

## **2.0S Site Characteristics**

This chapter describes the geological, seismological, hydrological, and meteorological characteristics of the STP site and vicinity. The site characteristics are described in conjunction with present and projected population distribution, land use, site activities and controls. The site characteristics were developed in accordance with the relevant requirements of 10 CFR Parts 20, 50, 52, and 100; and are consistent with the guidance provided in Regulatory Guide (RG) 1.206. The site location and description are provided in sufficient detail to support a safety assessment for three types of safety analyses: the exposure of the public to radiation at the boundary of the restricted area of the plant; the consequences of a serious release of radioactive material in the unlikely event that one should occur; and the effect that routine use and accidents on transportation routes near the site would have on the operation of the proposed units. The chapter is divided into five sections:

- Geography and demography (Section 2.1S)
- Nearby industrial, transportation, and military facilities (Section 2.2S)
- Meteorology (Section 2.3S)
- Hydrology (Section 2.4S)
- Geology and seismology (Section 2.5S)

## **2.1S Geography and Demography**

### **2.1S.1 Site Location and Description**

The following site-specific supplemental information addresses COL License Information Item 2.3.

#### **2.1S.1.1 Site Location**

STP 3 & 4 are located on the existing STP site. The 12,200 acre STP site is located in a rural area of south-central Matagorda County. Figure 2.1S-1 depicts the STP site and the surrounding area within 50 miles. Figure 2.1S-2 depicts the general location of the STP site and localities surrounding the site within 10 miles. Matagorda County lies in the Coastal Prairie region in the southeastern part of Texas, along the Gulf of Mexico. The STP site is located approximately 89 miles southwest of Houston, Texas, and 200 miles southeast of Austin, Texas. The county is bounded on the north by Wharton County, on the east by Brazoria County and the Gulf of Mexico, on the west by Calhoun and Jackson counties, and on the south by the Gulf of Mexico and Tres Palacios, West and East Matagorda Bays. Matagorda County extends across 1612 square miles of mostly open prairie with extensive forests, wetlands and coast. The landscape in the county generally is broad and nearly level. Agriculture, mainly rice farming, and fishing are major industries in Matagorda County. Additionally, the county contains numerous offshore oil rigs and natural gas extraction facilities. The prominent natural features of the region surrounding the STP site, as shown on Figures 2.1S-1 and 2.1S-2, include: the Colorado River, which bisects the county from north to south;

East and West Matagorda Bays, which are protected by the Matagorda Peninsula; and Tres Palacios Bay and River. The west branch of the Colorado River, as well as several sloughs, flow through the STP site boundary. One of the sloughs feeds 34.4 acre Kelly Lake, which is at the northeast corner of the STP site. The Colorado Barge Canal extends 15 miles along the Colorado River from the Gulf Intracoastal Waterway to a turning basin below Bay City and links the county to deep water at Freeport and Galveston (References 2.1S-1 and 2.1S-2).

As depicted in Figures 2.1S-1 and 2.1S-2, Matagorda County with a 2005 U.S. Census Bureau estimated population of 37,849, includes two incorporated cities: Bay City, the county seat, and Palacios; and four unincorporated towns: Blessing, Markham, Matagorda, and Van Vleck. The STP site is situated 12 miles south-southwest of the city limits of Bay City. Of the cities and towns located in Matagorda County, only the town of Matagorda is located within 10 miles of the STP site. Communities located nearby the STP site include: Collegeport, located approximately 8.5 miles to the southwest; Wadsworth, located approximately 8.5 miles to the northeast; and El Maton located approximately 7.3 miles to the northwest. There are two small developments, Selkirk Island and Exotic Isle, located near the eastern boundary of the site on the Colorado River, approximately 3.5 miles southeast of STP 3 & 4. (References 2.1S-3, 2.1S-4, and 2.1S-5).

There are several recreational and park areas located in Matagorda County. A few of these recreational areas are located near the STP site as depicted in Figure 2.1S-2. Farm-to-Market Road (FM) 521 River Park is a 13-acre park operated by Matagorda County located approximately 4 miles east of the STP site on FM 521. Baycel Golf Club is located approximately 4.8 miles north-northeast of the STP site near OXEA Corporation. And, the Rio Colorado golf course, camping, and recreational area is located north of the OXEA Corporation, just south of Bay City. The Matagorda Bay Nature Park is a 1600-acre nature park and preserve located at the mouth of the Colorado River on the Matagorda Peninsula approximately 11 miles south-southeast of the STP site. The Matagorda County Birding Nature Center spans 34 acres on the Colorado River and is located approximately 12 miles north of the STP site. There are no recreational areas located within the STP site (References 2.1S-6, 2.1S-7, and 2.1S-8).

In addition to the existing units (STP 1 & 2), STP 3 & 4 are located near two petrochemical plants operated, respectively, by OXEA Corporation, formerly Celanese, and Equistar; one wastewater treatment plant, Matagorda Waste Disposal & Water Supply Corporation (in the town of Matagorda); and one public wharf as depicted on Figure 2.1S-2. OXEA is located approximately 4.8 miles north-northeast from the STP site. Equistar is located approximately seven miles east of the STP site. The Port of Bay City (POBC) is a public wharf adjacent to OXEA Corporation located along the Colorado River approximately 4.6 miles north-northeast from STP 3 & 4. Located at the POBC terminal are two petroleum storage facilities; Gulfstream Terminal and Marketing, LLC, and GulfMark Energy, Inc. There are no military installations near the STP site. The closest military base is Ingleside Naval Station located in Ingleside Texas, approximately 90 miles southwest of the STP site (References 2.1S-9, 2.1S-10, and 2.1S-11).



Matagorda County is traversed by several highways. Texas State Highway 35 runs east/west to Texas State Highway 288, connecting northward to Houston. Texas State Highway 60 runs north/south, joining US Highway 59 in Wharton, proceeding northeast to Houston. Providing main access to the STP site is a rural road, FM 521, which runs along the northern boundary of the STP site. FM 521 provides a connection with both State Highways 60 and 35 (References 2.1S-3 and 2.1S-12).

### **2.1S.1.2 Site Description**

With the exception of STP 1 & 2, no commercial, industrial, institutional, recreational, or residential structures are located within the STP site area. STP 3 & 4, a two-unit ABWR, is located to the northwest of the existing units as delineated on the site area maps (Figures 2.1S-3 through 2.1S-4). The center point of Unit 3 reactor building is approximately 1400 feet west and 1500 feet north of the center point of the Unit 2 containment. The Unit 4 footprint is separate from, but adjacent to the Unit 3 footprint. The center point of Unit 4 is approximately 900 feet west of the center point of Unit 3. The combined powerblock footprints of STP 3 & 4 encompass an area of approximately 53 acres. (Figure 2.1S-5) The STP site primarily resides within the Blessing SE, Texas 7 ½ -minute United States Geological Survey (USGS) topographic quadrangle with portions of the STP site lying within the Palacios NE, Texas, the Matagorda, Texas, and the Wadsworth, Texas 7-½ minute quadrangles. The coordinates of the center of the reactor containment building for STP 3 & 4 are given below in the Geodetic Latitude/Longitude and the Universal Transverse Mercator (UTM) coordinate systems:

<b>Unit</b>	<b>Latitude/Longitude (NAD 27) (Degrees)</b>	<b>Latitude/Longitude (NAD 83) (Degrees)</b>	<b>UTM, Zone 14N (102 W to 96W) (NAD 27) (Meters)</b>	<b>UTM, Zone 14N (102W to 96W) (NAD 83) (Meters)</b>
3	N 28° 47' 57"	N 28° 47' 59"	North/South 3,189,137.59	North/South 3,189,341.26
	W 96° 03' 15"	W 96° 03' 16"	East/West 787,547.30	East/West 787,517.51
4	N 28° 47' 58"	N 28° 47' 59"	North/South 3,189,137.70	North/South 3,189,341.37
	W 96° 03' 25"	W 96° 03' 26"	East/West 787,272.78	East/West 787,242.99

### **2.1S.2 Exclusion Area Authority and Control**

The following site-specific supplemental information addresses COL License Information Item 2.4.

As required by 10 CFR 100.21(a), an Exclusion Area Boundary (EAB) and a low population zone (LPZ) have been identified to meet the requirements established in 10 CFR 100.3. STP 3 & 4 are located within the EAB and the LPZ already designated for STP 1 & 2. The EAB is an oval having a minimum distance of approximately 4692 feet from the center of each of the STP 1 & 2 reactor containment buildings. The center

of the exclusion area “oval” is a point approximately 305 feet directly west of the center of the Unit 2 Reactor Containment Building depicted on Figure 2.1S-4. This point is also the center of the existing LPZ, which is a circle with a radius of 3 miles. The EAB and LPZ are depicted on Figures 2.1S-3 and 2.1S-4.

### **2.1S.2.1 Authority**

The STP participants own the land, including the mineral executive rights, within the site boundary except for the rights of way for the public roads (FM 521, County Road 392 extending south from FM 521 and adjacent to the western boundary of the site, and County Road 360, branching off the northeast corner of FM 521 as it loops around the site for meteorological tower access). The site boundary entirely encompasses the designated EAB for STP 3 & 4. The STP participants have delegated to STPNOC the authority to determine all activities within the EAB, including the exclusion and removal of personnel and property. STPNOC has authority over the EAB in the event of an emergency to afford protection of public health and safety.

### **2.1S.2.2 Control of Activities Unrelated to Plant Operation**

No person or entity can reside, build, or conduct other activities within the designated EAB for STP 3 & 4 without STPNOC's approval. The only area that exists within the EAB in which activities unrelated to plant operation can occur is the Visitor Center, which is located inside the Nuclear Training Facility. The Nuclear Training Facility is located inside the Owner Controlled Area and the EAB, but outside of the guard posts. All non-essential individuals in the EAB, including those in the Visitor Center, will be evacuated consistent with emergency planning procedures in the event of an emergency.

### **2.1S.2.3 Arrangements for Traffic Control**

No federal, state, or county roads or railways traverse the STP EAB.

### **2.1S.2.4 Abandonment or Relocation of Roads**

There are no public roads traversing the STP 3 & 4 exclusion area which, due to their location, have to be abandoned or relocated.

### **2.1S.3 Population Distribution**

The following site-specific supplemental information addresses COL License Information Item 2.5.

The population surrounding the STP site, to a 50-mile radius, was estimated based on 2000 decennial census data from the United States Census Bureau (USCB) using SECPOP2000, a code developed for the NRC by Sandia National Laboratories, to calculate population by emergency planning zone sectors (Reference 2.1S-13). The population distribution was estimated in 10 concentric rings at 0-1 mile, 1-2 miles, 2-3 miles, 3-4 miles, 4-5 miles, 5-10 miles, 10-20 miles, 20-30 miles, 30-40 miles, and 40-50 miles from the STP site, and 16 directional sectors, each sector consisting of 22.5 degrees. The populations for years 2010 through 2080 have been projected by calculating a growth rate using state population projections (by county) as the basis.

**2.1S.3.1 Resident Population Within 10 Miles**

Figure 2.1S-6 shows the general locations of the municipalities and other features within 10 miles of the STP site. According to the 2000 census (Reference 2.1S-14), Matagorda-Sargent census county division (CCD), which had a population of 3,335 in 2000, is the largest community within 10 miles of the site (Reference 2.1S-14). The small communities of Collegeport, El Maton, and Wadsworth also lie within 10 miles of the site. These very small communities are not explicitly listed in the 2000 census; however, their counts are included in the concentric circle population counts.

The resident population distribution within 10 miles of the site was computed by overlaying the 2000 census block (the smallest unit of census data) on the grid shown on Figure 2.1S-6, and summing the populations of the census block points within each sector. SECPOP uses the 2000 block data from the USCB and overlays it onto the sectors in the annuli prescribed by the user. The population projections to Year 2040 for each county within 50 miles of STP were obtained from the Texas State Data Center and used to calculate an exponential growth rate for each county within the 50-mile radius (Reference 2.1S-16). The growth rate for each county was then used to project future populations (within each sector, taking into account the percent of each sector in a particular county).

The population distributions (including transient population) and related information were tabulated for all distances within each of the 16 sectors. Figures 2.1S-7 through 2.1S-15 show the resident and transient populations for the Year 2000 and the projected populations (by decade) through the Year 2080. The current population within 10 miles can be conservatively assumed to be that shown for the Year 2010. The projected population for the expected first year of plant operation can conservatively be assumed to be that shown for the Year 2020. Each figure also provides totals by direction and by radius. The SECPOP2000 results (with transient population added) produced the 10-mile radius populations for the years 2000 through 2080 (by decade) as follows:

<b>Year</b>	<b>10-Mile Radius Population</b>
2000	6,314
2010	6,692
2020	7,135
2030	7,578
2040	8,081
2050	8,587
2060	8,857
2070	9,726
2080	10,357

**2.1S.3.2 Resident Population Between 10 and 50 Miles**

The 50-mile radius centered at STP includes all or parts of nine counties in Texas (Figure 2.1S-16). Estimates of the Year 2000 resident population between 10 and 50 miles from STP were computed using the same methodology used to develop the 10-mile population distribution.

The population grid from 10 to 50 miles is shown on Figure 2.1S-16. Transient population was not quantitatively determined for the 10 to 50 mile radii because, compared with the resident population, it is expected to be insignificant. The 10 to 50-mile population distributions for the years 2000 through 2080 (by decade) are shown on Figures 2.1S-17 through 2.1S-25. The 50-mile radius populations (including the 0 to 10-mile populations) for each year are as follows:

<b>Year</b>	<b>50-Mile Radius Population</b>
2000	258,960
2010	287,750
2020	321,809
2030	360,910
2040	405,752
2050	455,721
2060	514,026
2070	580,967
2080	657,940

**2.1S.3.3 Transient Population****2.1S.3.3.1 Transient Population Within 10 Miles**

The transient population segment includes persons in the workforce, hotels/motels, and recreational areas, as well as seasonal residents and migrant populations. The major employment facilities in the area, in addition to STP, include OXEA Corporation and Equistar Chemicals, LP. OXEA Corporation is located approximately five miles north-northeast of the plant and employs a total of 155 persons. Equistar, located about seven miles east of the STP site, employs 194 workers.

Recreational opportunities in the area include Riverside Park, Baycel Golf Club, Rio Colorado Golf Club, FM 521 River Park, Fisherman's Motel, Lighthouse RV Park, Matagorda Harbor, and the Mad Island Wildlife Management Area (WMA). Accounting for major employers (other than STP), overnight accommodations, major recreation areas, and marinas within the 10-mile radius, a total of 1,622 transients could be present within the 10-mile radius.

The seasonal population category includes those who reside in the area on a temporary basis. Based on USCB information on seasonal housing, an estimated 1,864 persons reside within the STP 10-mile Emergency Planning Zone on a seasonal basis. Migrant workers are another category of transients that are considered in this analysis. However, according to the Matagorda County Agricultural Extension Agency and the Texas Workforce Commission, there are few, if any migrant workers within 10 miles of the plant due to the mechanized nature of the agricultural industry in this area (Reference 2.1S-17).

The 10-mile transient population was added to the resident distribution and projected for future years (Figures 2.1S-7 through 2.1S-15). The baseline transient population distribution for the 10-mile radius is as follows:

<b>Radius</b>	<b>Direction</b>	<b>Number of Transients</b>
3-4	E	15
3-4	ESE	28
4-5	NNE	205
4-5	ESE	48
4-5	SE	148
5-10	NNE	416
5-10	ENE	52
5-10	E	198
5-10	ESE	100
5-10	SE	1,624
5-10	SSE	100
5-10	S	40
5-10	SW	44
5-10	WSW	124
5-10	W	20
5-10	WNW	316
5-10	NW	8
<b>TOTAL</b>		<b>3,486</b>

#### **2.1S.3.3.2 Transient Population Between 10 and 50 Miles**

The Office of the Governor, Economic Development and Tourism (Texas Tourism) lists five counties that fall within the STP 50-mile radius in the Gulf Coast Region of Texas: Matagorda, Brazoria, Wharton, Colorado, and Fort Bend. The number of person-trips to the Gulf Coast for 2003 through 2004 (two-year period) was 33 million (16.5 million person-trips per year), and the volume of person-days was 72 million (36 million

person-days per year). Leisure travel represented 73% of travel (in person-days) to the Gulf Coast Region, with business travel making up the remaining 27%. The Gulf Coast Region's share of total person-days ranked third among Texas' ten regions, behind the South and Metroplex Regions. The Houston-Baytown-Sugar Land Metropolitan Statistical Area (MSA) (which includes Brazoria and Fort Bend counties) represented 69 million of the total 72 million person-days for the two-year period (Reference 2.1S-18).

