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2.1 GEOGRAPHY AND DEMOGRAPHY

This section of the Safety Analysis Report provides information regarding site location and description, including the distribution of infrastructure, natural features, and population in the area of the Clinch River Nuclear (CRN) Site. The discussion below is provided to address the guidance in NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition*. Within this section, vicinity is defined as a 5-mile (mi) radius and region is defined as a 50-mi radius surrounding the site center point.

2.1.1 Site Location and Description

2.1.1.1 Specification of Location

Tennessee Valley Authority (TVA) proposes to construct and operate multiple small modular reactors (SMR) at the CRN Site in Roane County in the City of Oak Ridge, Tennessee. The CRN Site is illustrated in Figure 2.1-1, with key components, including the plant area and associated transmission structures, labeled. Prominent natural and man-made features, including rivers, lakes, state and county lines, industrial, and transportation facilities, are illustrated in Figures 2.1-1, 2.1-2, and 2.1-3. Figure 2.1-3 illustrates the features within the 5-mi vicinity of the site. Detailed information regarding nearby industrial, transportation, and military facilities is presented in Section 2.2.

The CRN Site lies within the 7.5 minute Elverton and Bethel Valley quadrangles. The quadrangles that bracket the site area are Camp Austin (northwest), Petros (north), Windrock (north), Clinton (northeast), Lovell (east), Concord (southeast), Lenoir City (south), Cave Creek (south), Bacon Gap (southwest), and Harriman (west). All quadrangles lie completely within the State of Tennessee (Reference 2.1-12).

The coordinates of the CRN Site center point are as follows:

Longitude and Latitude, North American Datum 1983 (Decimal Degrees)			
35.890889	North	84.380927	West
Universal Transverse Mercator Zone 16 North, North American Datum 1983 (Meters)			
3,974,815.26	Northing	736,407.14	Easting

The CRN Site is approximately 935 acres (ac) and is located on a peninsula formed by a meander in the Clinch River arm of the Watts Bar Reservoir. The approximately 1200-ac CRN Property is bounded on the east, south, and west by the Clinch River arm of the Watts Bar Reservoir, and on the north by the U.S. Department of Energy's Oak Ridge Reservation and Wildlife Management Area. The site is situated on the historical Clinch River Breeder Reactor Project (CRBRP) Site. At the time of the project's cancellation in 1983, preliminary site work was essentially completed for the CRBRP, including all necessary sediment ponds, construction shops, concrete batch plants, the nuclear island excavation, and a foundation for a ringer crane. Approximately three million cubic yards of earth and rock were removed during this excavation. Upon project termination, the main site area of approximately 182 ac was remediated in accordance with the Site Remediation Plan. This included partial backfilling of the nuclear island excavation. The finished elevation for the remediated nuclear island excavation area was set at approximately 810 ft.

The site is located in Roane County, in central-east Tennessee, within the city limits of Oak Ridge, Tennessee. Other communities located near the site include Kingston (west), Harriman (west-northwest), Lenoir City (southeast), and Knoxville (east-northeast), Tennessee, which are respectively located approximately 7.2 mi, 10.2 mi, 8.9 mi and 25.2 mi, from the site center point

(see Figure 2.1-4). According to the U.S. Census Bureau (USCB), the City of Oak Ridge had a 2010 population of 29,330 and is the largest city within 10 mi of the site. Lenoir City, Tennessee, the second largest city within 10 mi, had a 2010 population of 8642 persons (Reference 2.1-10).

The major transportation route in the vicinity of the site is U.S. Interstate 40, which passes approximately 0.6 mi to the southeast and serves as the primary east to west thoroughfare. At their closest points of approach, Tennessee State Route 58 is located about 0.9 mi northwest of the site, and Tennessee State Route 95 is located about 2.6 mi east of the site (see Figure 2.1-3). There are no military facilities located within the vicinity of the site (see Figure 2.1-3) (Reference 2.1-16). There are no regularly scheduled passenger transportation trains that pass through or service any cities within the 50-mi region. However, there are excursion trains providing entertainment in the region. As noted in Section 2.2, there is a rail line located within the vicinity that is used for commercial purposes.

2.1.1.2 Site Area Map

The CRN Property is illustrated in Figure 2.1-1. There are no public access roads that traverse the site and there are no commercial, institutional, recreational, or residential structures located on the site (Reference 2.1-13). Figure 2.1-2 is a U.S. Geological Survey topographic map that shows prominent natural and man-made features. The topography of the property is characterized by a series of parallel ridges and valleys generally oriented in a northeast to southwest direction. Elevations on the site range from 740 ft msl to a high of 1120 ft msl. The most dominant topographic feature, Chestnut Ridge, is located along the northern portion of the property. Also visible on Figure 2.1-2 is the historical extent of the CRBRP excavation. Additional information for the CRBRP Site is provided in Subsection 2.1.1.1.

The CRN Property is outlined, and the highways and railroads located within the 5-mi vicinity are shown in Figure 2.1-3. The total area contained by the CRN Property is approximately 1200 ac. Figure 2.1-4 illustrates the cities, counties, transportation network, and states located within the 50-mi region.

2.1.2 Exclusion Area Authority and Control

The CRN Site is approximately 935 acres within the 1200 acre CRN Property, owned by the United States of America and managed by TVA. TVA is the Applicant for the ESP. As illustrated in Figure 2.1-3, there are no public transportation routes crossing the site. There are no mineral resources, including oil and natural gas, within or adjacent to the site that are being exploited. The only known resource of value located within the property is limestone, and the United States owns all of the mineral rights for the property.

The exclusion area boundary (EAB) is delineated by the boundaries of the CRN Property as shown on Figure 2.1-5.

The CRN Property is the same as the owner controlled area. The CRN Property will be clearly posted with “no trespassing” signs along the property border and river shorelines. All road access points will be controlled. Once inside the owner controlled area, access to the nuclear plant will be controlled with security check-points and barriers. The site’s physical security plan contains information on actions to be taken by security force personnel in the event of unauthorized persons crossing the EAB by land or water. The permanent population distribution within the EAB is zero.

2.1.2.1 Authority

TVA controls all activities within the EAB including exclusion and removal of personnel and property from the area. There are two existing electrical transmission corridors that traverse the site boundary: Bull Run FP–Watts Bar NP 500 kV and the Kingston FP–Ft Loudoun HP (includes Clinch River Breeder Reactor, Manis Rd, and Bear Creek) 161 kV No.1 corridors (see Figure 2.1-1). The Bull Run FP–Watts Bar NP 500 kV transmission line bisects the site from west to east. Kingston FP–Ft Loudoun HP, Manis Rd, and Bear Creek 161 kV No.1 transmission line traverses the site from north to south. To facilitate construction, the Kingston FP–Ft Loudoun HP 161 kV No.1 corridor would be relocated to the east prior to plant construction. TVA owns and maintains the transmission lines as well as maintains access control of the transmission rights-of-way that traverse the site.

