highest contributor to malfunction and were reported to severely contribute to malfunction by 34% of the respondents and moderately contribute to malfunction by 31%.

- The age of the OSSF system was ranked as the third highest contributor to malfunction. Pre-regulatory “grandfathered” systems were found to be a severe contributor to malfunction by 55% of the survey respondents and a moderate contributor by 31%.
- Lack of education for OSSF owners was found to severely contribute to malfunction by 34% of the respondents and moderately contribute to malfunction by 45%. Additionally, 79% of respondents in Region V stated that OSSF owners do not receive sufficient information about how to properly operate their system.
- Failure to renew maintenance contracts was reported to be a severe contributor to malfunction by 48% of the respondents and a moderate contributor by 45%. A failure to add the proper disinfectant to the system was reported to be a severe contributor by 38% of the respondents and a moderate contributor by 45%. These factors were the two main contributors to malfunction under the operation and maintenance category.
- One hundred percent of the respondents reported that aerobic system treatment technologies function well and 93% reported that surface irrigation systems function well.

Synopsis of Policy Issues

Issue 1: Malfunctioning OSSFs are a significant problem in Texas based on the results of the survey. In the State of Texas, there are approximately 148,573 chronically malfunctioning systems, which represents about 13% of all OSSFs.

Issue 2: OSSF systems installed in improper soil classes was the factor that had the highest impact on OSSF system malfunction in Region IV and Region V.

Issue 3: Malfunctions related to system age and “grandfathered” systems was the category that consistently ranked as having the highest impact on the malfunction of OSSF systems in Region I, Region II, and Region III. The age of the OSSF systems was ranked as the second highest factor in Region IV and the third highest factor in Region V. The age of OSSF systems is also affected by several other factors, as many older systems were installed prior to the development of regulations.

Issue 4: System operation and maintenance issues related to surface irrigation/aerobic systems, such as a lack of maintenance contracts and improper addition of disinfectant to the OSSF system, were the key reasons for malfunction in Region IV and Region V.

Issue 5: A need for more education for OSSF system owners is a key issue. Approximately 73% of responding Designated Representatives believe that OSSF owners are not receiving adequate education regarding their systems.

Issue 6: Lack of enforcement was reported to contribute to the chronic malfunction of OSSF systems in parts of all regions of the State.

Issue 7: Lack of records regarding existing OSSF systems was a problem for many of the Designated Representatives that responded to the survey. Due to a number of reasons, they often are unaware of existing OSSF systems in their jurisdiction. This lack of information can make it difficult to conduct inspections and track maintenance compliance.

Issue 8: There is a need for further research regarding malfunctioning OSSF systems in Region III of the State based on the relatively low response rate from this area in the survey.

Synopsis of Recommendations

Recommendation 1: Inform State and Local Officials about OSSF Problems

Prior to this study, information documenting the extent of malfunctioning OSSF systems in Texas did not exist on a comprehensive basis. Through the results of the survey administered for this study, there is now an understanding of the number of chronically malfunctioning OSSFs in Texas. Based on these results, there is a significant statewide problem of malfunctioning OSSFs and there is a need for the Council to inform state and local officials about the extent of this problem. By providing local and state officials with this information, there is a greater likelihood that they will have an interest in allocating sufficient resources to address problems related to malfunctioning OSSFs in Texas.

Recommendation 2: Use this Study to Help Prioritize Future Council Projects

Through the completion of this study, the Council now has information on both a regional and statewide level detailing the extent of chronically malfunctioning OSSFs and the major reasons for these malfunctions. The Council could use the information provided by this study to help guide decisions regarding the need for future research projects. For example, the Council could prioritize the need for future research projects based on key findings for malfunction that are discussed for each region of the State in Section 2 and for the State as a whole in Section 3.

Recommendation 3: Develop a Comprehensive Resource Guide

Based on the key findings included in the policy issue discussions of Section 4, there is a need to develop technical assistance resources or guidance manuals to help Designated Representatives fulfill their responsibilities. A comprehensive resource guide could be developed and provided to Designated Representatives throughout the State, and it could also be available on the Council's web site.

The resource guide should be developed in such a manner that the Designated Representatives can use individual sections independent of information from other sections. The resource guide should also include specific recommendations on steps that could be taken to implement each topic. Additionally, the recommendations should be based upon case studies of other Texas communities that have effectively developed and implemented programs to address various OSSF problems.

Recommendation 4: Conduct Further Regional Research

In order obtain an understanding of the magnitude of, and reasons for, malfunctioning OSSF systems in Region III, which includes the area of South Texas know as the Lower Rio Grande Valley, the project team recommends that the Council fund additional research in this area of the State. This research is needed because the survey response rate for this region was significantly lower than the response rates for the other four regions of the State. This research would ideally build from the research completed through this study.

This future research could be conducted through a combination of case studies, interviews and/or surveys. This additional research could be especially helpful in determining potential infrastructure or other resource needs in this area of the State. Information gathered through the additional research would be valuable and useful for Region III since there are several state and federal programs that can provide financial assistance for water and wastewater infrastructure problems in the border region.