The counties of Lavaca, Jackson, Victoria, and Calhoun, portions of which fall within the 50 mile radius, are contained within the South Region, as defined by Texas Tourism. The number of person-trips to the South Region was estimated at 45 million person-trips for the 2003-2004 two-year period (22.5 million person-trips per year) and 99 million person-days (49.5 million person-days per year). Leisure travel represented 76% of travel (in person-days) with business travel making up the remaining 24%. The Victoria MSA, consisting of Victoria County, is the only South Region MSA with a portion within the STP 50-mile radius and had the least number of visitors (2 million person-days for 2003 and 2004) of the South Region MSAs (Reference 2.1S-19).

Seasonal agricultural workers also make up a portion of the transient population in the 10 to 50-mile radius. Farms in the following Texas counties that fall wholly or partially within the 50-mile radius employ migrant labor: Brazoria (20 farms), Calhoun (2), Colorado (29), Fort Bend (3), Jackson (1), Lavaca (11), Matagorda (72), and Wharton (40) (Reference 2.1S-20).

It is difficult to provide an accurate count of the transient population between 10 and 50 miles. Because of this uncertainty, the transient population was not keyed to sectors or projected for future years. However, compared with the resident population within a 50-mile radius, the size of the transient population is expected to be relatively insignificant.

#### **2.1S.3.4 Low Population Zone**

The Low Population Zone (LPZ) for STP 3 & 4 is the same as the LPZ for STP 1 & 2, and consists of the area within a 3-mile radius of a point 305 feet directly west of the center of the Unit 2 containment (Reference 2.1S-17). Although the center of the LPZ is slightly offset from the center of the direction sectors (Figure 2.1S-6), the population distribution is not affected by this offset. No facilities or institutions requiring special consideration for emergency planning purposes such as schools, nursing homes, hospitals, prisons, or major employers (other than STP) are known to exist within the LPZ or out to a distance of 5 miles. No transient or seasonal populations were identified in the LPZ. Figure 2.1S-26 shows topographical features of the LPZ.

The resident and transient population distributions within the LPZ for each decade from 2000 through 2080 can be seen on Figures 2.1S-7 through 2.1S-15. The total populations within the LPZ for Year 2000 and projected through Year 2080 are as follows:

<b>Year</b>	<b>LPZ Population</b>
2000	16
2010	17
2020	18
2030	19
2040	20
2050	21
2060	23
2070	25
2080	27

### **2.1S.3.5 Population Center**

The closest population center (population of greater than 25,000) is considered to be Bay City CCD, which contains Bay City and Van Vleck, and is located approximately 12 miles north-northeast of the STP site. The Bay City CCD had a 2000 population of 24,238, not including transient population (Reference 2.1S-14). Considering transient population and Matagorda County's projected positive growth rate (Reference 2.1S-16), Bay City CCD's population is assumed to exceed 25,000. The distance to the closest boundary of the population center is more than the radius of the 3-mile LPZ. This distance meets the requirement that the population center distance be at least one and one-third times the distance from the reactor to the outer boundary of the LPZ (10 CFR 100.21(b)).

The few population groupings within the 10-mile radius are unincorporated communities with small populations (Figure 2.1S-6). The overall population density within the 10-mile radius is 20.1 persons per square mile and is projected to increase to 33.0 by the Year 2080. The 5 to 10-mile southeast sector, containing the unincorporated community of Matagorda, is the sector with the highest population density within the 10-mile radius (142.0 for the Year 2000 and 232.9 for the Year 2080). The 4- to 5-mile southeast sector also has a significantly higher population density than the overall area with a Year 2000 density of 140.2 persons per square mile and a projected Year 2080 density of 230.2 persons per square mile.

### **2.1S.3.6 Population Density**

Given a conservative reactor startup date of 2020, and an operational period of 60 years, operations could extend until 2080. Figure 2.1S-27 shows the cumulative population in year 2000 within 20 miles of the site and projected cumulative populations in years 2020 and 2080. The population density in year 2015 would be less than that in year 2020. On the same figure, spanning the same radial distances, a population curve is shown for a hypothetical density of 500 persons per square mile as specified in Regulatory Guide 4.7, Position C.4 (Reference 2.1S-21). The 2020 as

well as the 2080 populations are below the 500 persons per square mile density criteria specified in Regulatory Guide 4.7 at all radial distances.

#### **2.1S.4 References**

- 2.1S-1 "Soil Survey of Matagorda County, Texas," issued 2001. Available at <http://soildatamart.nrcs.usda.gov/Manuscripts/TX321/0/Matagorda.pdf>, accessed January 29, 2007.
- 2.1S-2 "The Handbook of Texas Online," The University of Texas at Austin, last updated June 6, 2001. Available at <http://www.tsha.utexas.edu/handbook/online/articles/MM/hcm5.html>, accessed September 28, 2006.
- 2.1S-3 "Bay City Area Map," Five Star Maps, Inc., Carbon, Texas, 2006 Edition.
- 2.1S-4 "U.S. Census Bureau, State & County QuickFacts." Available at <http://quickfacts.census.gov/qfd/states/48/48321.html>, accessed September 29, 2006.
- 2.1S-5 "Matagorda County Community Plan 2006-2007," December 2006. Available at [http://www.co.matagorda.tx.us/ips/export/sites/matagorda/downloads/Community\\_Planx\\_2006-2007.pdf](http://www.co.matagorda.tx.us/ips/export/sites/matagorda/downloads/Community_Planx_2006-2007.pdf), accessed March 20, 2007.
- 2.1S-6 "Lower Colorado River Authority website." Available at [http://www.lcra.org/about/parks\\_preserves.html](http://www.lcra.org/about/parks_preserves.html), accessed January 25, 2007.
- 2.1S-7 "Matagorda Area Chamber of Commerce Website." Available at <http://www.matagordachamber.com/>, accessed January 25, 2007.
- 2.1S-8 "Baycel Golf Club." Available at <http://www.touringtexas.com/golf/east.htm>, accessed April 19, 2007.
- 2.1S-9 EPA, EnviroMapper Website. Available at <http://134.67.99.122/enviro/emef.asp?xl=-96.38485&yt=29.23175&xr=-94.9209&yb=28.01375>, accessed on January 29, 2007.
- 2.1S-10 "Google Earth, Map of area surrounding STP," accessed January 29, 2007.
- 2.1S-11 "Port of Bay City Authority website." Available at <http://www.portofbaycity.com/index.html>, accessed March 16, 2007.
- 2.1S-12 "Matagorda County Economic Development Corporation Website." Available at <http://www.mcedc.net/CommunityProfile.html>, accessed January 25, 2007.
- 2.1S-13 "SECPOP2000: Sector Population, Land Fraction, and Economic Estimation Program, NUREG/CR-6525, Rev. 1," August, 2003.



- 2.1S-14 "Matagorda County, Texas - County Subdivision and Place. GCT-PH1. Population, Housing Units, Area, and Density: 2000," USCB (U.S. Census Bureau) 2000. Available at <http://www.factfinder.census.gov>, accessed February 23, 2007.
- 2.1S-15 "Matagorda County Community Plan 2006-2007," Matagorda County, December 2006.
- 2.1S-16 "Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2000-2040," Texas State Data Center, Office of the State Demographer, Institute for Demographic and Socioeconomic Research, The University of Texas at San Antonio, October, 2006.
- 2.1S-17 "STPEGS Updated Final Safety Analysis Report, Units 1 and 2" Revision 13.
- 2.1S-18 "Texas Destinations, 2003-2004 - Gulf Coast Region.," D. K. Shifflet and Associates 2005. Prepared for Texas Economic Development and Tourism.
- 2.1S-19 "Texas Destinations, 2003-2004 - South Region," D.K. Shifflet and Associates 2005. Prepared for Texas Economic Development and Tourism.
- 2.1S-20 "Texas State and County Data, 2002 Census of Agriculture, Volume 1, Geographic Area Series, Part 43A, AC-02-A-43A," National Agricultural Statistics Service, USDA (U.S. Department of Agriculture), June 2004.
- 2.1S-21 "General Site Suitability Criteria for Nuclear Power Plants," Regulatory Guide 4.7, Revision 2, April 1998.

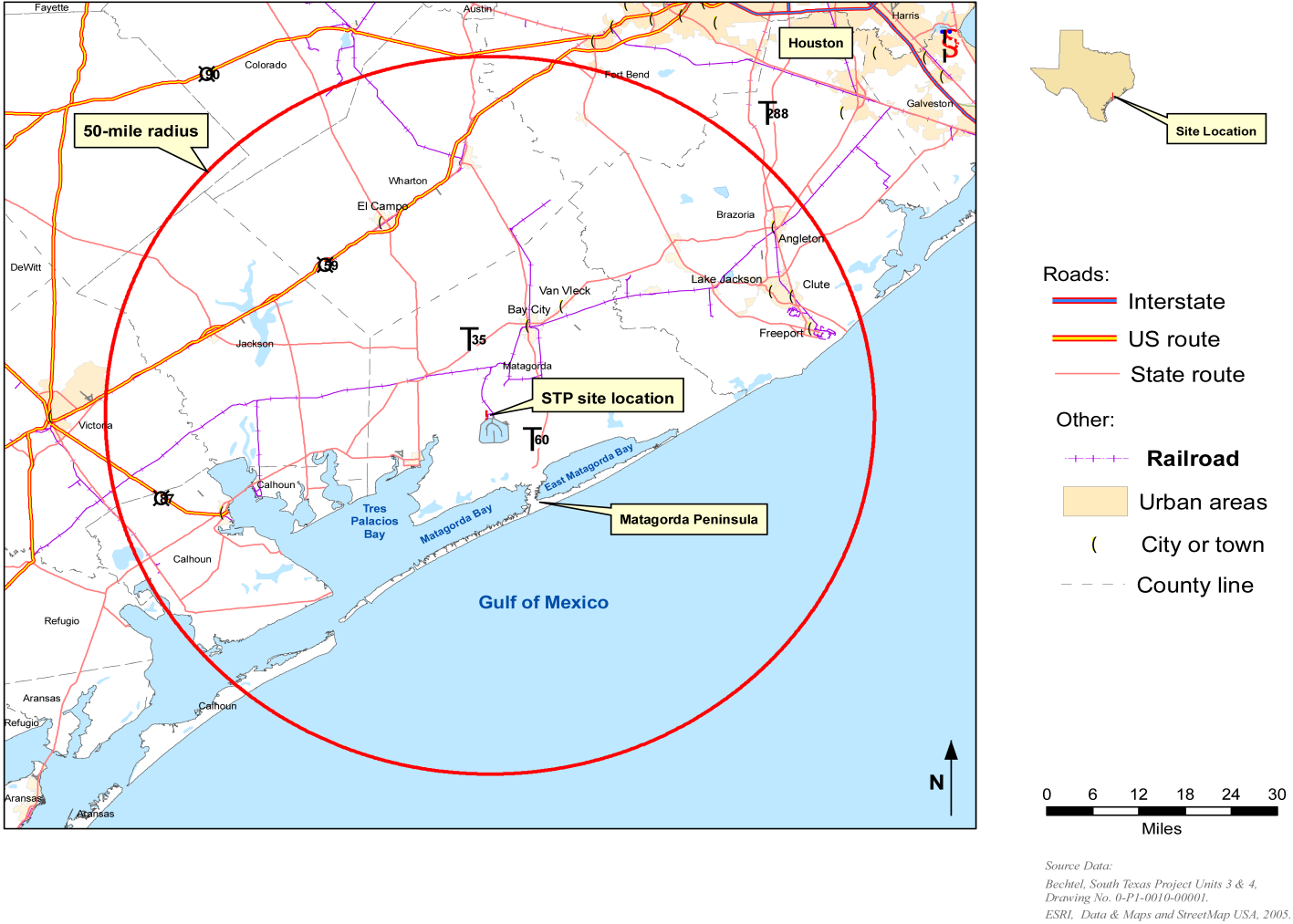
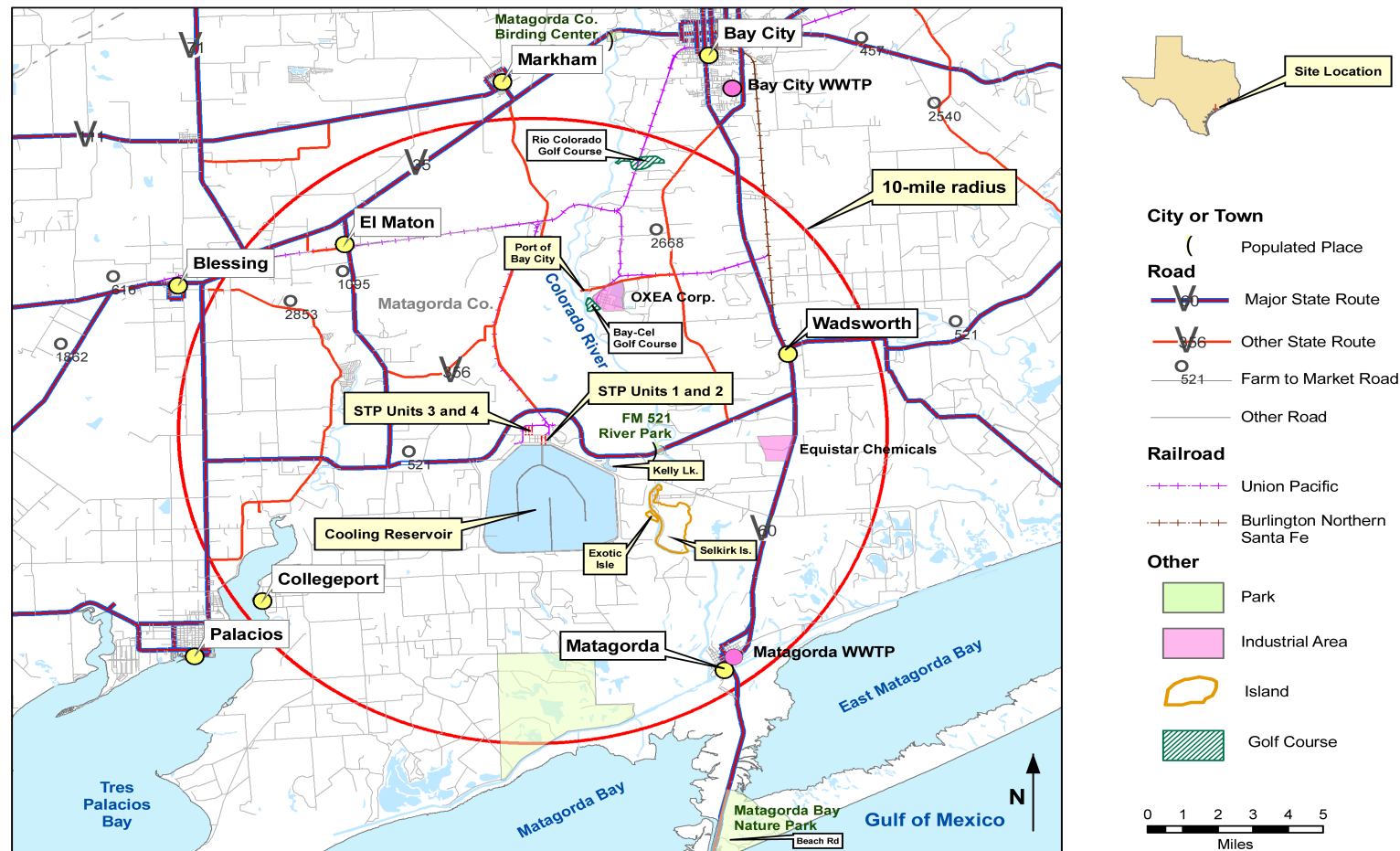


Figure 2.1S-1 Surrounding Area Map



Source Data:  
 Bechtel, South Texas Project Units 3 & 4,  
 Drawing No. 0-PJ-0010-00001.  
 ESRI, Data & Maps and StreetMap USA, 2005.