2.1.2.2 Control of Activities Unrelated to Plant Operation

As illustrated in Figure 2.1-5, there are no residences or commercial activities within the EAB. Recreational activities and hunting within the owner controlled area and the EAB are prohibited and are controlled by security personnel. No public highways or active railroads traverse the exclusion area (Reference 2.1-13). Barge traffic occurs adjacent to the EAB along the Clinch River arm of the Watts Bar Reservoir (Reference 2.1-14 and Reference 2.1-15). There is one small family cemetery and one Native American burial mound located on the site. Access to this cemetery and burial mound are controlled by security personnel.

2.1.2.3 Arrangements for Traffic Control

Arrangements for control of traffic in the event of an emergency are not required in that no publicly used transportation routes cross the EAB.

2.1.2.4 Abandonment or Relocation of Roads

There are no public roads within the exclusion area (see Figure 2.1-5).

2.1.3 Population Distribution

The population distribution surrounding the site, up to a 50-mi (80-kilometers [km]) radius, is estimated based upon the most recent 2010 USCB decennial census data. The population distribution is estimated in fifteen concentric bands at 0–0.3 mi (0.5 km), 0.3–1 mi (1.6 km), 1–2 mi (3.2 km), 2–3 mi (4.83 km), 3–4 mi (6.44 km), 4–5 mi (8.05 km), 5–6 mi (9.66 km), 6–7 mi (11.3 km), 7–8 mi (12.9 km), 8–9 mi (14.5 km), 9–10 mi (16.1 km), 10–20 mi (32.2 km), 20–30 mi (48.3 km), 30–40 mi (64.4 km), and 40–50 mi (80.5 km) from the site center point. These bands are subdivided into 16 directional sectors, each centered on one of the 16 compass directions and consisting of 22.5 degrees. Population sectors out to 2 mi (3.2 km) are shown in Figure 2.1-9, population sectors out to 10 mi (16 km) are shown in Figure 2.1-6, and population sectors out to 50 mi (80 km) are shown in Figure 2.1-7.

The population projections are derived from county estimates obtained from the states and based on cohort component (Kentucky and Tennessee) and cohort survey (North Carolina) methodologies. The counties that were used for the population projections are listed in Table 2.1-1. Using linear or polynomial regression, an equation was derived to analyze population growth for each county. The equation was used in conjunction with the 2010 census data to produce a growth ratio. Ratios were calculated for each county and for each year, then weighted by area and summed into sectors. The ratio set was then used to produce a sector-level population projection ratio set for the 50-mi region. It is important to note that for any county with a negative growth rate, a growth ratio of one is used to produce the most

conservative results without overestimating. Using a growth ratio of one does not allow the county's population to decline. For counties predicting a decline at the end of the states' projection data set, the ratio calculated for the highest data point of the states' data set was used for the remaining projected years.

The census population counts were then sorted into the radial grid. In instances where census blocks were divided by sector boundary lines, the population was weighted by area to produce proportionate data values. These values were summed and multiplied by their projection ratio to produce the final permanent population radial grid maps (Figures 2.1-6 and 2.1-7). The years selected for the projection period represent the 2010 census, calculation development year (2013), projected start of construction date (2021), projected commencement of operation date for the last unit (2027), and 40 years beyond the last date.

2.1.3.1 Population Within 10 Miles

The population sector map for the 10-mi (16-km) radius is shown in Figure 2.1-6. Permanent population is projected to 40 years beyond the projected 2027 commencement of operation date for the last unit. Table 2.1-2 shows the projected permanent population for each sector out to 10 mi (16 km), for the years 2010, 2013, 2021, 2027, 2037, 2047, 2057, and 2067. Population for all sectors in the 10-mi (16-km) radius for each projected year is shown in the "Cumulative Totals" field of Table 2.1-2.

A notable special population source within 10 mi of the site is the Oak Ridge National Laboratory (ORNL). ORNL employs a total of 4480 staff and approximately 3000 guest researchers per year. While these employees are counted by the USCB at their residences, it is noted that the diurnal fluctuation associated with this workforce increases the temporary population of the 10-mi radius. (Reference 2.1-17)

2.1.3.2 Population Between 10 and 50 Miles

Figure 2.1-7 shows the regional permanent population within 50 mi (80 km) of the site center point. The map illustrates the radial grid with 2013 estimated permanent population. The site region includes all or part of the counties listed in Table 2.1-1. The distances defining the sectors are 10 mi (16 km), 20 mi (40 km), 30 mi (48.28 km), 40 mi (64.37 km), and 50 mi (80.47 km). Knoxville is the largest city within 50 mi, with a 2010 population of 178,874. Smaller cities within the region include Sevierville (14,807), Athens (13,458), Crossville (10,795), La Follette (7456), Dayton (7191), Fairfield Glade (6989), Pigeon Forge (5875), Sweetwater (5764), Rockwood (5562), Madisonville (4577), Etowah (3490) and Norris (1491) (Reference 2.1-9). Many other smaller towns and cities are distributed within the region. Figure 2.1-4 illustrates the location of these cities and towns in relation to the site.

Table 2.1-3 shows the projected permanent population for each sector in the 10–50 mi (16–80 km) region for the years 2010, 2013, 2021, 2027, 2037, 2047, 2057, and 2067. Permanent population is projected to 40 years beyond the projected 2027 commencement of operation date for the last unit. The total number of people in the 10–50 mi (16–80 km) region for each projected year is shown in the "Cumulative Totals" field of Table 2.1-3.

2.1.3.3 Transient Population

Though relatively rural in nature, the region surrounding the site has numerous tourist attractions and events that contribute to the transient population. The 50-mi region includes both large cities (e.g., Knoxville) and smaller cities (e.g., Pigeon Forge and Sevierville) that are well known for their transient attractions.

Outdoor recreation is an important recreational pastime in Tennessee and a large draw for transient population into the region. The Tennessee River system flows northeast to southwest through the 50-mi region. This river system includes several large and well known fishing and recreational reservoirs. Chickamauga Reservoir is one of these. Located approximately 30 mi southwest, Chickamauga Reservoir was rated the sixth best bass lake of 2013 by Bassmaster, and was the site of the 2014 Bassmaster BASSFest (References 2.1-1 and 2.1-2). Other popular fishing locations in the region include Watts Bar Reservoir, Fontana Reservoir, Douglas Reservoir, Norris Reservoir, Fort Loudoun Reservoir, Cherokee Reservoir, Melton Hill Reservoir, and Tellico Reservoir.

Additionally, there are several national and state parks that contribute to the regional transient population. The three national parks that maintain visitor information are Big South Fork National River and Recreation Area, Obed Wild and Scenic River, and the Great Smoky Mountains National Park. The Big South Fork National River and Recreation Area is located approximately 36 mi north-northwest of the site and recorded an annual visitor count of 600,161 persons in 2012. The Obed Wild and Scenic River located approximately 20 mi northwest of the site and recorded an annual visitor count of 212,446 persons in 2012. The national park with the largest transient population is the Great Smoky Mountains National Park. Located approximately 31 mi southeast, the Great Smoky Mountains National Park recorded an annual visitor count of 9,685,829 persons (Reference 2.1-5).

