

WESTSIDE CREEKS ECOSYSTEM RESTORATION

Appendix I: Socio-Economics

SOCIO-ECONOMIC APPENDIX

INTRODUCTION

The purpose of this appendix is to provide a socio-economic description of the Westside Creeks study area and an analysis of flood risk management damages and benefits.

DEMOGRAPHIC PROFILE

STUDY AREA

The study area comprises approximately 12 square miles along San Pedro, Apache, Alazán, and Martinez Creeks in San Antonio, Bexar County, Texas. The three creeks, known locally as the Westside Creeks, are tributaries of the San Antonio River and are located to the west of the downtown area of San Antonio. The study area is primarily urban residential with business districts with some manufacturing facilities. The San Antonio area is serviced by Interstate Highway (IH)-10 and IH-35 and US Highway 90. Figure 1 shows the study area delineation.

POPULATION

TOTAL POPULATION AND GROWTH

San Antonio, with a population of 1,327,407, is the 7th largest city in the United States. The 2010 population for the study area is estimated at 77,782 persons, and projected to be 82,115 by 2016. Based on 2010 numbers, the study area comprises approximately 6% of the total population of San Antonio and 5% of the total population of Bexar County. The population of the city of San Antonio makes up 7% of the total population of Texas, and is the second largest city by population in the state, with Houston being the largest. Populations and projections for these geographical areas are presented in Table 1. Projections to 2040 for the study area were not available, but would likely have similar growth patterns to the county and city. With an annualized growth rate of 1.2%, San Antonio is expected to grow by 41% between 2010 and 2040. Bexar County has an annualized growth rate of 0.9% and is expected to grow by 31% over the same period. For comparison, Texas is expected to grow by 78% with an annualized growth rate of 1.9%.

Table 1. Population and Projections

Geographical Area	2010	2016	2040
Texas	25,145,561	27,505,386	44,872,038
Bexar County	1,714,773	1,900,877	2,253,060
San Antonio city	1,327,407	1,452,140	1,872,964
Westside Creeks Study Area	77,782	8,115	

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing(2010 and 2016 figures); Texas State Data Center (2040 projections for Texas and Bexar County); Texas Water Development Board (2040 projection for San Antonio)