Figure 2.1S-2 10-Mile Radius Map

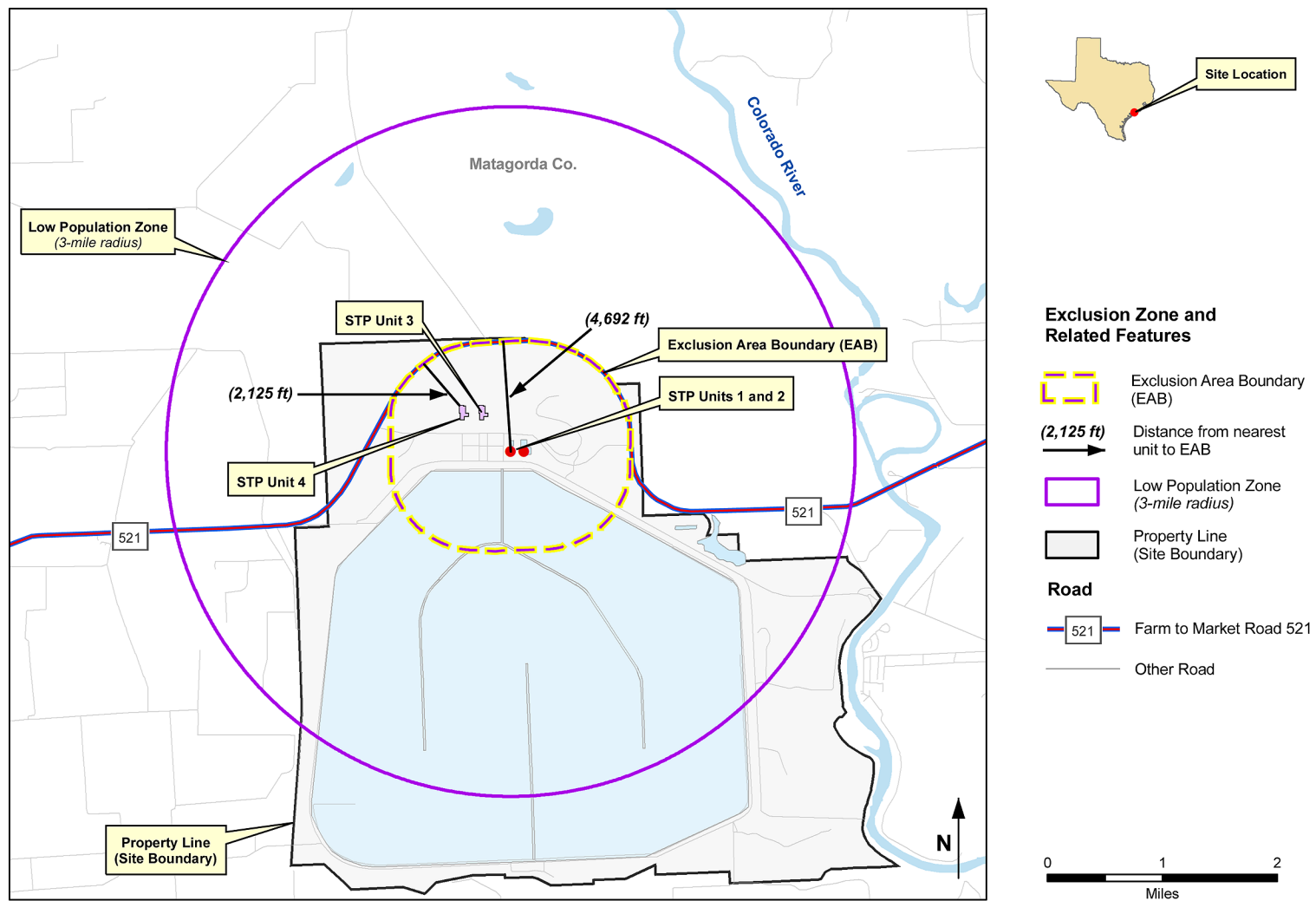


Figure 2.1S-3 Site Area Map

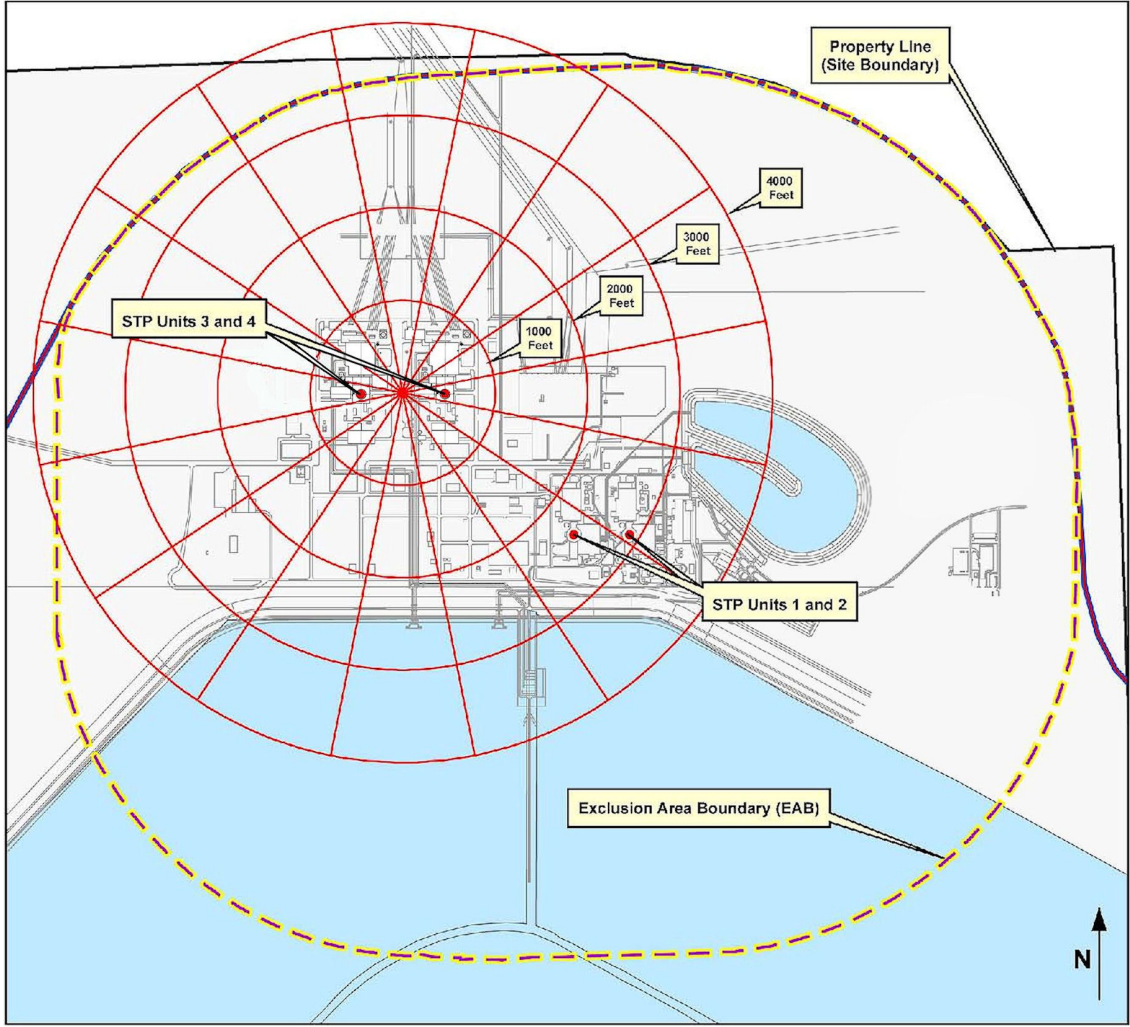
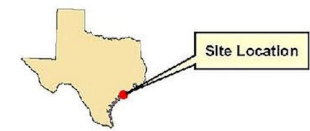
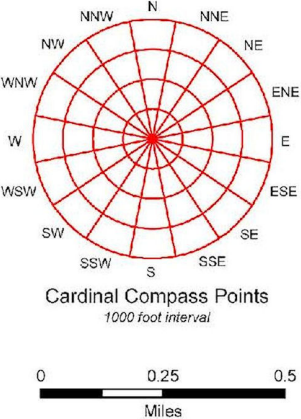


Figure 2.1S-4 Enlarged Site Area Map



Exclusion Zone and Related Features

- Exclusion Area Boundary (EAB)
- Property Line (Site Boundary)
- Road**
  - Farm to Market Road 521



Source Data:  
Bechtel, South Texas Project Units 3 & 4,  
Drawing No. 0-P1-0010-00001,  
ESRI, Data & Maps and StreetMap USA, 2005.