Transient data are gathered through personal communications with businesses, event coordinators, local chambers of commerce and tourism departments within the region. This method for collecting transient data provides a more accurate assessment of people visiting the area and a much more precise location of transient contributors. The identified events and attractions that contribute to the transient population in the site region are shown in Table 2.1-4. While transient data are not generally available at a city level, one city, Pigeon Forge, developed a comprehensive report that included visitor counts from 1987 through 2012. According to this report, Pigeon Forge had a total annual visitor count of 2,856,682 in 2012. This value was used to calculate the daily visitor estimate (7826 persons) of this city for inclusion into the transient population calculation. Pigeon Forge is home to numerous transient attractions, including Dollywood, Titanic Museum Attraction, and WonderWorks.

Transient population is projected to 40 years beyond the 2027 commencement of operation date for the last unit. Table 2.1-3 shows the projected permanent population for each sector for the years 2010, 2013, 2021, 2027, 2037, 2047, 2057, and 2067 for the non-zero sectors. The sectors that have zero values are not illustrated in the table. The population values shown represent the peak or calculated peak daily population for each sector and year. The total projected transient population estimates for each projected year are represented in the “total” field of Table 2.1-5. The estimated peak daily transient population for 2013 for the site region is 585,436 persons.

2.1.3.3.1 Transient Population Within 10 Miles (16 km)

There are 14 events and attractions identified within 10 mi of the site that contribute approximately 15,556 peak daily visitors to the transient population. The City of Kingston, located about 7.2 mi west, hosts several events throughout the year. The largest of these events is the Smokin’ the Water Celebration, which occurs over a two-day period during the July 4th holiday and contributes approximately 12,000 peak daily visitors. The second largest is the Kingston Country Fair. This event occurs the first Saturday in October and hosts approximately 980 visitors. Table 2.1-4 lists the peak daily visitors for all events and attractions identified within the site region.

2.1.3.3.2 Transient Population Between 10–50 Miles (16–80 km)

Contributors to the regional total transient population include events and attractions, one commercial airport, and state and national parks. Table 2.1-4 lists the events and attractions within the site region that are included in the total transient population. Within the 10–50 mi (16–80 km) radii, there are 98 events and attractions identified that contribute 521,997 peak daily visitors to the total transient population. The top two attractions, each contributing over 100,000 peak daily visitors, is the Neyland Stadium and the Rossini Festival located in Knoxville. The Neyland Stadium, located approximately 26 mi east, is the University of Tennessee's football stadium (Reference 2.1-8). The Rossini Festival, located approximately 26 mi east, is a single day event that occurs in April of each year.

There is one large commercial airport, the McGhee Tyson Airport, in the site region. The Bureau of Transportation Statistics reports that in 2013, the McGhee Tyson Airport hosted approximately 813,000 arrival passengers and 817,000 departure passengers (Reference 2.1-3). To develop a realistic peak daily visitor count for this facility, the maximum occupancy of the airport terminal (3587 people) was used. The McGhee Tyson Airport is located approximately 23 mi east-southeast of the site in Alcoa, Tennessee.

Table 2.1-6 lists the national and state parks located within the region that maintain visitor counts. There are 10 Tennessee state parks and three national parks that maintain visitor counts located within the 50-mi region. The state park with the largest daily peak visitor estimate is the Cumberland Mountain State Park with approximately 3944 daily visitors. The Hiwassee/Ocoee Scenic River State Park, Big Ridge State Park, Cove Lake State Park and Indian Mountain State Park also significantly contribute to the total transient population with 3763, 2894, 1849, and 1678 peak daily visitors, respectively. The remaining five state parks each have peak daily visitor estimates ranging from approximately 650 to 300 persons. The three national parks that maintain visitor counts within the region are the Great Smoky Mountains National Park, Big South Fork National River and Recreation Area, and Obed Wild and Scenic River (Reference 2.1-5). The peak daily visitor estimates for state and national parks within the region that contributed to the total transient population are listed in Table 2.1-6.

2.1.3.3.3 Total Permanent and Transient Populations

Tables 2.1-4 and 2.1-5 show contributors to the transient population in the 50-mi region. Table 2.1-5 summarizes the total transient population by sector and year of interest. The peak daily transient population for the site region in 2013 is approximately 585,433. The estimated permanent population for 2013 in the site region is approximately 1,199,275. The total 2013 projected population for the region, based on the 2010 census, was approximately 1,784,708. Using a calculated growth rate of 0.76, the estimated total population for 2067 is 2,658,157.

2.1.3.4 Low-Population Zone

For the CRN Site, the low-population zone (LPZ) is defined as a 1 mi (1.6 km) radius from the site center point. Figure 2.1-3 illustrates the LPZ and its geographic relationship to the site and surrounding features.

According to the USCB 2010 data, there are 149 people living within the LPZ. The distribution of people within the LPZ in the 16 cardinal directions is provided in Table 2.1-7. There are no transient population events or attractions within this area. There is one special facility identified within the LPZ. The Kingston Academy, located less than 1 mi west-southwest, is a 52-bed coed psychiatric residential treatment facility for children (References 2.1-11 and 2.1-6). There are no hospitals, prisons, or jails within the LPZ (References 2.1-7 and 2.1-11). Industrial facilities within 5 mi are discussed in Subsection 2.2.2.

2.1.3.5 Population Center

Population centers, as defined by 10 CFR 100.3, are densely populated clusters containing more than 25,000 people. To identify population centers within the site region, the USCB census-delineated urban areas are used (Reference 2.1-9). Rather than being based on political boundaries, census-defined urban areas are based largely on population density (Reference 2.1-4). Of the urban areas located within the region, only two met the requirements to be classified as population centers in 2010: Knoxville (558,696 persons) and Cleveland (66,777 persons), Tennessee. The Knoxville urban area is a combination of several smaller cities, including Lafollette, Oak Ridge, Clinton, Loudon, Lenoir City, Alcoa, Maryville, Farragut, Rockwood, Seymour, and Knoxville, Tennessee. The Cleveland urban area is a combination of four smaller cities: Calhoun, Charleston, Hopewell, and Cleveland, Tennessee (Reference 2.1-10). The population center distances from the site center point to the nearest boundaries of Knoxville and Cleveland urban areas are approximately 4.8 mi (southeast) and 45 mi (south southwest), respectively. These distances are greater than one and one-third times the distance from the site center point to the boundary of the LPZ.