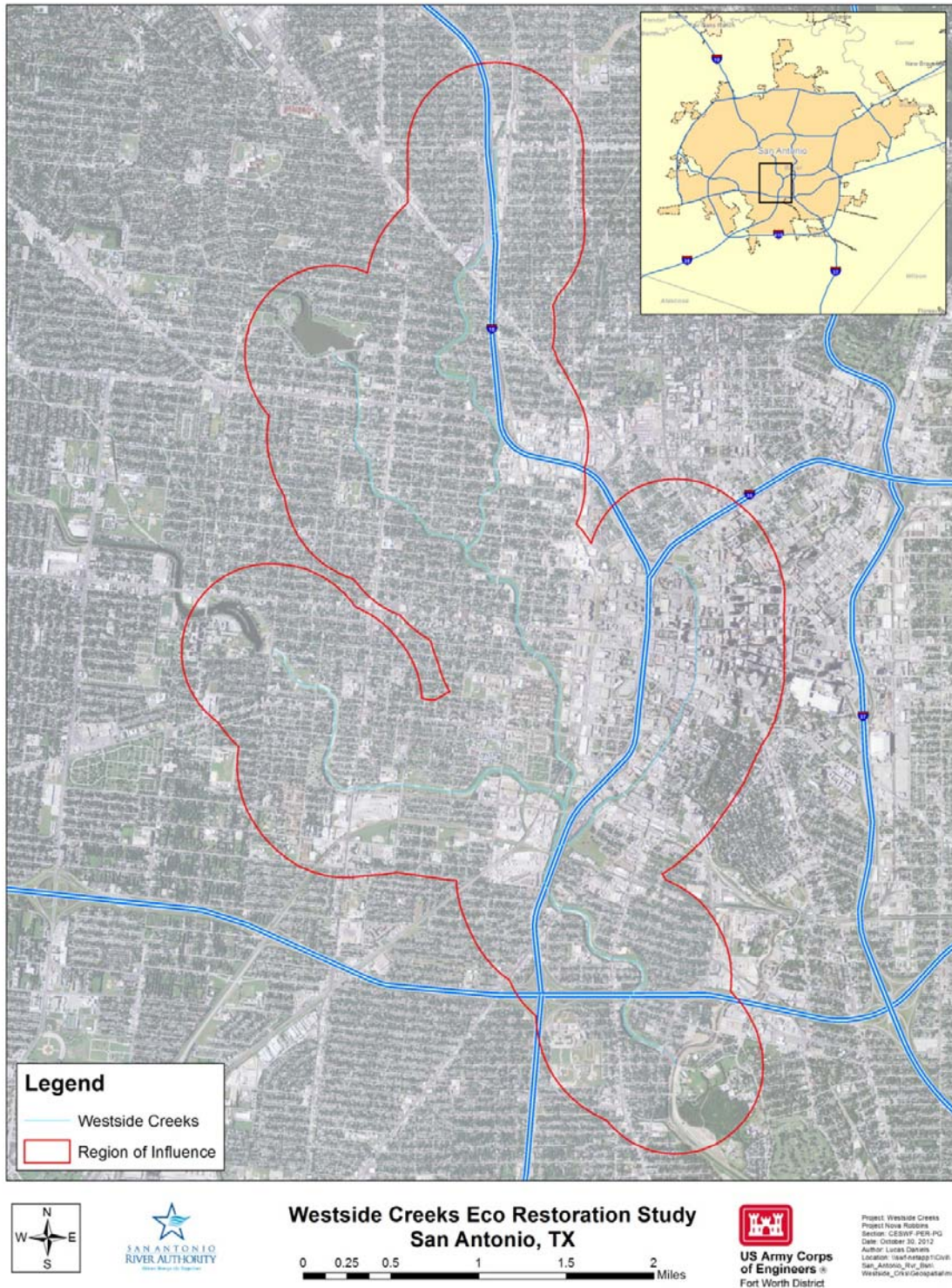


Figure 1. Westside Creeks Study Area

RACE AND ETHNICITY

In the 2010 census, approximately 72% of the population in the study area identified themselves as White, 3% as Black, 1% as American Indian, less than 1% each for Asian and Pacific Islander, 20% as other, and 3% as two or more races. For the city of San Antonio, the race composition is 73% White, 7% Black, 1% American Indian, 2% Asian, less than 1% Pacific Islander, 14% other, and 3% two or more races. For Bexar County, the composition is 73% White, 8% Black, 1% American Indian, 2% Asian, less than 1% Pacific Islander, 13% other, and 4% two or more races. The composition for Texas is 70% White, 12% Black, 1% American Indian, 4% Asian, less than 1% Pacific Islander, 11% other, and 3% two or more races. For Whites, the study area's composition is similar to the other geographical areas. The percentage of Blacks is smaller than the other areas, while the percent of other race is considerably greater in the study area.

Eight-nine percent of the study area population identified themselves as Hispanic. For the city of San Antonio, 63% of the population considered themselves of Hispanic origin, 59% in Bexar County, and 38% for Texas. As shown, the study area is considerably more Hispanic than the other geographical areas. Tables 2 and 3 show the 2010 population by race and Hispanic Origin, respectively.

Table 2. 2010 Population by Race

Geographical Area	White	Black	American Indian	Asian	Pacific Islander	Some Other Race	Two or More Races
Texas	17,701,552	2,979,598	170,972	964,596	21,656	2,628,186	679,001
Bexar County	1,250,252	128,892	14,475	41,739	2,350	217,389	59,676
San Antonio city	963,413	91,280	11,800	32,254	1,504	181,625	45,531
Westside Creeks Study Area	55,972	2,616	1,058	267	40	15,597	2,233

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

Table 3. 2010 Hispanic Origin Population

Geographical Area	Hispanic Origin
Texas	9,460,921
Bexar County	1,006,958
San Antonio city	838,952
Westside Creeks Study Area	69,538

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

AGE

The percent distribution of the population by age group is almost identical among all the geographical areas. Approximately 16% are under nine years of age, 15% between 10 and 19, 23% between 20 and 34, 12% between 35 and 44, 23% between 45 and 64, and 11% 65 or older. Table 4 shows the population by age group for the geographical areas. Median ages for the areas are 32.3 for the study area, 32.8 for San Antonio, 32.9 for Bexar County, and 33.6 for Texas.

Table 4. 2010 Population by Age Group

Geographical Area	0-9	10-19	20-34	35-44	45-64	65+
Texas	3,856,707	3,765,007	5,430,552	3,458,382	6,033,027	2,601,886
Bexar County	260,394	260,777	386,722	230,754	400,243	175,883
San Antonio city	199,799	199,907	304,784	175,669	308,644	138,604
Westside Creeks Study Area	12,444	11,500	17,735	9,681	17,719	8,703

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

HOUSEHOLDS

Table 5 shows the number of households and household characteristics for the geographical areas. There are 23,932 households in the Westside Creeks study area. The average household size in the study area is 2.96, which is slightly larger than for the other three areas. In all areas, most households, ranging from 72 to 76%, consist of two or more people, and the majority of the households are made up of family members. Approximately 11% of the households in the study area are multigenerational, considerably more than in the other areas, which range from 6 to 7%.