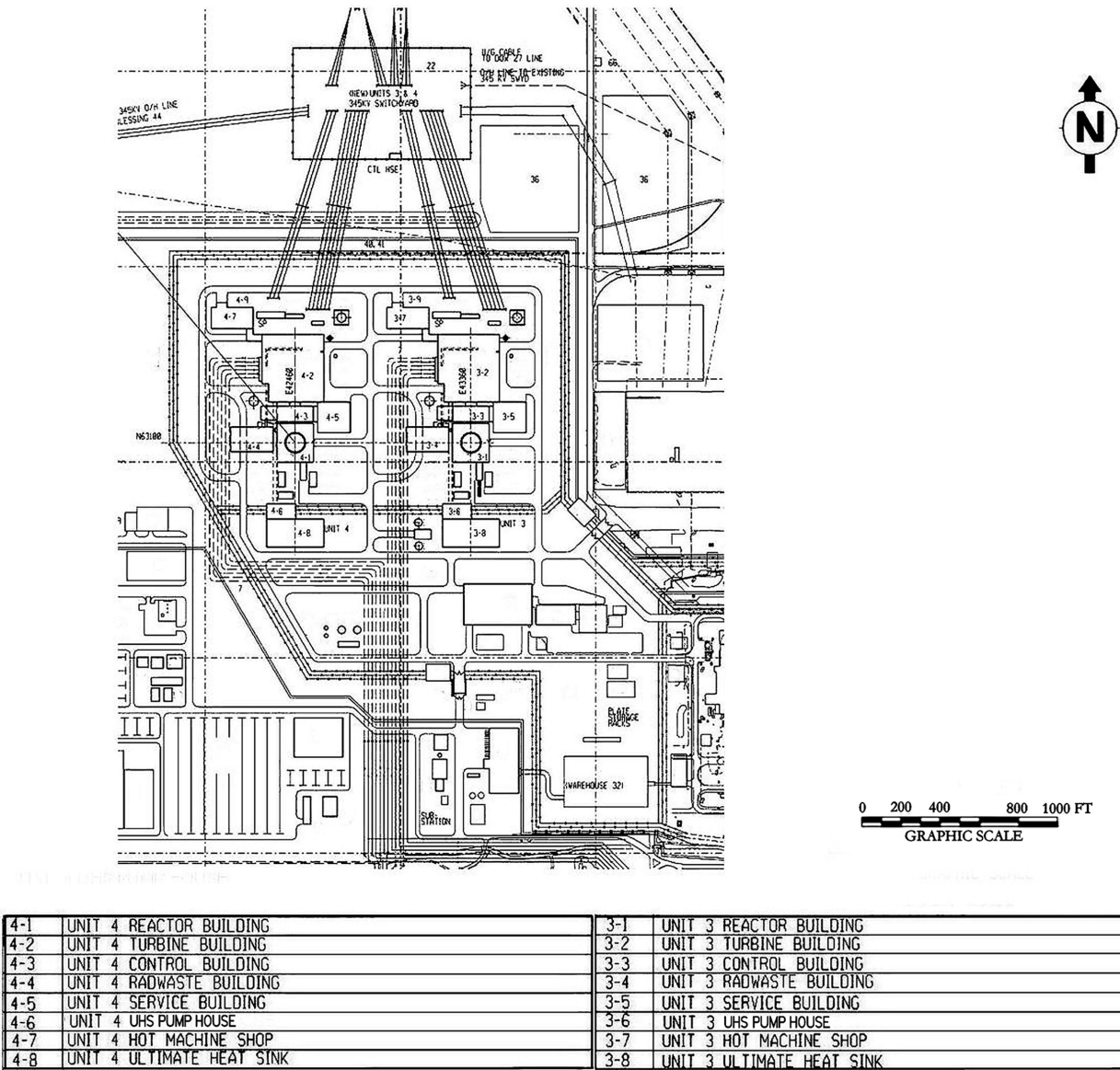


Figure 2.1S-5 Principal Plant Structures within the STP Site Area

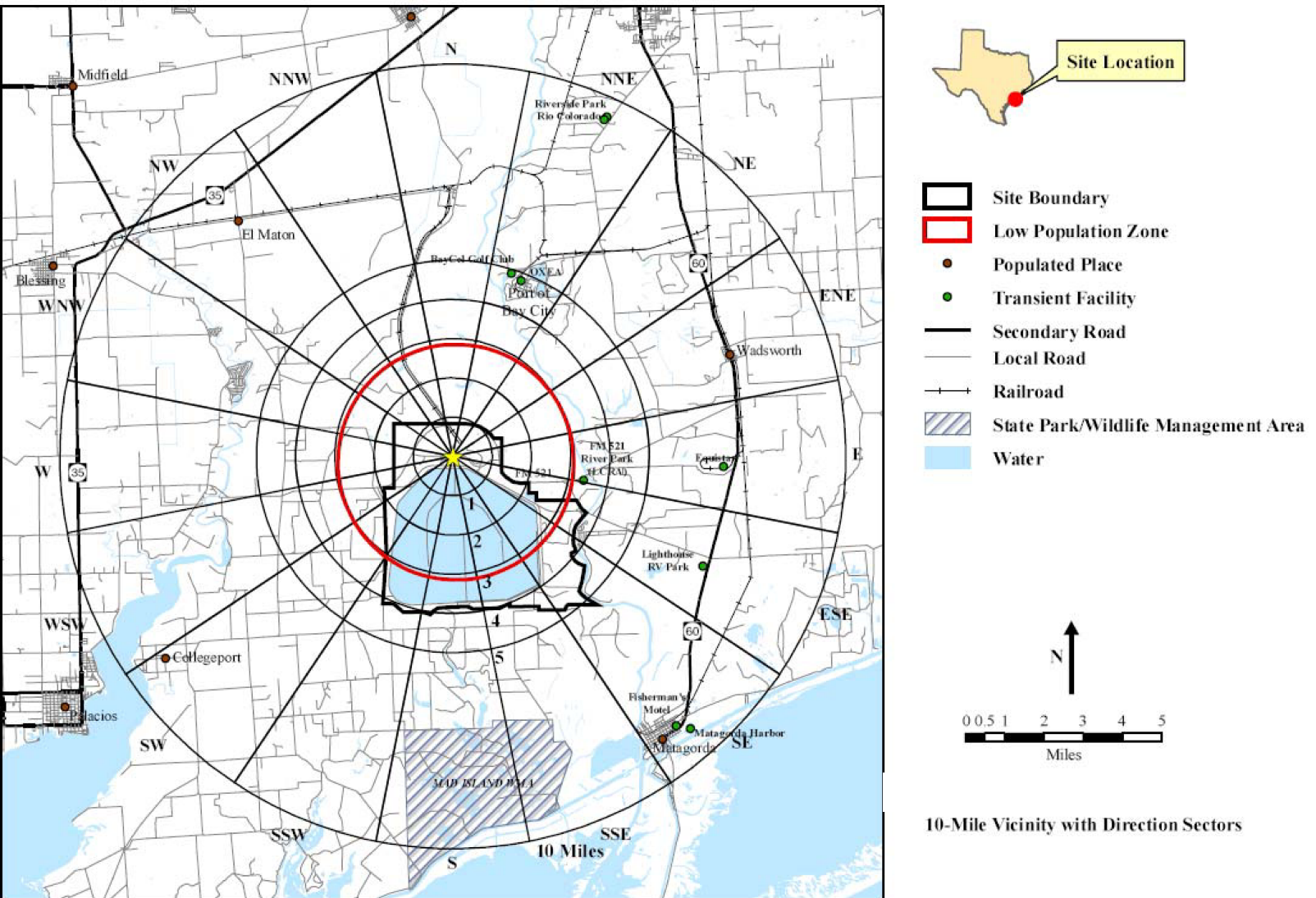


Figure 2.1S-6 10-Mile Vicinity with Direction Sectors

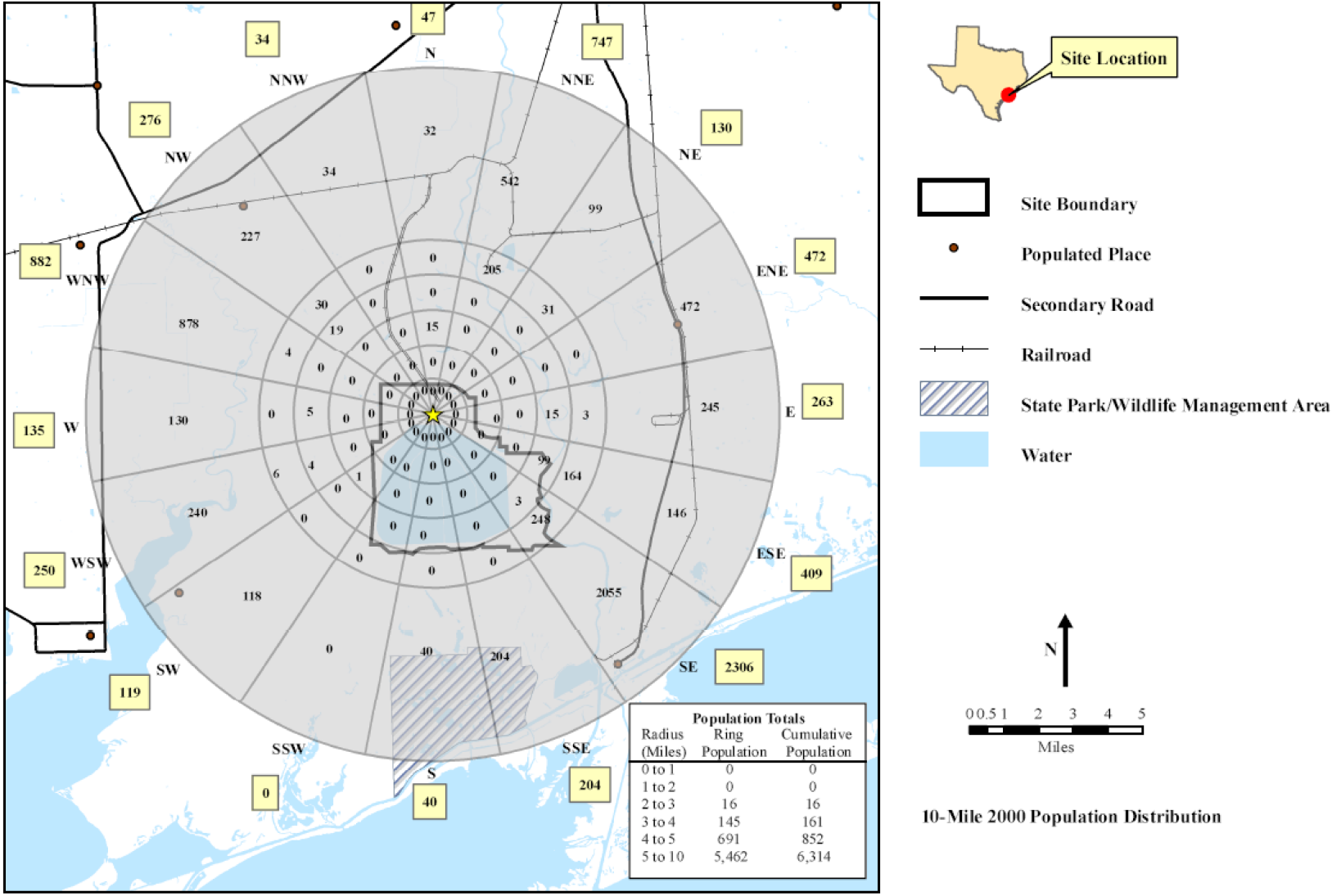


Figure 2.1S-7 10-Miles 2000 Population Distribution



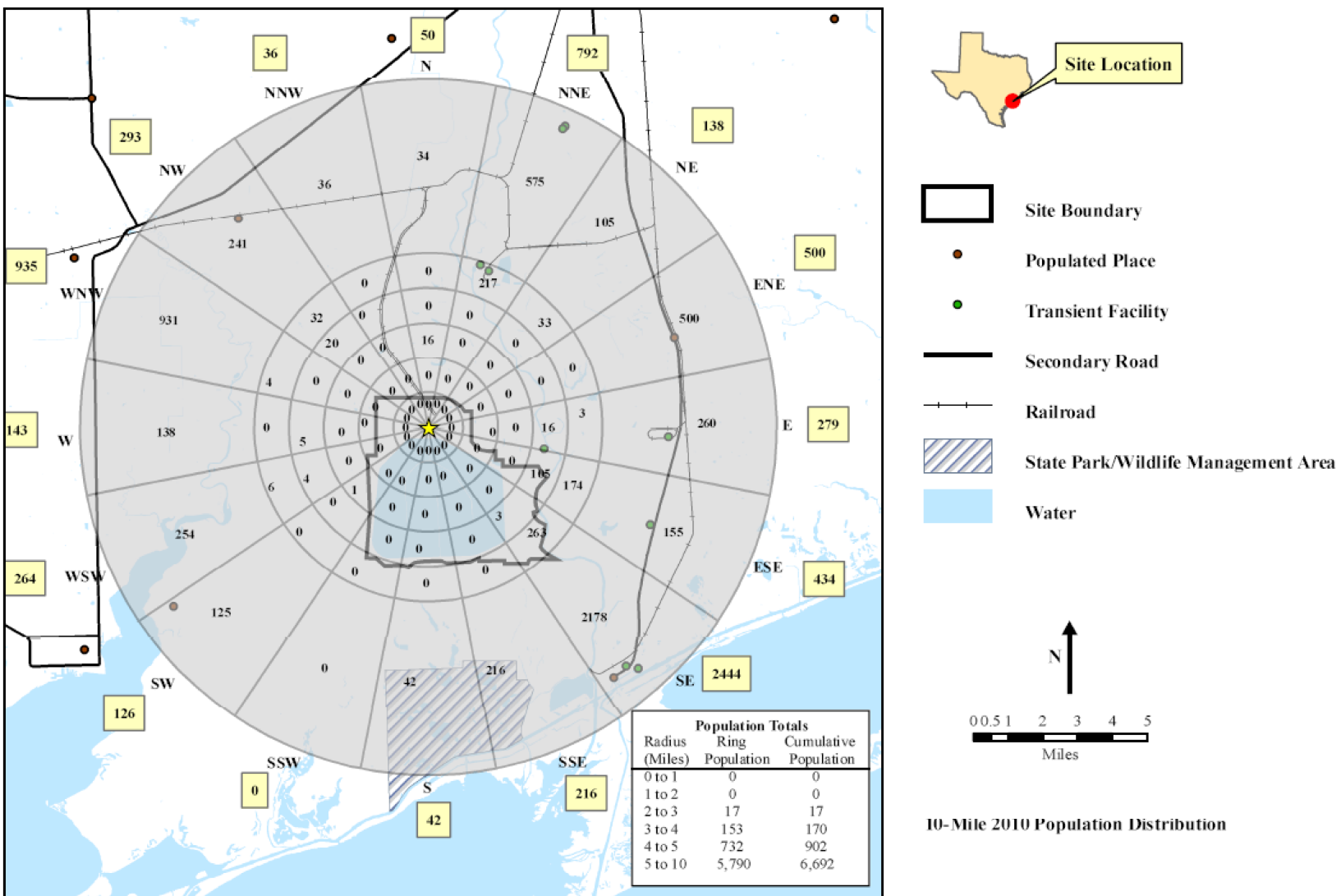