The City of Oak Ridge, with a 2010 population of 29,330, is the closest city to the CRN Site that exceeds 25,000 people, based on political boundaries (Reference 2.1-10). The CRN Site is located within the southern extent of the City of Oak Ridge, with the city's territory primarily extending to the northeast of the CRN Site. The densely populated portions of the City of Oak Ridge are located in these northeast portions. This is illustrated in Figure 2.1-6 and Figure 2.1-9, which portray the distribution of population by sector and distance from the CRN Site. In these figures, the sectors in the northeast directions have low populations from 0 to 6 mi. Therefore, densely populated portions of the City of Oak Ridge are located beyond the distance required by 10 CFR 100.21(b). This is further supported by the U.S. Census Bureau, which has delineated the densely populated portions of the City of Oak Ridge as part of the greater Knoxville urban area at approximately 5.9 mi from the CRN Site (Reference 2.1-9).

Using the county population projection ratios, the populations of two additional urban areas are anticipated to meet the population center criteria by 2067: Crossville, Tennessee, and Sevierville, Tennessee. The distance from the site center point to the nearest boundary of these two urban areas is approximately 34 and 43 mi, respectively. At the end of the projection period, Knoxville remains the largest and closest population center to the site with an estimated 2067 population of 933,806.

The transient population is not considered in these calculations because 10 CFR 100.3 defines a population center as "the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents." Transient populations by nature are not considered to be part of the resident population.

2.1.3.6 Population Density

For the purpose of evaluating projected population densities per Regulatory Guide 4.7, *General Site Suitability Criteria for Nuclear Power Stations*, population densities were calculated for the 50-mi region for the projected start of construction date (2021), the projected commencement of operation date for the last unit (2027), and the end of operation date (2067). Population densities were derived by taking the cumulative total projected population at a distance divided by the circular area at that distance. Cumulative total populations were calculated by adding the projected transient population to the projected permanent population (see Subsection 2.1.3.3.3).

The relationship between population totals and distance from the site is illustrated in Figure 2.1-8. This figure provides a dashed line representing the number of people within that distance equivalent to a population density of either 500 or 1000 per mi^2. Projected populations

at those distances are represented by the solid line. By comparing the curves, it is seen that projected populations within the 50-mi region of the site does not exceed guidance criteria throughout the region.

The total projected permanent population for 2021 and 2027 is approximately 1,305,000 and 1,377,000, respectively. Transient population is projected using a ratio generated from the transient sector population divided by the USCB 2010 population data. The projected permanent population for both 2021 and 2027 are multiplied by this ratio to calculate the projected transient population. The total projected transient population for 2021 and 2027 is approximately 638,000 and 674,000, respectively. Thus, the 2021 and 2027 total projected population for the 50-mi region is approximately 1.94 million and 2.05 million, respectively. The 2021 total population density is 247 people per mi^2, the 2027 total population density is 261 people per mi^2.

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Table 2.1-1
Counties Wholly or Partially Within the 50-mi Radius

State	Counties	
Kentucky	McCreary	Whitley
North Carolina	Cherokee	Graham
	Swain	
Tennessee	Anderson	Meigs
	Bledsoe	Monroe
	Blount	Morgan
	Bradley	Overton
	Campbell	Pickett
	Claiborne	Polk
	Cumberland	Putnam
	Fentress	Rhea
	Grainger	Roane
	Hamilton	Scott
	Jefferson	Sevier
	Knox	Union
	Loudon	Van Buren
	McMinn	White

Table 2.1-2 (Sheet 1 of 5)
Projected Permanent Population for Each Sector 0–10 mi (0–16 km)

Direction /Year	Sector 0–0.3 (mi)	Sector 0.3–1 (mi)	Sector 1–2 (mi)	Sector 2–3 (mi)	Sector 3–4 (mi)	Sector 4–5 (mi)	Sector 5–10 (mi)	Sector 0–10 (mi)
NORTH								
2010	0	0	0	0	0	104	2,591	2,695
2013	0	0	0	0	0	106	2,633	2,739
2021	0	0	0	0	0	109	2,725	2,834
2027	0	0	0	0	0	109	2,762	2,871
2037	0	0	0	0	0	110	2,788	2,898
2047	0	0	0	0	0	110	2,803	2,913
2057	0	0	0	0	0	110	2,819	2,929
2067	0	0	0	0	0	110	2,850	2,960
NNE								
2010	0	0	0	0	0	0	7,644	7,644
2013	0	0	0	0	0	0	7,763	7,763
2021	0	0	0	0	0	0	8,022	8,022
2027	0	0	0	0	0	0	8,155	8,155
2037	0	0	0	0	0	0	8,298	8,298
2047	0	0	0	0	0	0	8,395	8,395
2057	0	0	0	0	0	0	8,511	8,511
2067	0	0	0	0	0	0	8,678	8,678
NE								
2010	0	5	0	0	0	0	1,287	1,292
2013	0	5	0	0	0	0	1,309	1,314
2021	0	5	0	0	0	0	1,360	1,365
2027	0	5	0	0	0	0	1,393	1,398
2037	0	5	0	0	0	0	1,436	1,441
2047	0	5	0	0	0	0	1,466	1,471
2057	0	5	0	0	0	0	1,503	1,508
2067	0	5	0	0	0	0	1,555	1,560
ENE								
2010	0	8	8	1	0	0	1,084	1,101
2013	0	8	8	1	0	0	1,119	1,136
2021	0	8	9	1	0	0	1,207	1,225
2027	0	8	9	1	0	0	1,270	1,288
2037	0	8	9	1	0	0	1,368	1,386
2047	0	8	9	1	0	0	1,464	1,482
2057	0	8	9	1	0	0	1,568	1,586
2067	0	8	9	1	0	0	1,670	1,688

Table 2.1-2 (Sheet 2 of 5)
Projected Permanent Population for Each Sector 0–10 mi (0–16 km)

Direction /Year	Sector 0–0.3 (mi)	Sector 0.3–1 (mi)	Sector 1–2 (mi)	Sector 2–3 (mi)	Sector 3–4 (mi)	Sector 4–5 (mi)	Sector 5–10 (mi)	Sector 0–10 (mi)
EAST								
2010	0	7	13	110	34	85	5,276	5,525
2013	0	7	13	113	35	88	5,491	5,747
2021	0	8	14	118	38	94	6,060	6,332
2027	0	8	14	121	40	98	6,467	6,748
2037	0	8	14	123	41	103	7,110	7,399
2047	0	8	14	125	43	106	7,748	8,044
2057	0	8	14	127	45	110	8,438	8,742
2067	0	8	14	130	47	116	9,101	9,416
ESE								
2010	0	6	37	92	112	262	6,686	7,195
2013	0	6	38	94	118	278	7,075	7,609
2021	0	6	39	99	135	317	8,076	8,672
2027	0	6	39	102	147	344	8,740	9,378
2037	0	6	39	104	161	377	9,603	10,290
2047	0	6	39	106	172	404	10,278	11,005
2057	0	6	39	109	185	434	11,068	11,841
2067	0	6	39	112	203	475	12,098	12,933
SE								
2010	0	8	40	81	214	200	12,408	12,951
2013	0	8	40	82	222	211	13,139	13,702
2021	0	8	42	84	241	241	15,017	15,633
2027	0	8	42	85	253	260	16,262	16,910
2037	0	8	42	85	267	285	17,867	18,554
2047	0	8	42	85	278	304	19,108	19,825
2057	0	8	42	85	290	327	20,567	21,319
2067	0	8	42	85	307	357	22,492	23,291
SSE								
2010	0	7	57	64	223	264	1,661	2,276
2013	0	7	57	65	226	275	1,759	2,389
2021	0	7	59	67	232	301	2,010	2,676
2027	0	7	59	67	234	318	2,177	2,862
2037	0	7	59	67	234	338	2,391	3,096
2047	0	7	59	67	234	353	2,557	3,277
2057	0	7	59	67	234	372	2,753	3,492
2067	0	7	59	67	234	396	3,010	3,773