Table 5. 2010 Households and Household Characteristics

Geographical Area	Households	Average Household Size	1 Person Households	2+ Person Households	Family Households	Non-Family Households	Multi-generational Households
Texas	8,922,933	2.75	24.2%	75.8%	69.9%	5.9%	5.8%
Bexar County	488,942	2.75	25.3%	74.7%	68.4%	6.3%	6.5%
San Antonio city	407,775	2.71	26.9%	73.1%	66.3%	6.8%	6.7%
Westside Creeks Study Area	23,932	2.96	27.8%	72.3%	66.4%	5.9%	10.6%

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

EDUCATION

Table 6 shows the percent of the population 25 years of age and older by highest level of education. In the Westside Creeks study area, almost 50% of the population had less than a high school degree or GED. This is significantly greater than for the city, county and state. The proportion of population with a high school diploma or GED as their highest level of education is similar for all of the geographical areas, ranging from 26 to 29%. However, for persons achieving associate, bachelor's, or graduate degrees, the study area has a significantly lower percent of its population with associate' degrees or higher.

Table 6. Percent of Population 25 Years and Older by Highest Level of Education

Geographical Area	Less than High School Diploma	High School Diploma	Associate Degree	Bachelor's Degree	Master's, Professional or Doctorate Degree
Texas	20.3%	26.6%	6.6%	17.1%	8.4%
Bexar County	18.6%	27.3%	7.1%	15.8%	8.7%
San Antonio city	20.8%	27.4%	6.7%	15.0%	8.1%
Westside Creeks Study Area	49.6%	29.2%	3.0%	3.8%	2.1%

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

INCOME

Comparing median household incomes for 2010, the figure for the study area is almost 50% less than the other geographic areas, whose median household incomes are similar. The median household income in the study area is \$22,749, compared to the mid \$40,000's for the other areas. Per capita income is also approximately 50% less in the study area than in the other geographical areas, with only \$12,813.

Table 7. 2010 Median Household and Per Capita Incomes

Geographical Area	Median Household Income	Per Capita Income
Texas	\$47,753	\$24,332
Bexar County	45,689	23,545
San Antonio city	42,612	22,457
Westside Creeks Study Area	22,739	12,813

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

In the study area, 53% of households have household income of less than \$25,000, and 33% have incomes less than \$15,000. This shows that for the study area, incomes are more tightly grouped at the lower end of the spectrum, while in the other areas, household incomes are more evenly distributed from the lower end to \$149,999. Table 8 shows the percent of households by household income range for all of the study areas.

Table 8. Percent of Households by Income Range

Geographical Area	Less than \$15,000	\$15,000-24,999	\$25,000-34,999	\$35,000-49,999	\$50,000-74,999	\$75,000-\$99,999	\$100,000-149,999	\$150,000-199,999	\$200,000 and Greater
Texas	14.2%	11.9%	11.1%	14.5%	17.9%	11.5%	11.2%	3.9%	3.8%
Bexar County	14.0%	12.5%	11.6%	15.3%	18.3%	11.0%	10.3%	3.6%	3.4%
San Antonio city	15.3%	15.3%	12.2%	15.6%	17.8%	10.3%	9.5%	3.2%	2.8%
Westside Creeks Study Area	32.9%	20.3%	15.5%	13.4%	10.8%	3.7%	2.3%	0.6%	0.5%

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

HOUSING

There are an estimated 26,989 housing units in the Westside Creeks study area. Approximately 90% are occupied which is consistent with the other geographical areas. For all of the areas, vacancy rates range from 8 to 11%. In the study area, 50% of the occupied units are owner-occupied, and 50% are renter occupied. Ownership rates are slightly higher in the other three geographical areas with 57% ownership in San Antonio, 61% in Bexar County, and 64% in Texas. This information is presented in Table 9.