Figure 2.1S-8 10-Mile 2010 Population Distribution

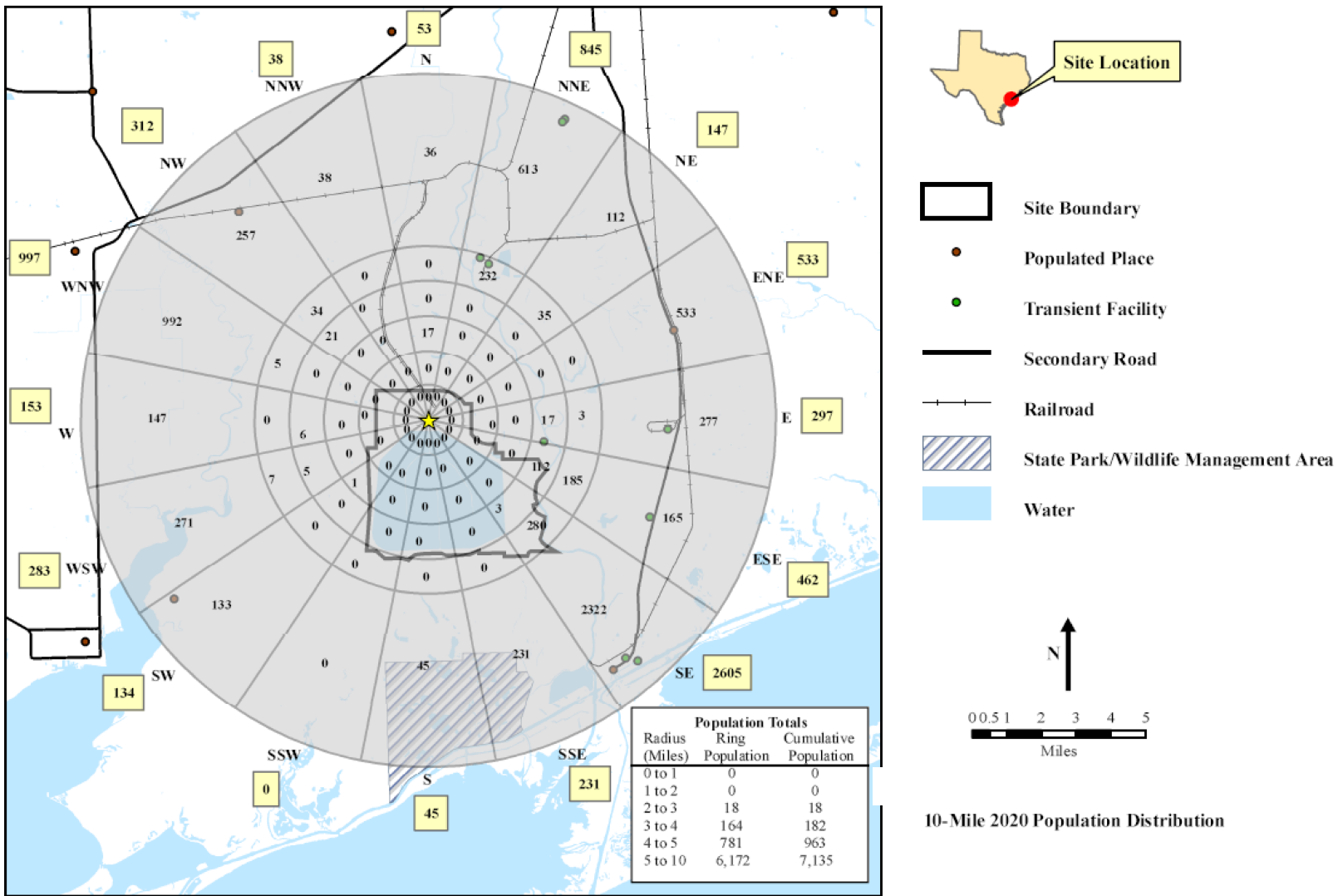


Figure 2.1S-9 10-Mile 2020 Population Distribution

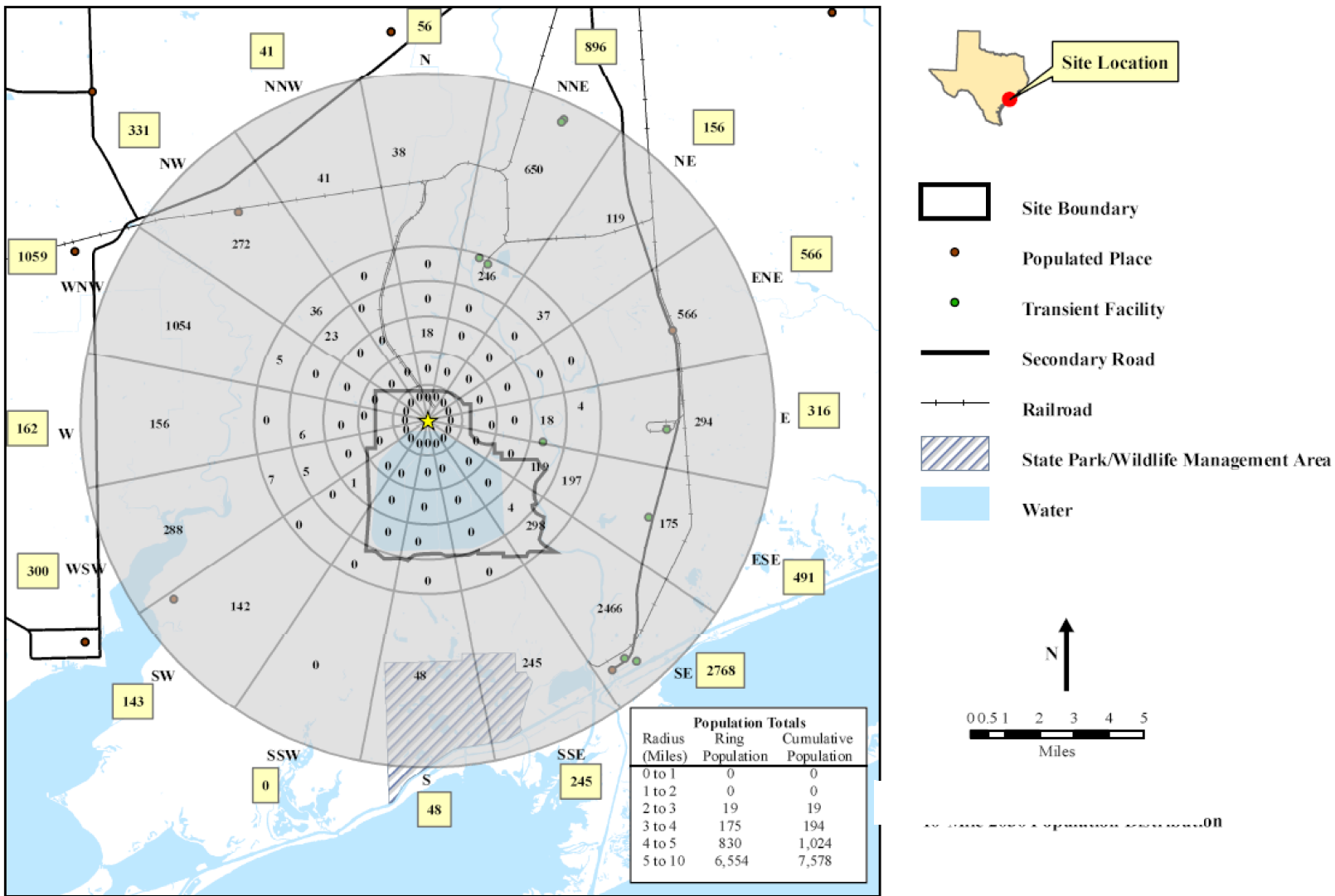


Figure 2.1S-10 10-Mile 2030 Population Distribution

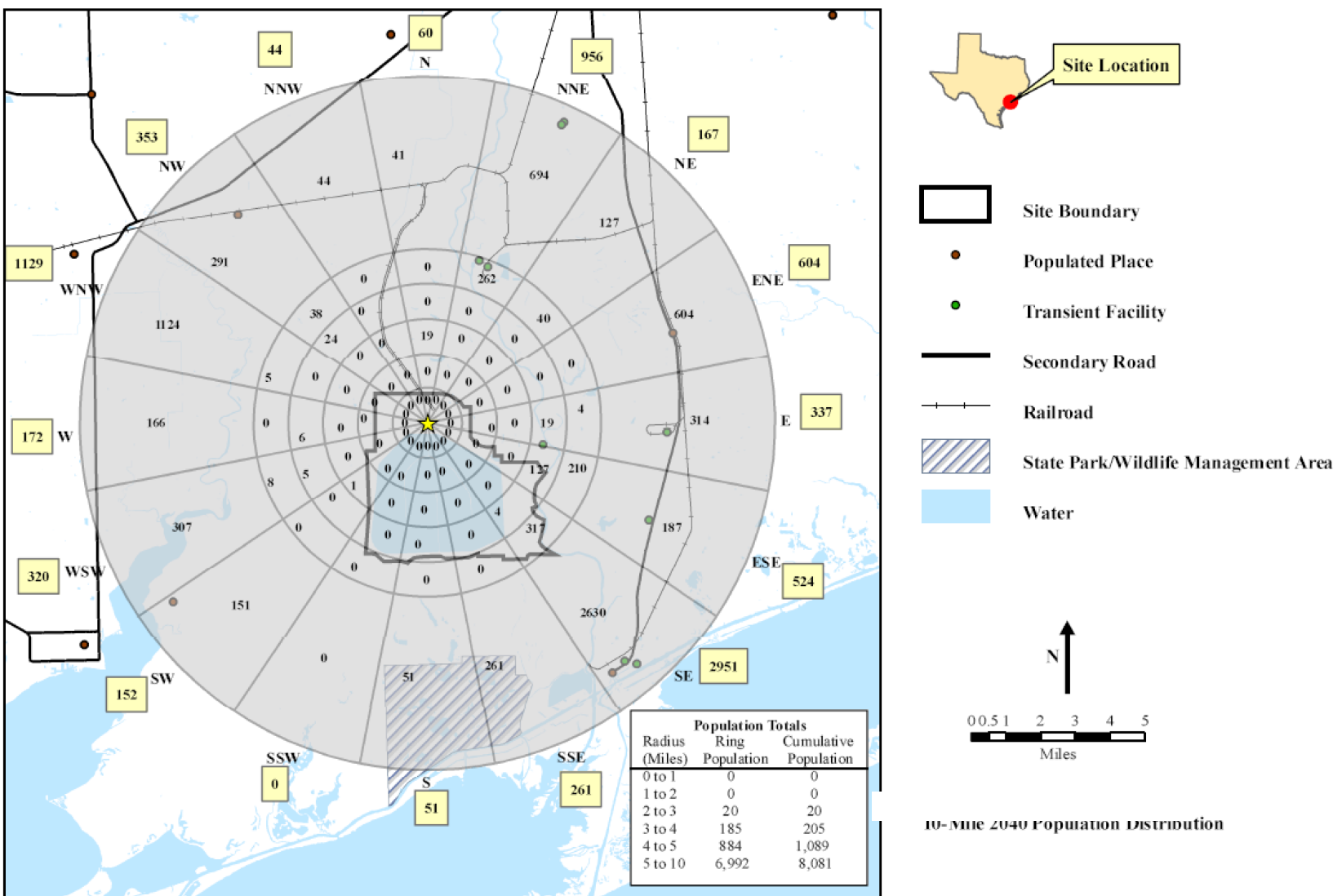


Figure 2.1S-11 10-Mile 2040 Population Distribution