Table 2.1-2 (Sheet 3 of 5)
Projected Permanent Population for Each Sector 0–10 mi (0–16 km)

Direction /Year	Sector 0–0.3 (mi)	Sector 0.3–1 (mi)	Sector 1–2 (mi)	Sector 2–3 (mi)	Sector 3–4 (mi)	Sector 4–5 (mi)	Sector 5–10 (mi)	Sector 0–10 (mi)
SOUTH								
2010	0	12	27	36	143	183	1,546	1,947
2013	0	12	28	36	145	186	1,616	2,023
2021	0	13	28	37	148	195	1,792	2,213
2027	0	13	29	38	150	199	1,904	2,333
2037	0	13	29	38	150	203	2,044	2,477
2047	0	13	29	38	150	205	2,152	2,587
2057	0	13	29	38	150	209	2,279	2,718
2067	0	13	29	38	150	213	2,446	2,889
SSW								
2010	0	13	29	39	142	140	1,123	1,486
2013	0	13	30	40	144	142	1,142	1,511
2021	0	14	30	41	148	145	1,183	1,561
2027	0	14	31	41	149	147	1,200	1,582
2037	0	14	31	41	150	147	1,211	1,594
2047	0	14	31	41	150	147	1,219	1,602
2057	0	14	31	41	150	147	1,229	1,612
2067	0	14	31	41	150	147	1,242	1,625
SW								
2010	0	12	49	66	126	252	919	1,424
2013	0	13	50	67	128	256	932	1,446
2021	0	13	51	69	131	263	957	1,484
2027	0	13	51	69	132	265	964	1,494
2037	0	13	51	69	132	265	965	1,495
2047	0	13	51	69	132	265	965	1,495
2057	0	13	51	69	132	265	965	1,495
2067	0	13	51	69	132	265	965	1,495
WSW								
2010	0	15	65	164	144	355	5,814	6,557
2013	0	15	65	166	146	360	5,893	6,645
2021	0	16	67	171	150	369	6,052	6,825
2027	0	16	68	172	151	372	6,099	6,878
2037	0	16	68	172	151	373	6,105	6,885
2047	0	16	68	172	151	373	6,105	6,885
2057	0	16	68	172	151	373	6,105	6,885
2067	0	16	68	172	151	373	6,105	6,885

Table 2.1-2 (Sheet 4 of 5)
Projected Permanent Population for Each Sector 0–10 mi (0–16 km)

Direction /Year	Sector 0–0.3 (mi)	Sector 0.3–1 (mi)	Sector 1–2 (mi)	Sector 2–3 (mi)	Sector 3–4 (mi)	Sector 4–5 (mi)	Sector 5–10 (mi)	Sector 0–10 (mi)
WEST								
2010	0	17	102	153	174	706	4,666	5,818
2013	0	17	104	156	176	716	4,729	5,898
2021	0	17	107	160	181	735	4,857	6,057
2027	0	18	107	161	182	741	4,895	6,104
2037	0	18	107	161	183	742	4,900	6,111
2047	0	18	107	161	183	742	4,900	6,111
2057	0	18	107	161	183	742	4,900	6,111
2067	0	18	107	161	183	742	4,900	6,111
WNW								
2010	0	20	85	237	82	210	5,050	5,684
2013	0	21	86	240	84	213	5,119	5,763
2021	0	21	88	246	86	218	5,257	5,916
2027	0	21	89	248	87	220	5,298	5,963
2037	0	21	89	248	87	220	5,303	5,968
2047	0	21	89	248	87	220	5,303	5,968
2057	0	21	89	248	87	220	5,303	5,968
2067	0	21	89	248	87	220	5,303	5,968
NW								
2010	0	19	24	48	13	80	1,574	1,758
2013	0	19	24	49	13	81	1,602	1,788
2021	0	19	25	50	14	83	1,664	1,855
2027	0	20	25	50	14	84	1,692	1,885
2037	0	20	25	50	14	84	1,714	1,907
2047	0	20	25	50	14	84	1,728	1,921
2057	0	20	25	50	14	84	1,743	1,936
2067	0	20	25	50	14	84	1,771	1,964
NNW								
2010	0	0	1	0	0	149	1,700	1,850
2013	0	0	1	0	0	151	1,739	1,891
2021	0	0	1	0	0	155	1,831	1,987
2027	0	0	1	0	0	156	1,883	2,040
2037	0	0	1	0	0	156	1,936	2,093
2047	0	0	1	0	0	156	1,972	2,129
2057	0	0	1	0	0	156	2,008	2,165
2067	0	0	1	0	0	156	2,077	2,234

Table 2.1-2 (Sheet 5 of 5)
Projected Permanent Population for Each Sector 0–10 mi (0–16 km)

Direction /Year	Sector 0–0.3 (mi)	Sector 0.3–1 (mi)	Sector 1–2 (mi)	Sector 2–3 (mi)	Sector 3–4 (mi)	Sector 4–5 (mi)	Sector 5–10 (mi)	Sector 0–10 (mi)
Totals								
2010	0	149	537	1,091	1,407	2,990	61,029	67,203
2013	0	151	544	1,109	1,437	3,063	63,060	69,364
2021	0	155	560	1,143	1,504	3,225	68,070	74,657
2027	0	157	564	1,155	1,539	3,313	71,161	77,889
2037	0	157	564	1,159	1,570	3,403	75,039	81,892
2047	0	157	564	1,163	1,594	3,469	78,163	85,110
2057	0	157	564	1,168	1,621	3,549	81,759	88,818
2067	0	157	564	1,174	1,658	3,654	86,263	93,470
Cumulative Totals	**0–0.3 (mi)**	**0–1 (mi)**	**0–2 (mi)**	**0–3 (mi)**	**0–4 (mi)**	**0–5 (mi)**	**5–10 (mi)**	**0–10 (mi)**
2010	0	149	686	1,777	3,184	6,174	61,029	67,203
2013	0	151	695	1,804	3,241	6,304	63,060	69,364
2021	0	155	715	1,858	3,362	6,587	68,070	74,657
2027	0	157	721	1,876	3,415	6,728	71,161	77,889
2037	0	157	721	1,880	3,450	6,853	75,039	81,892
2047	0	157	721	1,884	3,478	6,947	78,163	85,110
2057	0	157	721	1,889	3,510	7,059	81,759	88,818
2067	0	157	721	1,895	3,553	7,207	86,263	93,470