Table 9. 2010 Housing Units and Characteristics

Geographical Area	Housing Units	Percent Occupied	Percent Vacant	% Owner Occupied	% Renter Occupied
Texas	9,977,436	89.4%	10.6%	63.7%	36.3%
Bexar County	662,872	91.9%	8.1%	60.5%	39.5%
San Antonio city	524,246	91.5%	8.5%	56.5%	43.5%
Westside Creeks Study Area	26,989	89.4%	10.6%	49.5%	50.5%

Source: ESRI Community Analyst citing U.S Bureau of the Census, 2010 Census of Population and Housing

BUSINESS AND EMPLOYMENT

BUSINESS MAKEUP

There are an estimated 3,109 business establishments in the Westside Creeks study area. About 15% are classified as other services under the North American Industry Classification System (NAICS). The second largest sector is retail which represents 14% of all establishments. Professional, Scientific, and Technical Services make up 11% followed by Accommodation and Food Services with 9% and Health Care & Social Assistance with 8%. Almost 7% of establishments are Public Administration while Construction and Wholesale Trade make up 6% each. The remaining categories make up 5% or less of the total number of establishments. Table 10 provides similar data for Texas, Bexar County, and San Antonio for comparison.

Table 10. Number of Business Establishments and Percent Distribution Among NAICS Classification for 2012

NAICS Classification	Texas	Bexar County	San Antonio	Westside Creeks Study Area
Total Number of Businesses	919,059	55,001	45,786	3,109
Agriculture, Forestry, Fishing & Hunting	0.8%	0.3%	0.2%	0.1%
Mining	0.6%	0.3%	0.3%	0.1%
Utilities	0.3%	0.1%	0.1%	0.0%
Construction	7.9%	7.9%	7.1%	5.7%
Manufacturing	3.5%	3.0%	3.0%	3.9%
Wholesale Trade	4.9%	4.3%	4.5%	5.8%
Retail Trade	15.1%	15.0%	15.1%	14.0%
Transportation & Warehousing	2.4%	1.8%	1.7%	1.3%
Information	1.8%	1.8%	1.9%	1.4%
Finance & Insurance	6.4%	6.8%	7.0%	5.2%
Real Estate, Rental & Leasing	5.7%	6.4%	6.5%	3.3%
Professional, Scientific, & Tech Services	8.9%	10.0%	10.2%	11.3%
Management of Companies & Enterprises	0.1%	0.1%	0.1%	0.0%
Administrative, Support, Waste Management Services	3.9%	4.3%	4.2%	3.3%
Educational Services	2.5%	2.5%	2.4%	2.0%
Health Care & Social Assistance	6.9%	7.7%	8.2%	8.1%
Arts, Entertainment, & Recreation	1.6%	1.7%	1.6%	1.7%
Accommodation & Food Services	6.9%	8.1%	1.0%	9.0%
Other Services	13.8%	13.6%	13.5%	14.9%
Public Administration	3.2%	1.5%	1.4%	6.6%
Unclassified Establishments	2.6%	2.8%	2.7%	2.4%

ESRI Community Analyst, citing Infogroup

EMPLOYMENT

In terms of employment, 17% of those working in the Westside Creeks study area are employed in the Public Administration sector. Educational Services is the second largest employer in the study area making up 15% of all employees followed by Health Care and Social Assistance with 13%. Retail Trade accounts for 9% of employment in the study area. The remaining sectors make up 5% or less each of total employment in the study area. Table 11 provides similar information for Texas, Bexar County, and San Antonio for comparison.

Table 11. Number of Employees and Percent Distribution Among NICS Classification for 2012

NAICS Classification	Texas	Bexar County	San Antonio	Westside Creeks Study Area
Total Number of Employees	10,872,751	766,747	664,366	53,558
Agriculture, Forestry, Fishing & Hunting	0.3%	0.1%	0.1%	0.0%
Mining	0.8%	0.2%	0.2%	0.1%
Utilities	0.6%	0.3%	0.3%	0.0%
Construction	6.3%	4.9%	4.4%	3.5%
Manufacturing	8.0%	6.6%	7.1%	4.9%
Wholesale Trade	5.2%	3.8%	4.1%	4.6%
Retail Trade	13.4%	13.9%	13.9%	8.9%
Transportation & Warehousing	2.9%	2.2%	2.3%	0.9%
Information	1.9%	1.8%	1.1%	1.2%
Finance & Insurance	4.1%	4.1%	4.3%	3.3%
Real Estate, Rental & Leasing	2.8%	3.2%	3.2%	1.0%
Professional, Scientific, & Tech Services	6.8%	6.4%	6.8%	5.1%
Management of Companies & Enterprises	0.2%	0.2%	0.3%	2.4%
Administrative, Support, Waste Management Services	3.1%	5.4%	5.5%	3.0%
Educational Services	9.4%	10.1%	13.8%	14.8%
Health Care & Social Assistance	11.1%	14.2%	1.6%	13.4%
Arts, Entertainment, & Recreation	1.4%	1.7%	1.6%	0.6%
Accommodation & Food Services	9.6%	11.6%	12.0%	10.3%
Other Services	5.8%	5.3%	5.1%	4.6%
Public Administration	5.3%	3.0%	2.9%	16.7%
Unclassified Establishments	0.9%	0.9%	0.9%	0.8%

ESRI Community Analyst, citing Infogroup

According to the Texas Workforce commission, the September unemployment rate for Texas was 6.3%, Bexar County was 6.1%, and San Antonio was 6.0%. Data specific to the study was not available, but would be expected to be representative of the county and city and therefore in the 6.0% range.