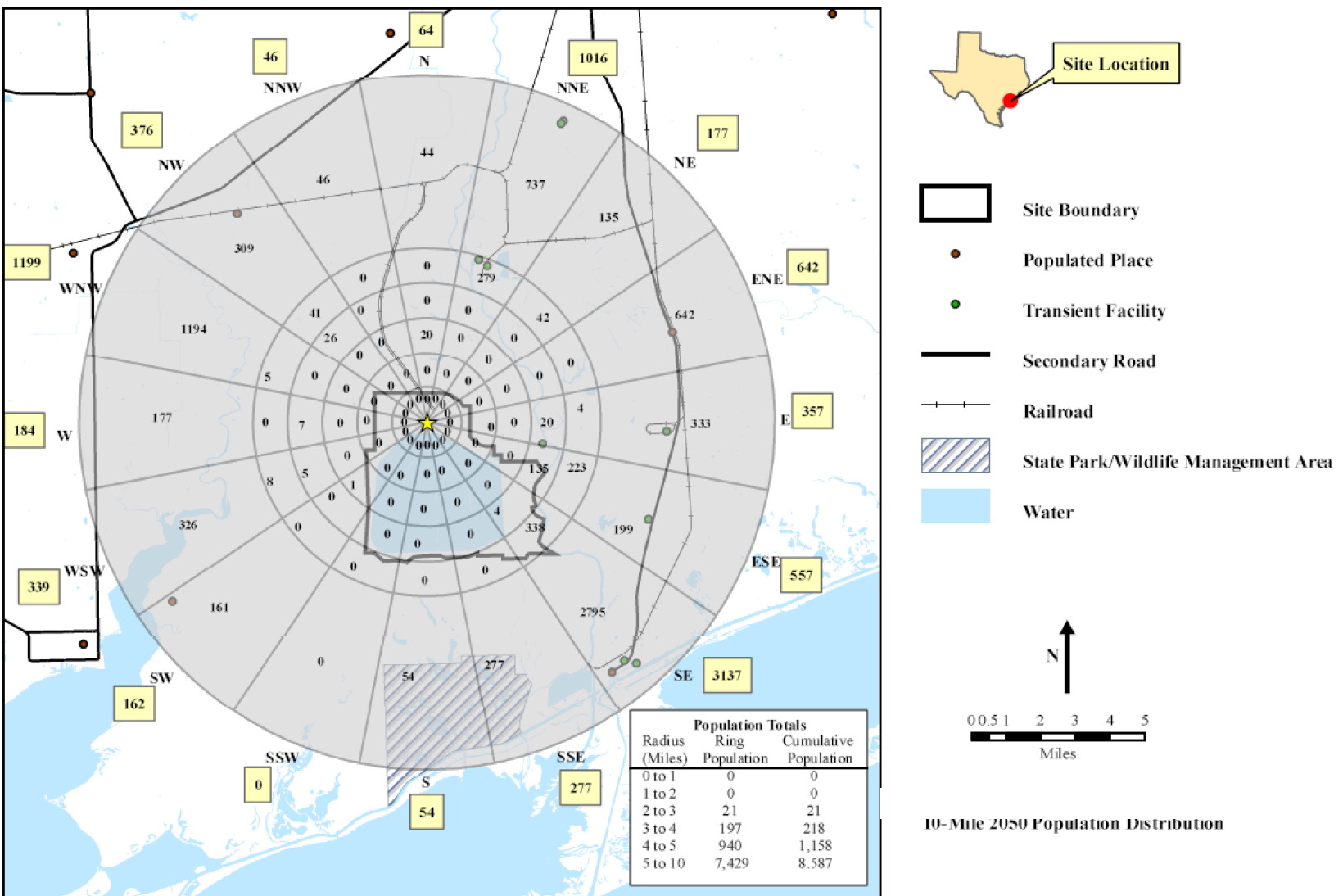


Figure 2.1S-12 10-Mile 2050 Population Distribution

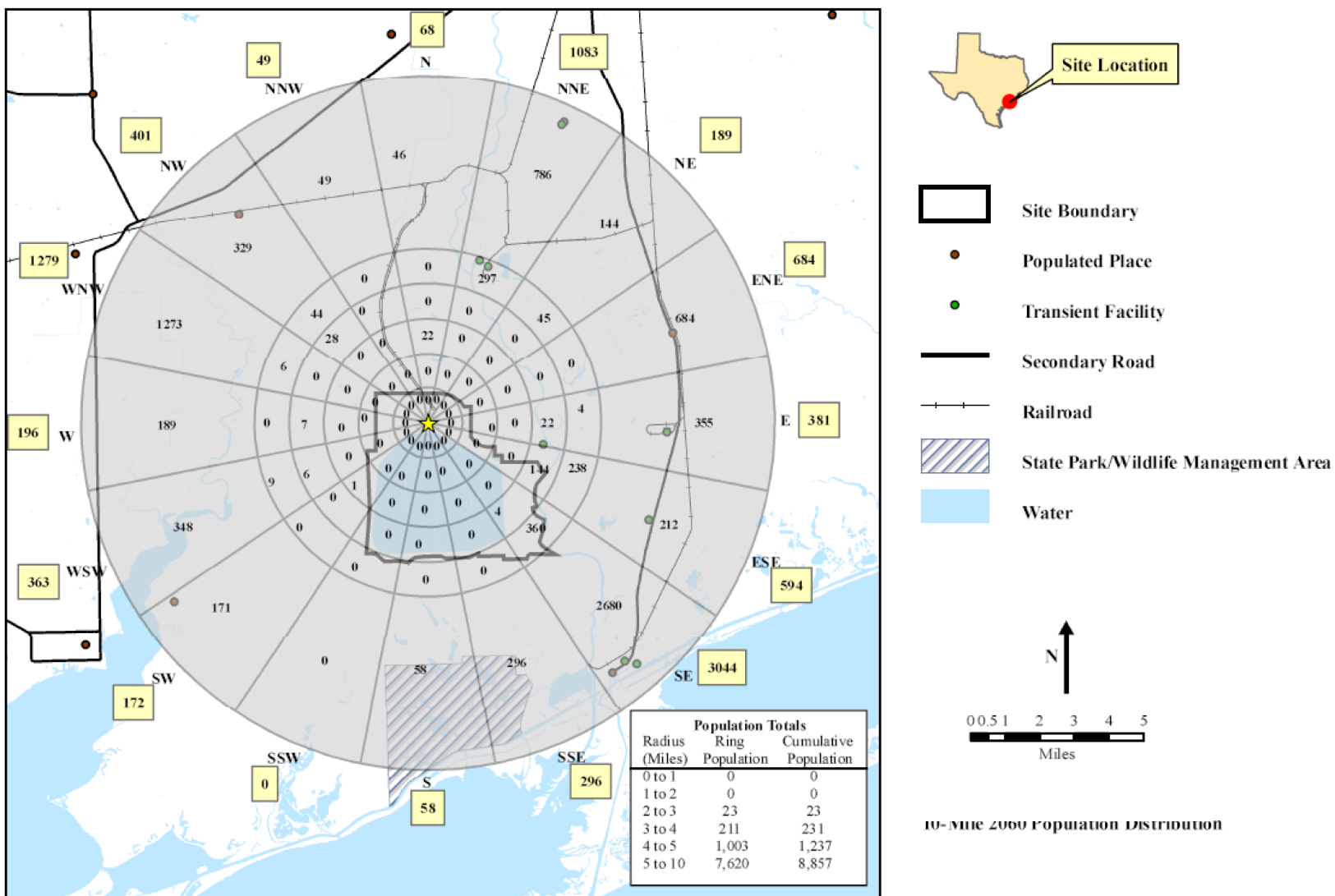


Figure 2.1S-13 10-Mile 2060 Population Distribution

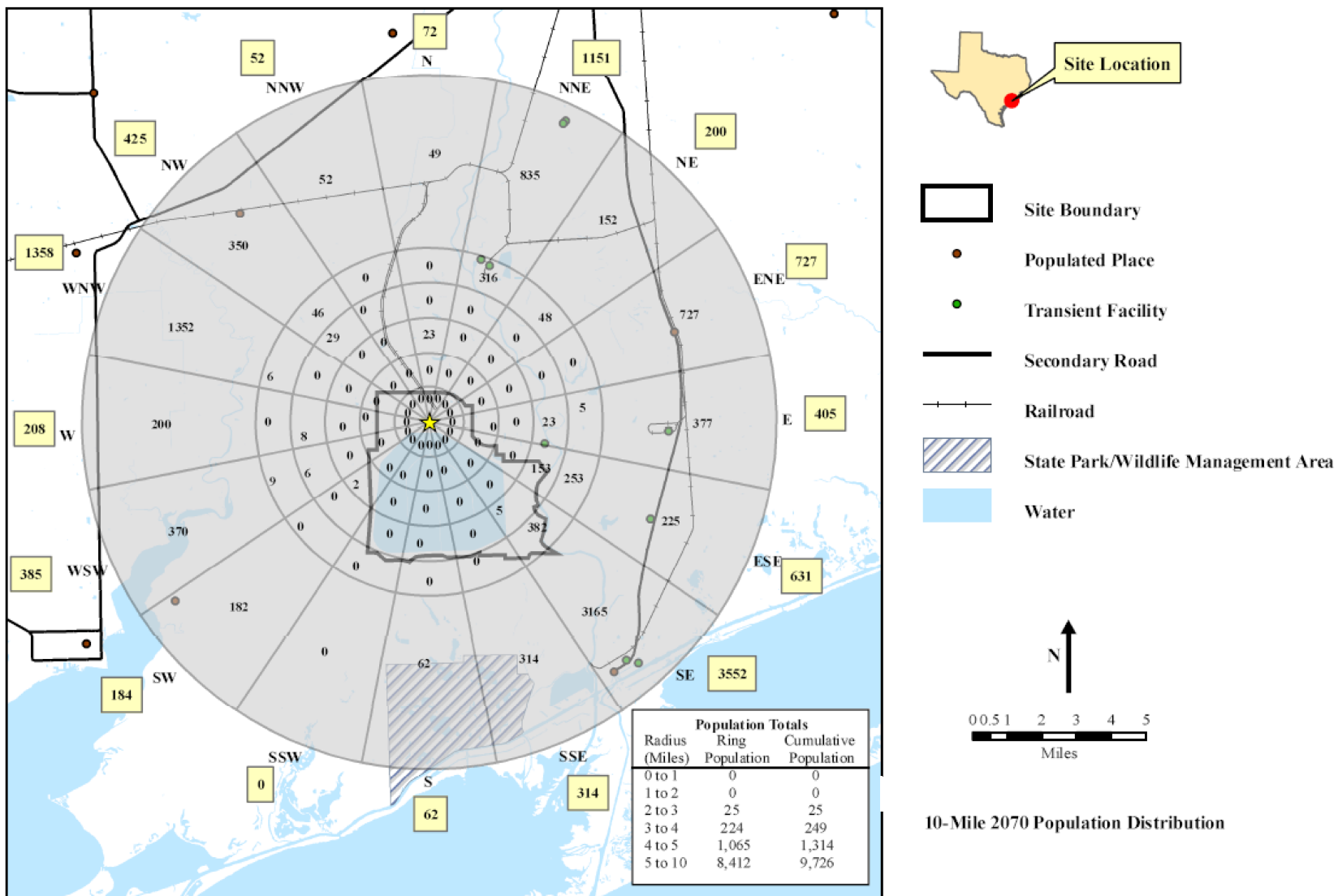


Figure 2.1S-14 10-Mile 2070 Population Distribution



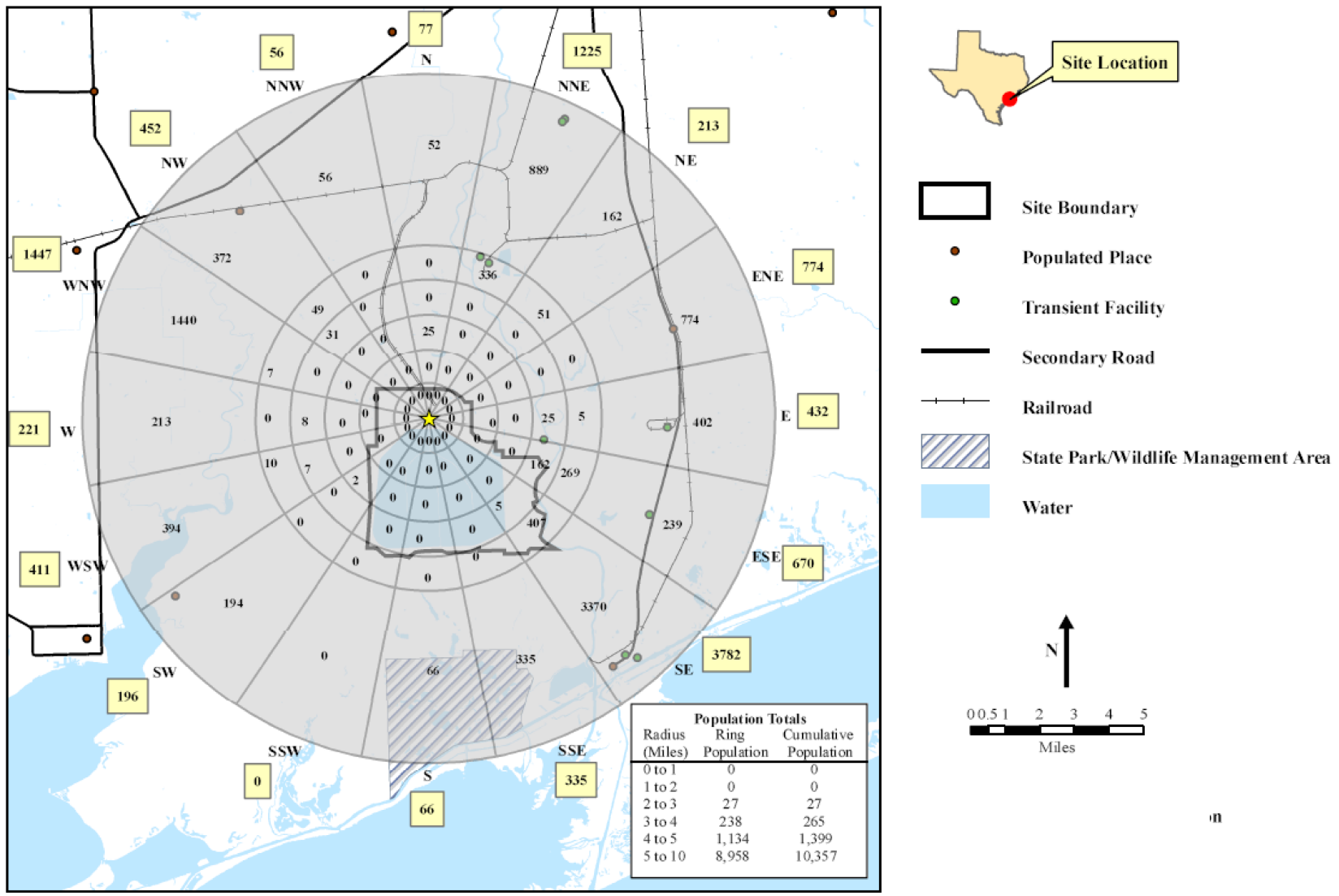
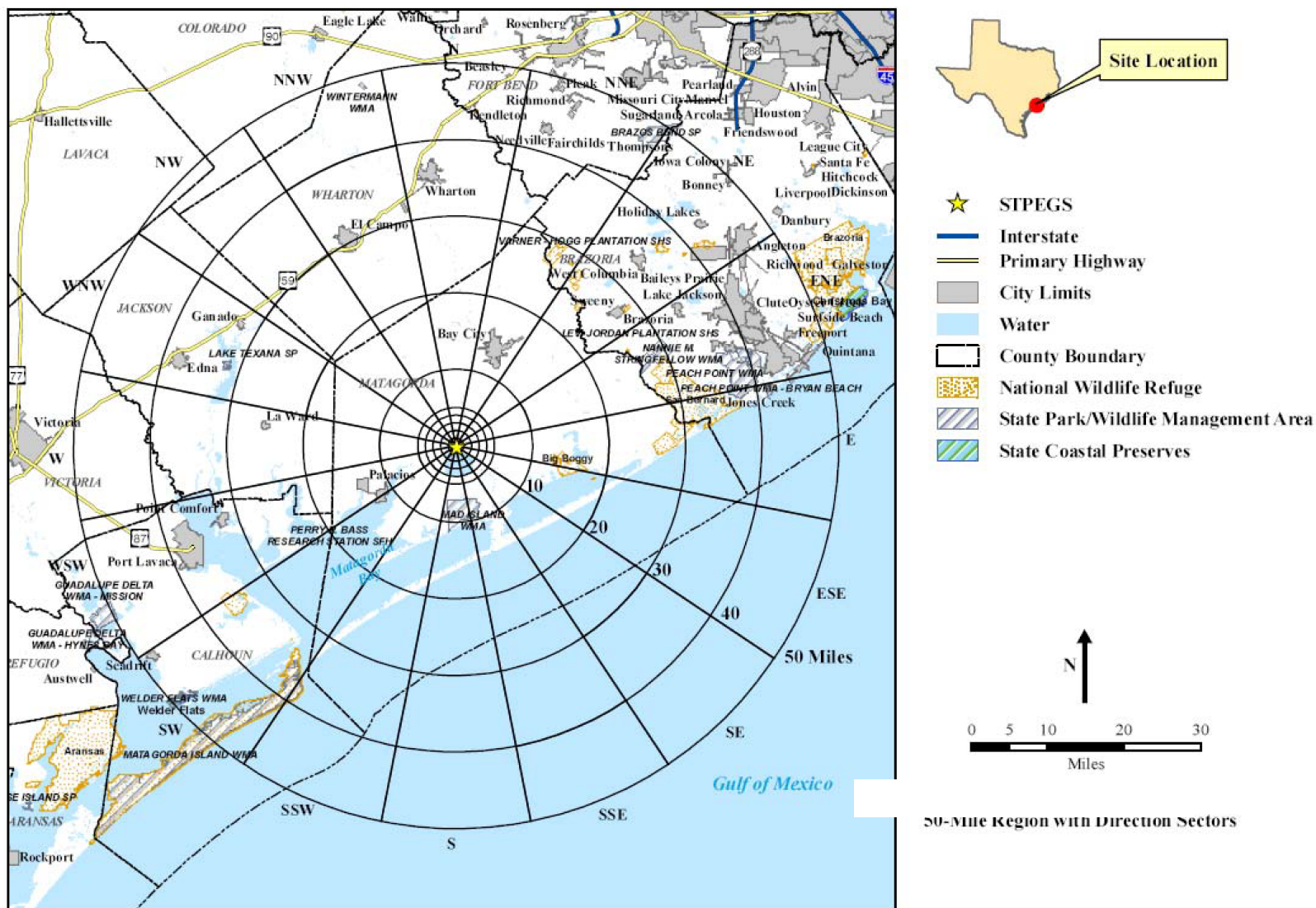