Notes:
Based on 2010 USCB data.
No permanent population distribution is within the exclusion area boundary (EAB)
Source: Reference 2.1-12

Table 2.1-3 (Sheet 1 of 5)
Projected Permanent Population for Each Sector 10–50 mi (16–80 km)

Direction /Year	Sector 10–20 (mi)	Sector 20–30 (mi)	Sector 30–40 (mi)	Sector 40–50 (mi)	Sector 10–50 (mi)
NORTH					
2010	2,059	516	5,058	6,279	13,912
2013	2,102	522	5,111	6,346	14,081
2021	2,205	538	5,261	6,517	14,521
2027	2,270	546	5,330	6,604	14,750
2037	2,352	553	5,387	6,680	14,972
2047	2,409	556	5,398	6,693	15,056
2057	2,472	559	5,406	6,704	15,141
2067	2,574	570	5,499	6,828	15,471
NNE					
2010	8,698	10,535	25,119	9,337	53,689
2013	8,847	10,647	25,224	9,397	54,115
2021	9,191	10,977	25,808	9,650	55,626
2027	9,413	11,132	25,910	9,716	56,171
2037	9,705	11,308	25,914	9,742	56,669
2047	9,911	11,432	25,917	9,743	57,003
2057	10,157	11,581	25,921	9,744	57,403
2067	10,509	11,793	25,926	9,793	58,021
NE					
2010	32,319	22,447	11,747	10,948	77,461
2013	32,879	22,977	11,995	11,187	79,038
2021	34,168	24,289	12,577	11,722	82,756
2027	35,001	25,189	12,891	11,985	85,066
2037	36,106	26,521	13,189	12,147	87,963
2047	36,891	27,706	13,379	12,157	90,133
2057	37,824	29,024	13,588	12,177	92,613
2067	39,148	30,477	13,808	12,290	95,723
ENE					
2010	63,674	172,503	47,676	21,238	305,091
2013	65,974	179,276	49,522	22,012	316,784
2021	72,026	197,268	54,409	23,911	347,614
2027	76,378	210,290	57,928	25,109	369,705
2037	83,326	231,277	63,557	26,575	404,735
2047	90,257	252,501	69,232	27,642	439,632
2057	97,744	275,348	75,340	28,853	477,285
2067	104,860	296,672	81,037	30,684	513,253

Table 2.1-3 (Sheet 2 of 5)
Projected Permanent Population for Each Sector 10–50 mi (16–80 km)

Direction /Year	Sector 10–20 (mi)	Sector 20–30 (mi)	Sector 30–40 (mi)	Sector 40–50 (mi)	Sector 10–50 (mi)
EAST					
2010	75,605	58,268	36,761	46,774	217,408
2013	78,598	60,614	38,599	49,636	227,447
2021	86,527	66,761	43,398	57,086	253,772
2027	92,255	71,167	46,816	62,351	272,589
2037	101,408	77,966	51,999	70,213	301,586
2047	110,528	84,330	56,718	77,246	328,822
2057	120,319	91,086	61,690	84,628	357,723
2067	129,684	98,239	67,225	93,135	388,283
ESE					
2010	15,702	71,929	7,738	3,236	98,605
2013	16,397	74,935	8,067	3,406	102,805
2021	18,187	82,625	8,909	3,834	113,555
2027	19,437	88,039	9,502	4,137	121,115
2037	21,215	95,720	10,346	4,599	131,880
2047	22,676	101,710	11,010	5,014	140,410
2057	24,228	107,836	11,690	5,443	149,197
2067	26,220	116,490	12,639	5,938	161,287
SE					
2010	6,322	13,059	309	2,602	22,292
2013	6,665	13,617	321	2,672	23,275
2021	7,547	15,039	352	2,868	25,806
2027	8,139	16,026	373	3,017	27,555
2037	8,918	17,396	402	3,263	29,979
2047	9,522	18,450	425	3,509	31,906
2057	10,211	19,544	448	3,754	33,957
2067	11,132	21,114	481	4,000	36,727
SSE					
2010	13,319	6,959	1,896	543	22,717
2013	14,054	7,237	1,970	555	23,816
2021	15,933	7,923	2,151	587	26,594
2027	17,165	8,345	2,262	608	28,380
2037	18,725	8,813	2,382	635	30,555
2047	19,895	9,081	2,448	654	32,078
2057	21,268	9,386	2,523	674	33,851
2067	23,172	10,035	2,693	707	36,607

Table 2.1-3 (Sheet 3 of 5)
Projected Permanent Population for Each Sector 10–50 mi (16–80 km)

Direction /Year	Sector 10–20 (mi)	Sector 20–30 (mi)	Sector 30–40 (mi)	Sector 40–50 (mi)	Sector 10–50 (mi)
SOUTH					
2010	9,010	16,818	13,722	4,509	44,059
2013	9,460	17,453	14,161	4,620	45,694
2021	10,595	19,004	15,228	4,889	49,716
2027	11,326	19,948	15,869	5,042	52,185
2037	12,220	20,970	16,553	5,188	54,931
2047	12,851	21,526	16,929	5,257	56,563
2057	13,588	22,166	17,378	5,352	58,484
2067	14,716	23,614	18,360	5,583	62,273
SSW					
2010	3,443	10,838	28,433	12,972	55,686
2013	3,596	11,097	29,031	13,273	56,997
2021	3,978	11,720	30,463	14,013	60,174
2027	4,220	12,084	31,282	14,462	62,048
2037	4,517	12,464	32,112	14,984	64,077
2047	4,736	12,685	32,586	15,367	65,374
2057	4,993	12,970	33,226	15,838	67,027
2067	5,357	13,526	34,477	16,533	69,893
SW					
2010	2,802	4,804	9,786	22,268	39,660
2013	2,841	4,908	10,047	22,877	40,673
2021	2,920	5,139	10,661	24,315	43,035
2027	2,945	5,253	11,028	25,188	44,414
2037	2,948	5,333	11,442	26,202	45,925
2047	2,948	5,377	11,749	26,984	47,058
2057	2,948	5,428	12,093	27,856	48,325
2067	2,948	5,502	12,551	28,953	49,954
WSW					
2010	4,599	5,117	4,656	8,054	22,426
2013	4,661	5,281	4,809	8,219	22,970
2021	4,787	5,683	5,183	8,597	24,250
2027	4,824	5,942	5,424	8,815	25,005
2037	4,829	6,272	5,712	9,031	25,844
2047	4,829	6,518	5,901	9,136	26,384
2057	4,829	6,793	6,125	9,310	27,057
2067	4,829	7,185	6,495	9,635	28,144