SOCIO-ECONOMIC SUMMARY

Approximately 78,000 persons or 6% of the population of San Antonio lives within the 12 square mile Westside Creeks study area. The population is predominantly of Hispanic Origin (89%), and 72% of the population considered themselves as White on the 2010 census. With regards to age, the two largest age groups are 20-34 and 45-64. Sixteen percent are under nine years of age, and 11% are 65 years or older. The median age is 32.3 years.

Seventy-two percent of the households in the study area are predominantly made up of 2 or more persons family households and have a higher multi-generational makeup than the state, county, or city. Eighty-nine percent of the available housing units are occupied, and 50% are owner

occupied; however, the ownership rate is 3% less than the city of San Antonio and 9% less than Bexar County.

The study area shows to have attained less education when compared to San Antonio, Bexar County, and Texas. Almost 50% of those 25 years of age and older have less than a high school education, 29% have only a high school diploma, and 9% possess an Associate's degree or higher.

Similarly, the study area shows to be poorer than the city, county and state. With a median household income of \$23,000, the income shows to be about half of what is experienced in the other geographical areas. Per capita income (\$12,813) is also about half of per capita incomes in the other geographical areas.

Service sector and retail establishments make up the largest number of employers in the study area; however, most people working in the study area are in either public administration, educational services, or health care. The unemployment in the area is around 6.0%

ENVIRONMENTAL JUSTICE CONCERNS

In accordance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations," data were compiled to help assess the potential impacts to minority and low-income populations within the study area. Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.

With respect to minority race and ethnicity, 89% of the study area's population identifies themselves as Hispanic. Additionally, the study area shows to be considerably poorer than the City of San Antonio and Bexar County. Therefore, any study recommendations could potentially impact both minority and low income populations. However, since one of the constraints of the study is to maintain water surface elevations there is no anticipated adverse flood risk impacts to this population. Also, an ancillary benefit of the ecosystem restoration is to reconnect the neighborhoods divided by earlier channel modifications in the creeks. With recreation also being considered benefits would not only accrue to the local neighborhoods, but to the city as a whole. Given these expectations, no economic justice concerns are anticipated.

FLOOD RISK MANAGEMENT

Though earlier channel modifications and permanent removal of structures reduced flood risk in the Westside Creeks study area, there are residual damages and structures within the 100 year flood plain delineation. To determine if the remaining flood risk would support federal investment a preliminary analysis was performed with information available before funds were expended to develop complete structure files and HEC-FDA models.

Using GIS, building footprints, stream banks, the 100 year flood plain delineation based of FEMA DFIRM mapping, and contours were added as layers. The depth of flooding within the flood plain was determined by the difference between the water surface elevation and the top of stream bank at cross-sections along each creek and estimated separately for left and right banks. Flooding would only occur if the water surface elevation exceeded the stream bank. During initial site visits in 2010, it was noted that structures along the creeks were predominantly of pier-

and-beam construction and had finished floor elevation between 1.5' and 3.0'. Using contour files, a ground elevation was assigned to each structure as well as stream cross sections.

Median flood depths are shown in Table 12. The median depth ranged from 1.6 feet to 2.3 feet. This would place water at or only slightly above finished floor elevations for 50% of the structures remaining in the 100 year flood plain. Based on information from the Bexar County Appraisal District, the average age of a home was 60 years, and the average 2010 valuation was \$52,300. Since damages would accrue to less than 50% of the remaining structures and the structures would have a low depreciated replacement value when considering age, observed condition, and values, the PDT along with the local sponsor feel that remaining damages would not support any significant structural alternative, and real estate acquisition costs would not likely support a non-structural measure.

Table 12. Estimation of Depths of Flooding Above Ground Surface Elevation in the Westside Creeks Study Area

Creek	Minimum Flooding Depth (feet)	Maximum Flooding Depth (feet)	Median Depth
Alazán Creek	0.0033	5.6	1.56
Apache Creek	0.0039	6.9	1.40
Martinez Creek	0.0008	7.1	2.03
San Pedro Creek	0.0485	5.1	1.67