Figure 2.1S-15 10-Mile 2080 Population Distribution





**Figure 2.1S-16 50-Mile Region with Direction Sectors**

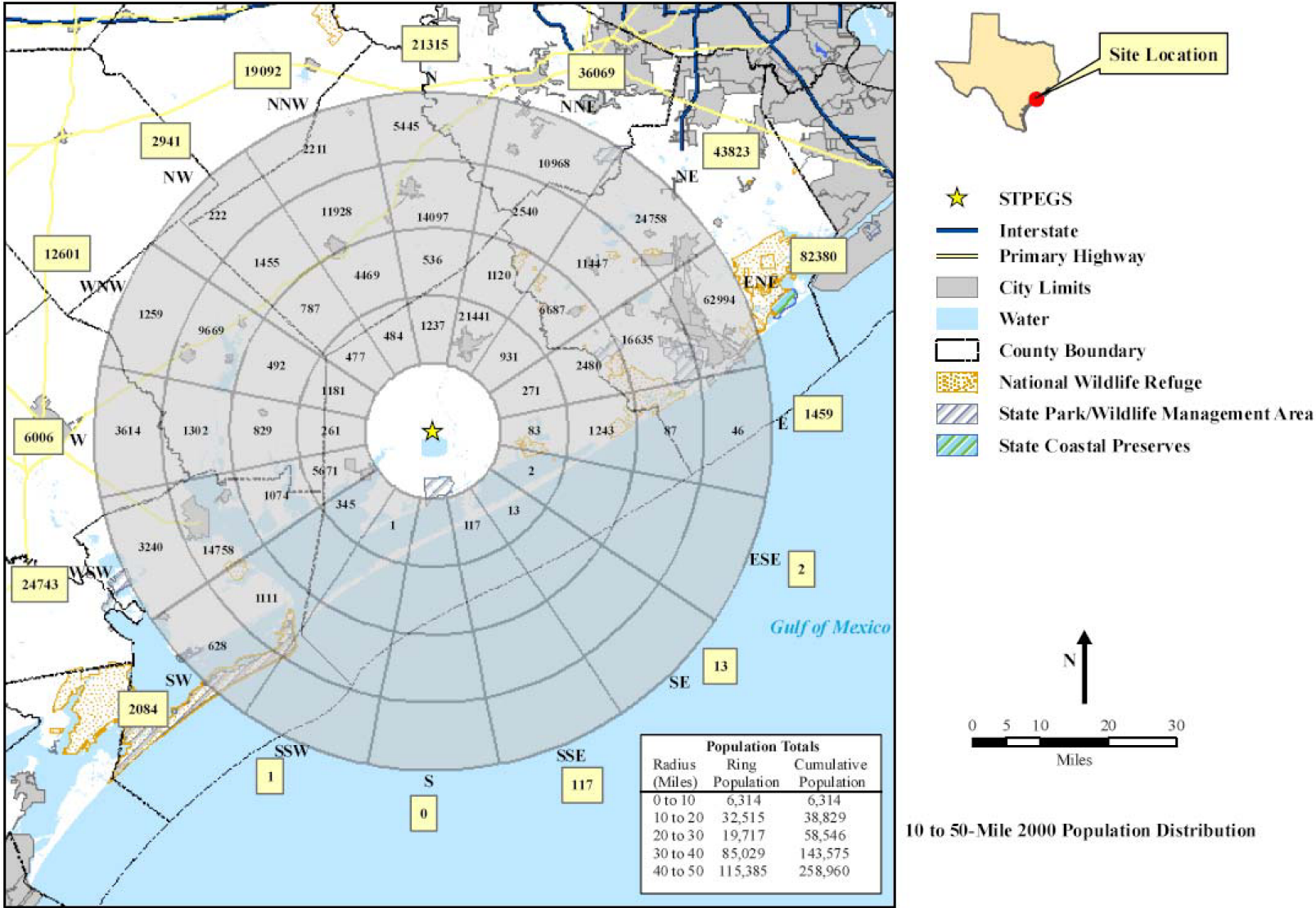


Figure 2.1S-17 10- to 50-Mile 2000 Population Distribution

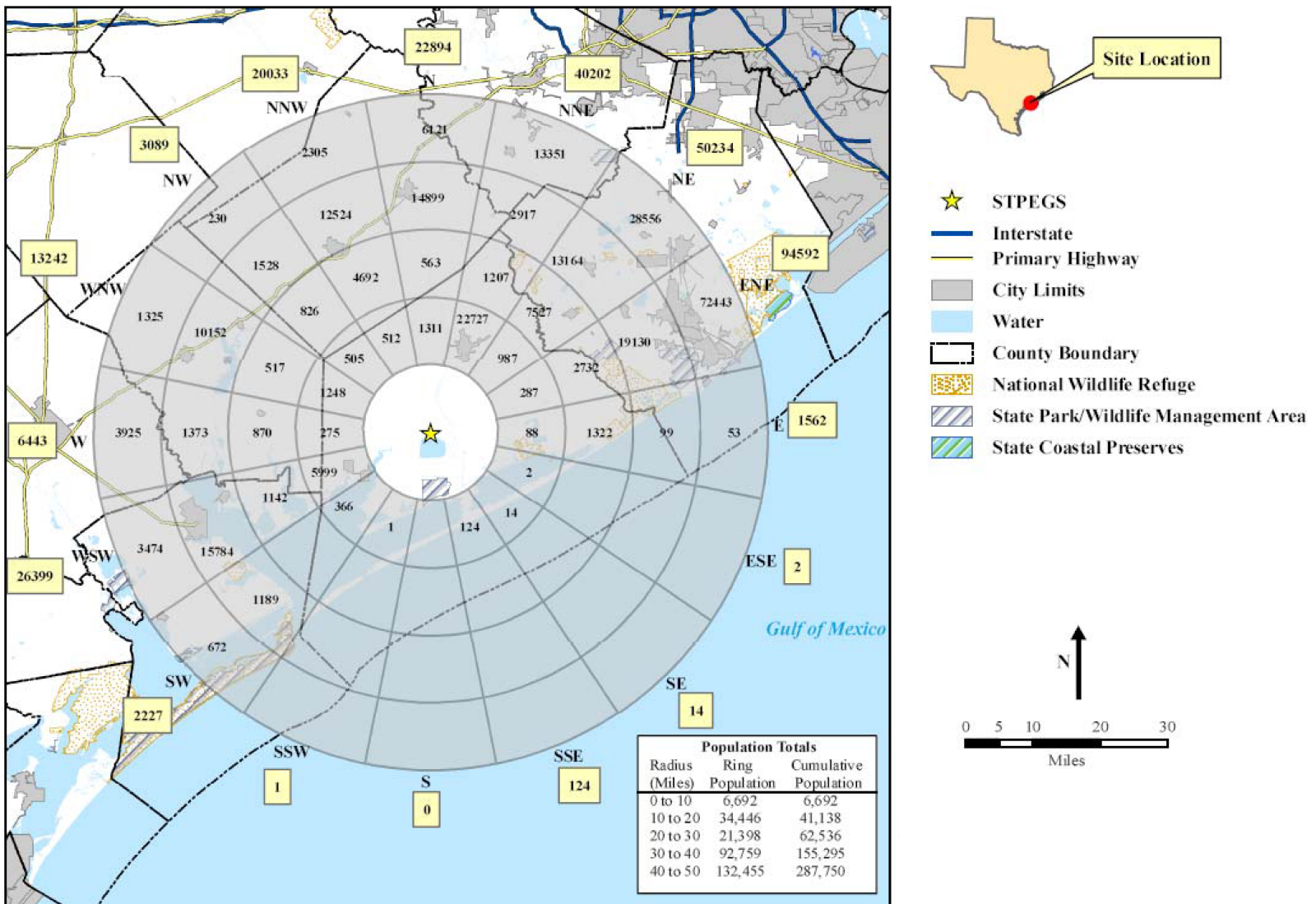


Figure 2.1S-18 10- to 50-Mile 2010 Population Distribution



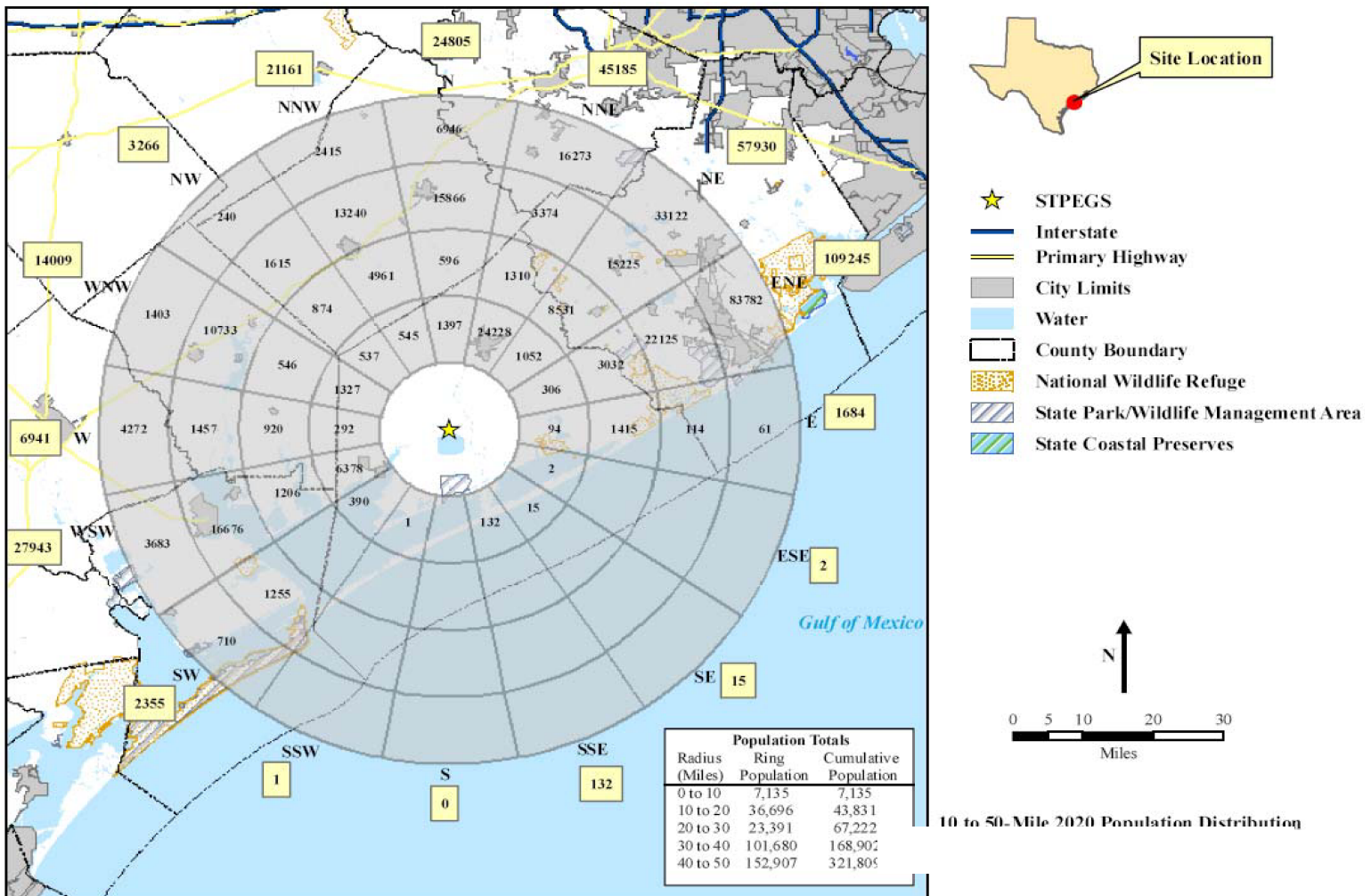


Figure 2.1S-19 10- to 50-Mile 2020 Population Distribution

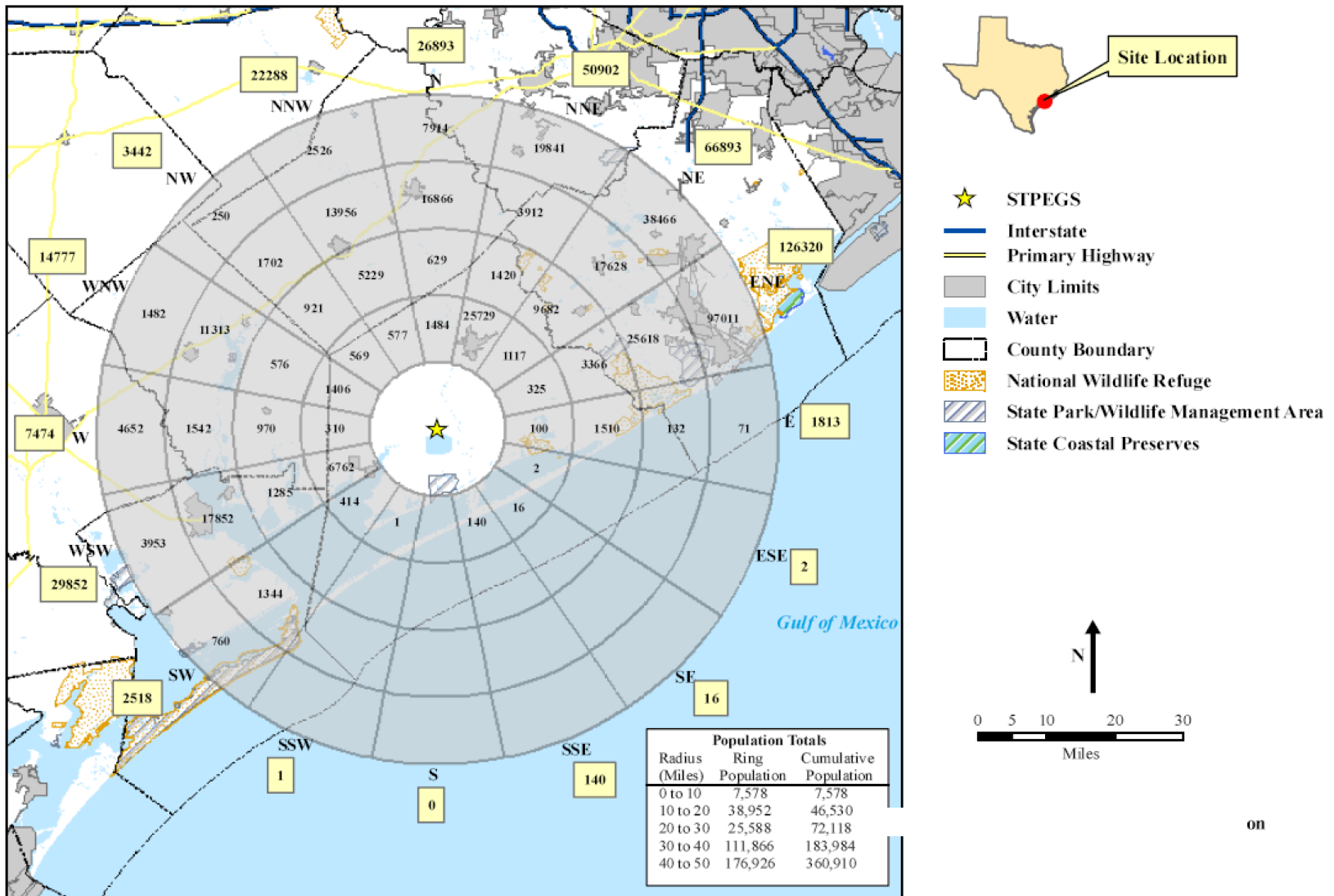


Figure 2.1S-20 10- to 50-Mile 2030 Population Distribution

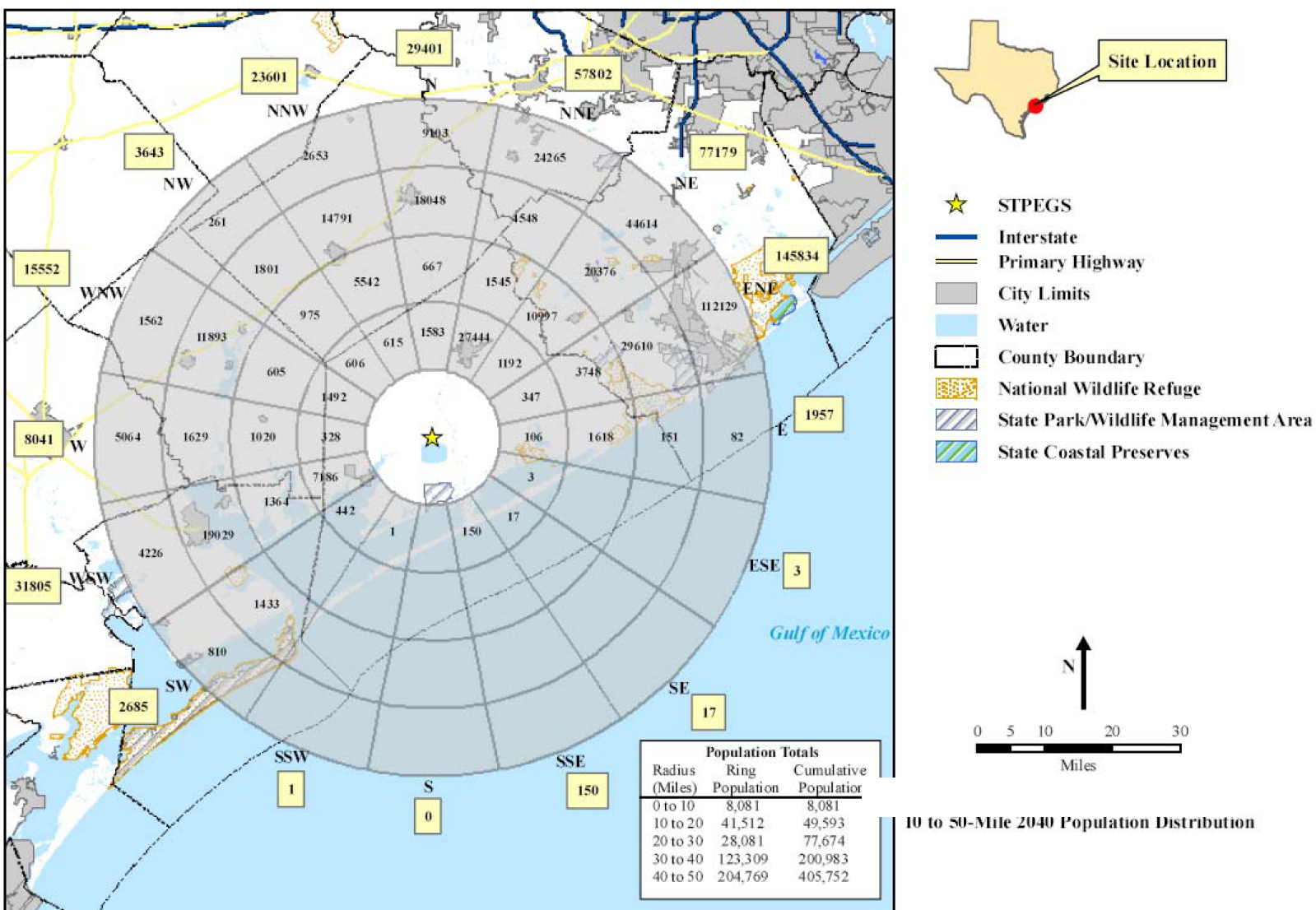


Figure 2.1S-21 10- to 50-Mile 2040 Population Distribution

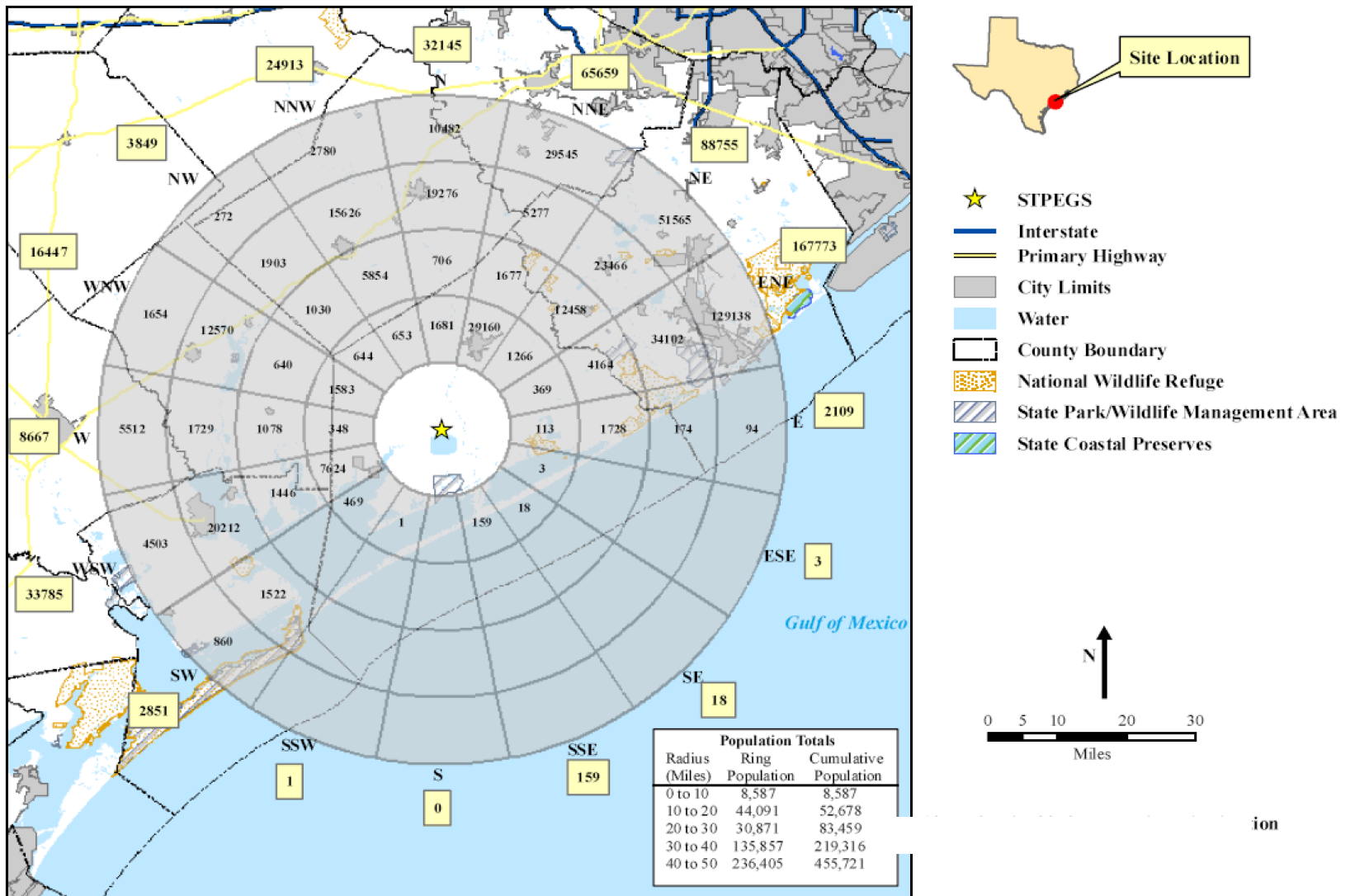
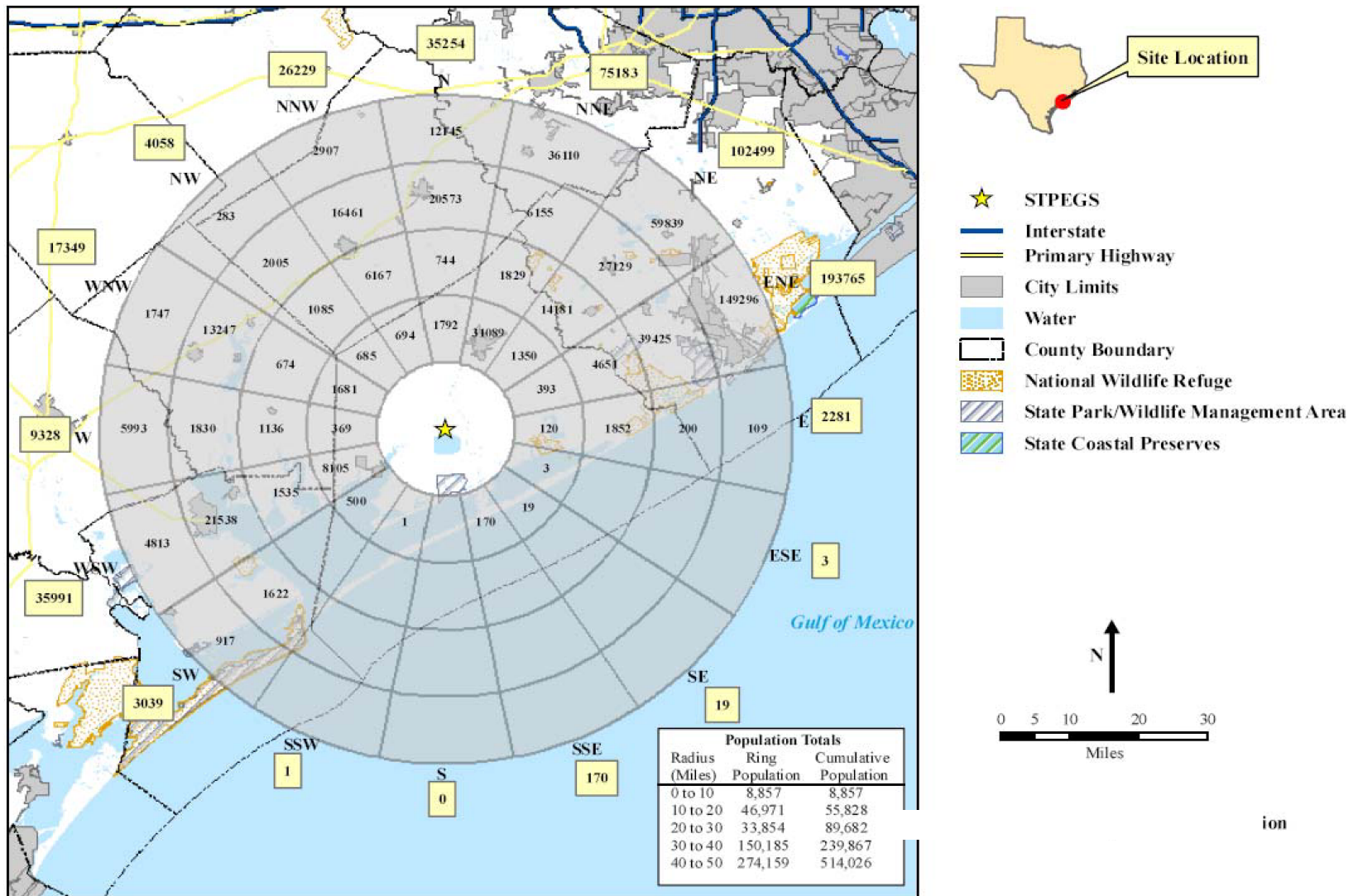