Table 2.1-3 (Sheet 4 of 5)
Projected Permanent Population for Each Sector 10–50 mi (16–80 km)

Direction /Year	Sector 10–20 (mi)	Sector 20–30 (mi)	Sector 30–40 (mi)	Sector 40–50 (mi)	Sector 10–50 (mi)
WEST					
2010	11,651	3,396	27,389	8,304	50,740
2013	11,920	3,572	28,824	8,720	53,036
2021	12,543	4,017	32,446	9,765	58,771
2027	12,858	4,294	34,703	10,418	62,273
2037	13,127	4,575	37,002	11,098	65,802
2047	13,254	4,696	37,989	11,406	67,345
2057	13,399	4,842	39,175	11,764	69,180
2067	13,772	5,254	42,542	12,745	74,313
WNW					
2010	3,926	4,808	7,666	8,927	25,327
2013	4,046	5,021	8,025	9,278	26,370
2021	4,348	5,560	8,924	10,141	28,973
2027	4,537	5,899	9,478	10,662	30,576
2037	4,756	6,262	10,038	11,222	32,278
2047	4,900	6,446	10,277	11,516	33,139
2057	5,047	6,653	10,566	11,867	34,133
2067	5,335	7,165	11,394	12,665	36,559
NW					
2010	5,348	3,228	2,918	10,824	22,318
2013	5,520	3,332	3,006	11,088	22,946
2021	5,957	3,596	3,223	11,692	24,468
2027	6,238	3,765	3,355	11,990	25,348
2037	6,572	3,967	3,502	12,195	26,236
2047	6,796	4,102	3,587	12,167	26,652
2057	7,024	4,240	3,680	12,211	27,155
2067	7,461	4,504	3,885	12,657	28,507
NNW					
2010	5,558	575	6,223	7,076	19,432
2013	5,735	589	6,337	7,203	19,864
2021	6,182	623	6,606	7,490	20,901
2027	6,470	645	6,767	7,646	21,528
2037	6,814	669	6,927	7,775	22,185
2047	7,043	683	6,983	7,784	22,493
2057	7,278	697	7,041	7,806	22,822
2067	7,726	731	7,287	8,041	23,785

Table 2.1-3 (Sheet 5 of 5)
Projected Permanent Population for Each Sector 10–50 mi (16–80 km)

Direction /Year	Sector 10–20 (mi)	Sector 20–30 (mi)	Sector 30–40 (mi)	Sector 40–50 (mi)	Sector 10–50 (mi)
Totals					
2010	264,035	405,800	237,097	183,891	1,090,823
2013	273,295	421,078	245,049	190,489	1,129,911
2021	297,094	460,762	265,599	207,077	1,230,532
2027	313,476	488,564	278,918	217,750	1,298,708
2037	337,538	530,066	296,464	231,549	1,395,617
2047	359,446	567,799	310,528	242,275	1,480,048
2057	383,329	608,153	325,890	253,981	1,571,353
2067	409,443	652,871	346,299	270,187	1,678,800
Cumulative Totals	**10–20 (mi)**	**10–30 (mi)**	**10–40 (mi)**	**10–50 (mi)**	
2010	264,035	669,835	906,932	1,090,823	
2013	273,295	694,373	939,422	1,129,911	
2021	297,094	757,856	1,023,455	1,230,532	
2027	313,476	802,040	1,080,958	1,298,708	
2037	337,538	867,604	1,164,068	1,395,617	
2047	359,446	927,245	1,237,773	1,480,048	
2057	383,329	991,482	1,317,372	1,571,353	
2067	409,443	1,062,314	1,408,613	1,678,800	

Notes:
Based on 2010 USCB data.

Table 2.1-4 (Sheet 1 of 3)
Top Contributors to Transient Population Within the 50-mi (80 km) Region

Event or Location[a]	City	Peak Daily Visitors[b]
Freedom Fest	Alcoa	30,000
Spring Sprint	Alcoa	452
Allardt Pumpkin Festival & Pumpkin Run	Allardt	10,000
Benefit Dinner	Athens	1,500
James L. Robb Gym	Athens	1,000
Pumpkintown Festival	Athens	8,000
Sunshine Hollow	Athens	100
Tennessee Wesleyan Halloween Festival	Athens	1,300
Tennessee Wesleyan Soccer	Athens	150
Louie Bluie Festival	Caryville	7,500
International Cowpea Festival & Cookoff	Charleston	3,500
Autumn Acres	Crossville	295
Clyde York 4-H Center	Crossville	1,500
Cumberland Chamber of Commerce	Crossville	250
Deer Creek Golf Club	Crossville	100
Lake Tansi Village Golf	Crossville	122
Palace Theater	Crossville	302
Stonehenge Golf Club	Crossville	145
The Bear Trace at Cumberland Mountain	Crossville	164
Dayton Horse & Carriage Parade	Dayton	2,000
Holiday Stroll	Dayton	2,000
PumpkinFest	Dayton	5,000
Scopes Festival	Dayton	600
Strawberry Festival	Dayton	700
Savannah Oaks Winery	Delano	500
The Gem Players and Theater	Etowah	525
Dorchester Golf Club	Fairfield Glade	172
Druid Hills Golf Club	Fairfield Glade	164
Heatherhurst Golf Club	Fairfield Glade	370
Fontana Village Resort	Fontana Dam	2,500
W.E. Rock Eastern Series	Graysville	1,400
Emory Golf Course	Harriman	150
Obrien Theatre	Harriman	489
The Princess Theatre	Harriman	540
Brimstone Recreation	Huntsville	3,333
Highland Manor Winery	Jamestown	150
Pickett State Park	Jamestown	1,291
58 Landing	Kingston	300
Colonial Christmas Candlelight Tour	Kingston	122

Table 2.1-4 (Sheet 2 of 3)
Top Contributors to Transient Population Within the 50-mi (80 km) Region