Figure 2.1S-22 10- to 50-Mile 2050 Population Distribution





**Figure 2.1S-23 10- to 50-Mile 2060 Population Distribution**



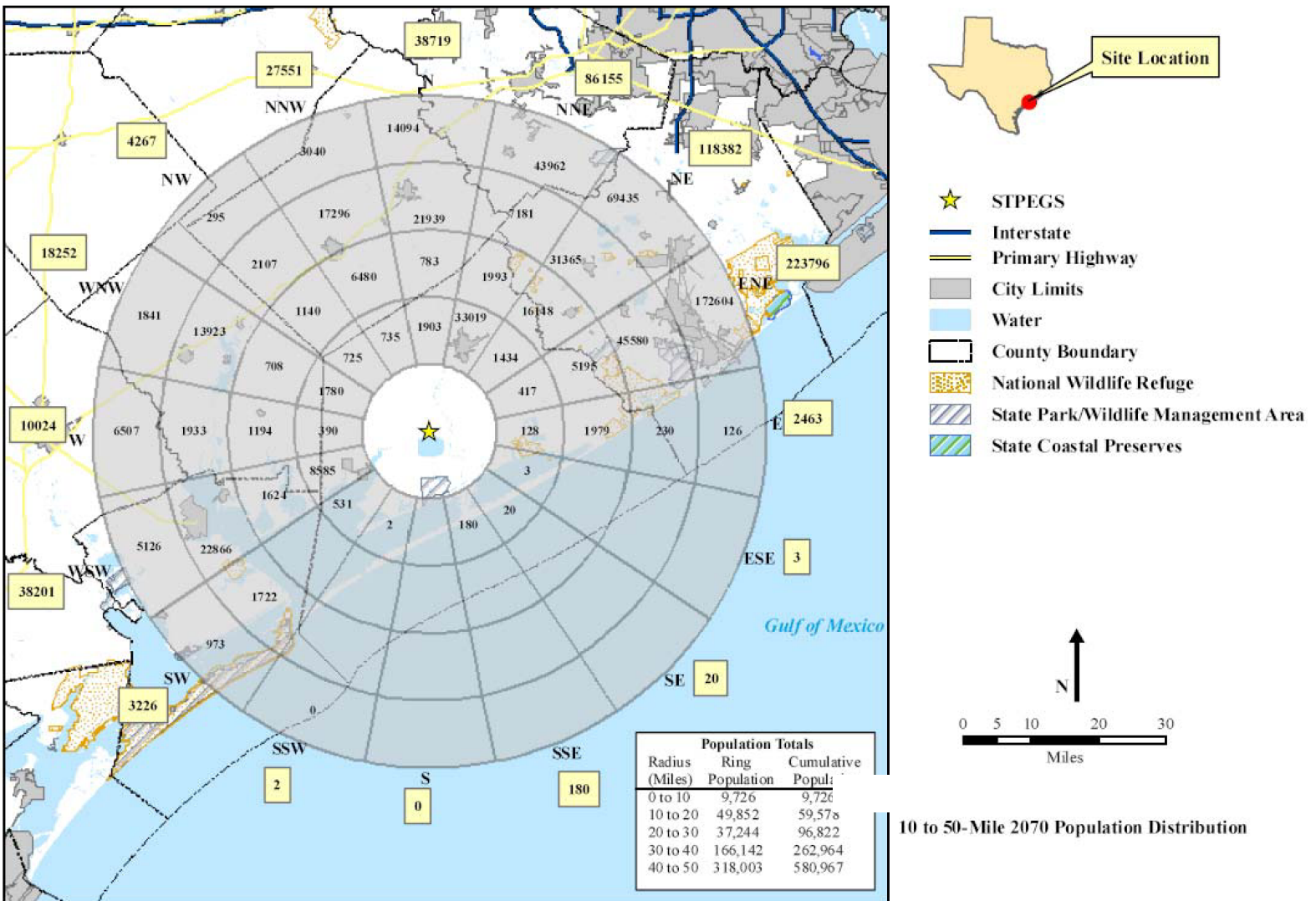


Figure 2.1S-24 10- to 50-Mile 2070 Population Distribution

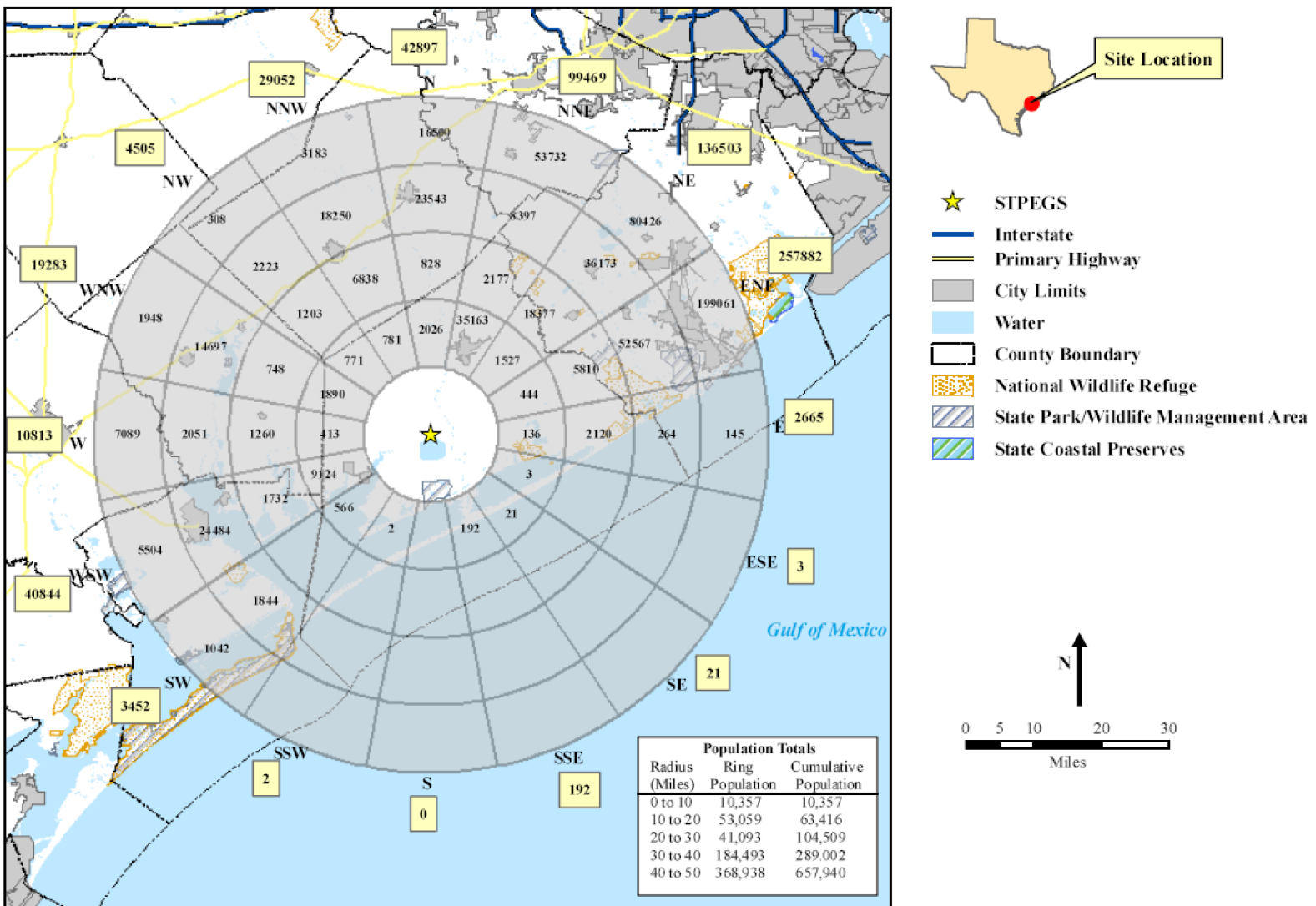


Figure 2.1S-25 10- to 50-Mile 2080 Population Distribution

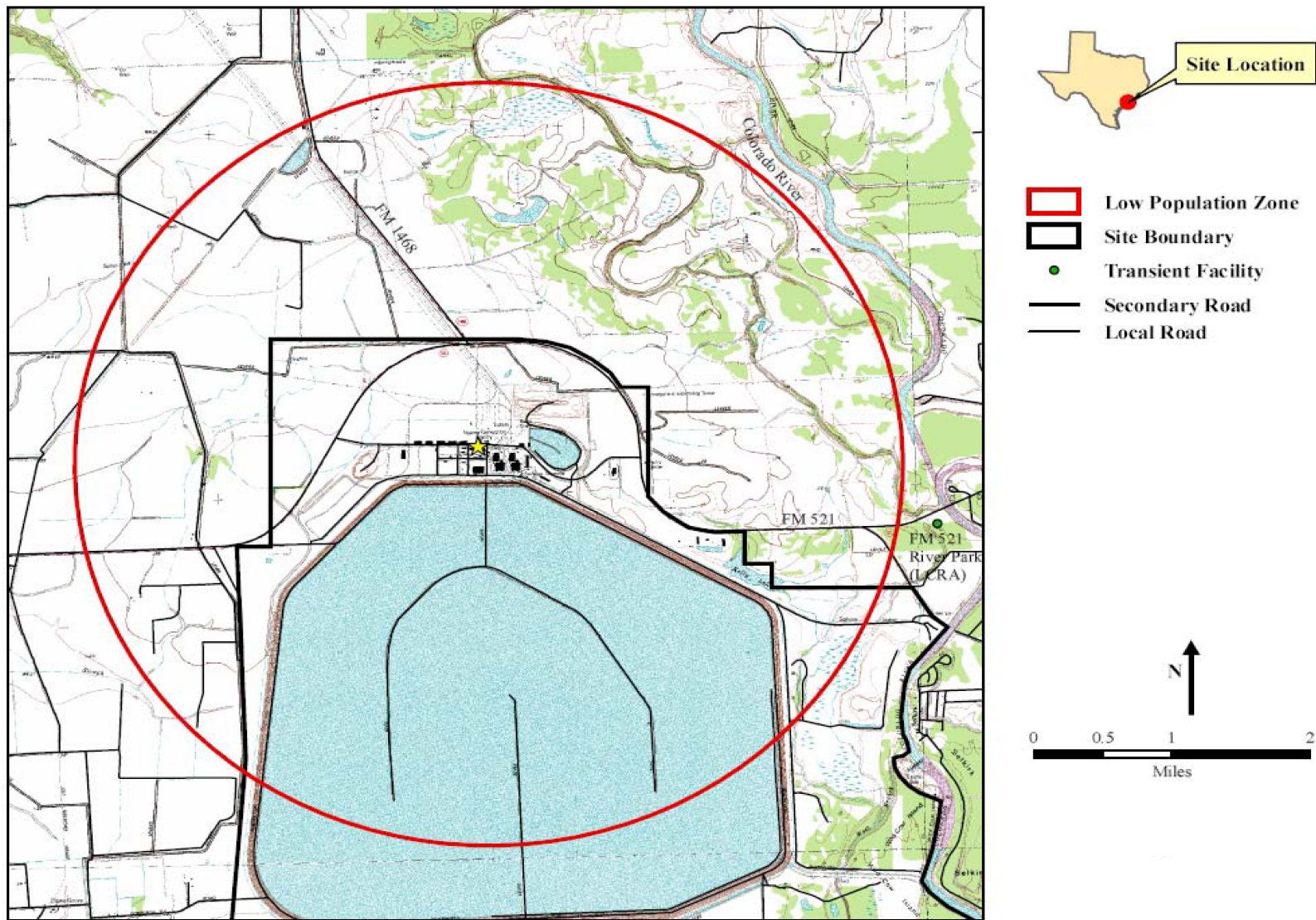


Figure 2.1S-26 Low Population Zone

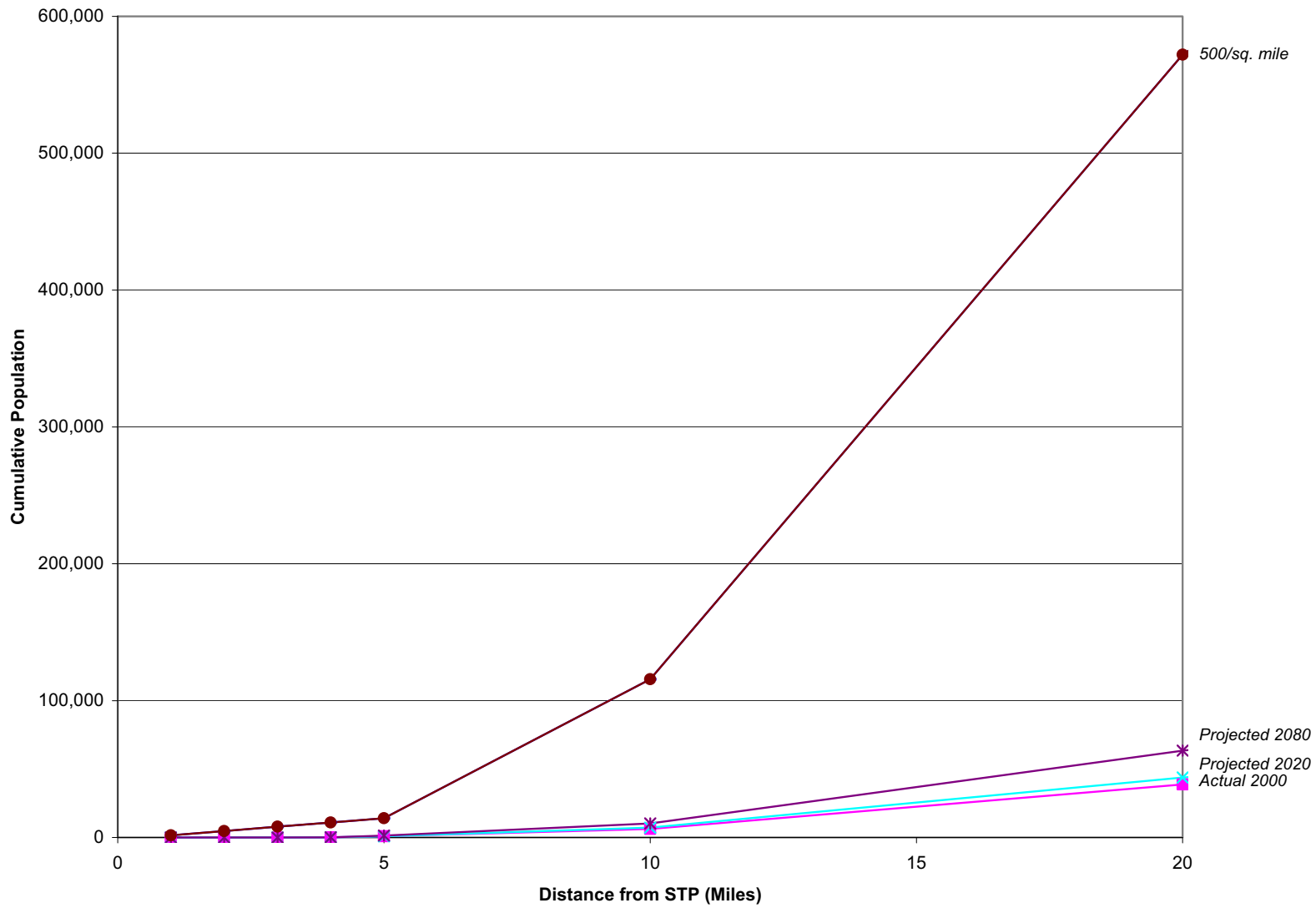


Figure 2.1S-27 Population Compared to NRC Siting Criteria