Event or Location[a]	City	Peak Daily Visitors[b]
Kingston City Park	Kingston	300
Kingston Community Center	Kingston	190
Kingston Country Fair	Kingston	980
Ladd Delaney Park	Kingston	300
Lakeside Golf	Kingston	125
RedBones on the River	Kingston	165
Roane County Healthy Schools 5k	Kingston	106
Smokin the Water	Kingston	12,000
Stormin the Fort Olympic Triathlon	Kingston	161
The Gravel Pit	Kingston	300
Barksdale Stadium	Knoxville	2,000
Bijou Theatre	Knoxville	758
BUDDY'S Race Against Cancer	Knoxville	5,000
Civic Auditorium and Coliseum	Knoxville	7,141
Covenant Health Knoxville Marathon	Knoxville	9,200
Game on Against Cancer	Knoxville	250
Knoxville Municipal Golf Course	Knoxville	150
Komen Race for the Cure	Knoxville	10,000
Light the Night Walk	Knoxville	2,000
Lindsey Nelson Stadium	Knoxville	3,800
Museum of Art	Knoxville	250
Neyland Stadium	Knoxville	102,455
Regal Soccer Stadium	Knoxville	3,000
Rossini Festival	Knoxville	100,000
Sherri Parker Lee Stadium	Knoxville	1,622
Tennessee Theatre	Knoxville	1,638
Thompson-Boling Arena	Knoxville	21,678
Tour de Rockytop	Knoxville	380
Trideltathon	Knoxville	260
Twinkle Toes 5k Run/Walk	Knoxville	150
West Site Y Triathlon	Knoxville	200
Christmas in Old Loudon	Loudon	2,000
Fall Pig Roast	Loudon	500
Riverfest	Loudon	5,000
Fine Arts Blount Kite Festival	Maryville	1,500
Foothills Fall Festival	Maryville	25,000
Foothills Sprint Triathlon	Maryville	230
Ruby Tuesday's Triple Crown of Running	Maryville	646
Smoky Mountain Softball Classic	Maryville	1,750

Table 2.1-4 (Sheet 3 of 3)
Top Contributors to Transient Population Within the 50-mi (80 km) Region

Event or Location[(a)]	City	Peak Daily Visitors[(b)]
Spring Arts and Crafts Show	Maryville	6,750
Red Gate Rodeo	Maynardville	2,000
Union County Heritage Festival	Maynardville	5,000
River Glen Equestrian Park	New Market	660
Butterflies for Hope 5k	Oak Ridge	100
Butterflies for Hope Bike Ride	Oak Ridge	130
Secret City Festival	Oak Ridge	10,000
BSF Vintage Train Festival	Oneida	5,000
Spring Planting Festival	Oneida	3,000
Wings Over Big South Fork	Oneida	20,000
World Pig Championship (card tournament)	Pall Mall	100
Rockwood Event Center	Rockwood	400
Rockwood Golf and Country Club	Rockwood	240
Historic Rugby Visitor Centre	Rugby	136
Tennessee Valley Theatre	Spring City	300
Ride the Plains	Strawberry Plains	250
National Muscadine Festival	Sweetwater	10,000
The Lost Sea	Sweetwater	411
Blue Springs Marina	Ten Mile	900
Townsend Fall Festival	Townsend	10,000
Tuckaleechee Caverns	Townsend	500
Rarity Bay Golf Club	Vonore	328
Fort Loudoun State Historic Area	Vonore	2,000
Sequoyah Birthplace Museum	Vonore	3,000

(a) Events and locations listed in this table contributed $\geq$ 100 daily visitors.
(b) Values presented in this column represent the peak daily visitors. For events or locations where peak visitor data were not available, average daily visitors were calculated using seasonal and/or annual visitor data.

Table 2.1-5 (Sheet 1 of 2)
Peak Daily Projected Transient Population for Each Sector 0–50 mi (0–80 km)

Distance (mi)	Direction	2013	2021	2027	2037	2047	2057	2067
4	E	7	8	8	9	9	9	10
7	WSW	127	130	131	131	131	131	131
8	W	12,660	13,002	13,103	13,116	13,116	13,116	13,116
8	SSE	529	605	655	720	770	829	906
9	W	775	796	803	803	803	803	803
9	WSW	1,692	1,737	1,751	1,753	1,753	1,753	1,753
20	NNW	549	592	619	652	674	697	739
20	NW	27	29	31	33	34	35	37
20	WNW	557	598	624	654	674	694	734
20	W	1,360	1,431	1,467	1,497	1,512	1,528	1,571
20	SW	913	938	946	947	947	947	947
20	SSE	7,733	8,767	9,445	10,303	10,947	11,702	12,749
20	E	468	515	549	604	658	716	772
20	NE	10,407	10,815	11,079	11,429	11,677	11,973	12,392
20	N	16	17	18	18	19	19	20
30	NNW	88	93	97	100	102	104	109
30	NW	298	322	337	355	367	380	403
30	WNW	870	964	1,023	1,086	1,118	1,153	1,242
30	W	226	254	272	290	297	307	333
30	SSW	10,238	10,814	11,149	11,500	11,703	11,966	12,480
30	S	431	469	492	517	531	547	583
30	SSE	5,716	6,258	6,591	6,961	7,172	7,413	7,926
30	SE	25	28	29	32	34	36	39
30	ESE	72,837	80,312	85,575	93,040	98,863	104,817	113,229
30	E	67,159	73,970	78,852	86,386	93,436	100,922	108,848
30	ENE	250,589	275,737	293,940	323,275	352,941	384,877	414,683
30	NE	74	78	81	85	89	93	98
30	NNE	398	411	416	423	428	433	441
40	NNW	3,704	3,860	3,955	4,048	4,081	4,115	4,259
40	NW	22	24	25	26	27	27	29
40	WNW	150	166	177	187	192	197	212
40	W	6,736	7,582	8,109	8,647	8,877	9,155	9,941
40	WSW	385	415	434	458	473	491	520
40	SW	103	109	113	117	120	124	128
40	SSW	12,349	12,958	13,307	13,660	13,862	14,134	14,666
40	S	571	614	640	667	682	700	740
40	SE	2,374	2,603	2,759	2,973	3,138	3,308	3,557
40	ESE	12,587	13,901	14,827	16,144	17,180	18,241	19,721

Table 2.1-5 (Sheet 2 of 2)
Peak Daily Projected Transient Population for Each Sector 0–50 mi (0–80 km)

Distance (mi)	Direction	2013	2021	2027	2037	2047	2057	2067
40	NE	10,125	10,617	10,881	11,133	11,293	11,470	11,655
40	NNE	9,214	9,427	9,464	9,466	9,467	9,468	9,470
50	NNW	24,252	25,220	25,747	26,181	26,211	26,285	27,076
50	NW	10,413	10,981	11,260	11,453	11,426	11,468	11,886
50	WNW	324	354	373	392	402	415	443
50	W	126	141	151	161	165	170	185
50	WSW	205	215	220	225	228	232	241
50	SW	12,089	12,850	13,311	13,846	14,260	14,721	15,301
50	SSW	4,093	4,321	4,460	4,620	4,739	4,884	5,098
50	S	3,855	4,080	4,208	4,329	4,387	4,467	4,659
50	SE	4,437	4,762	5,010	5,418	5,826	6,233	6,641
50	ESE	4,958	5,581	6,022	6,695	7,299	7,924	8,645
50	E	8,352	9,606	10,492	11,815	12,998	14,241	15,672
50	ENE	943	1,025	1,076	1,139	1,184	1,236	1,315
50	NNE	1,237	1,270	1,279	1,282	1,282	1,283	1,289
50	N	5,060	5,196	5,266	5,326	5,337	5,345	5,444
Total		**585,436**	**637,568**	**673,646**	**727,127**	**775,942**	**828,332**	**885,887**

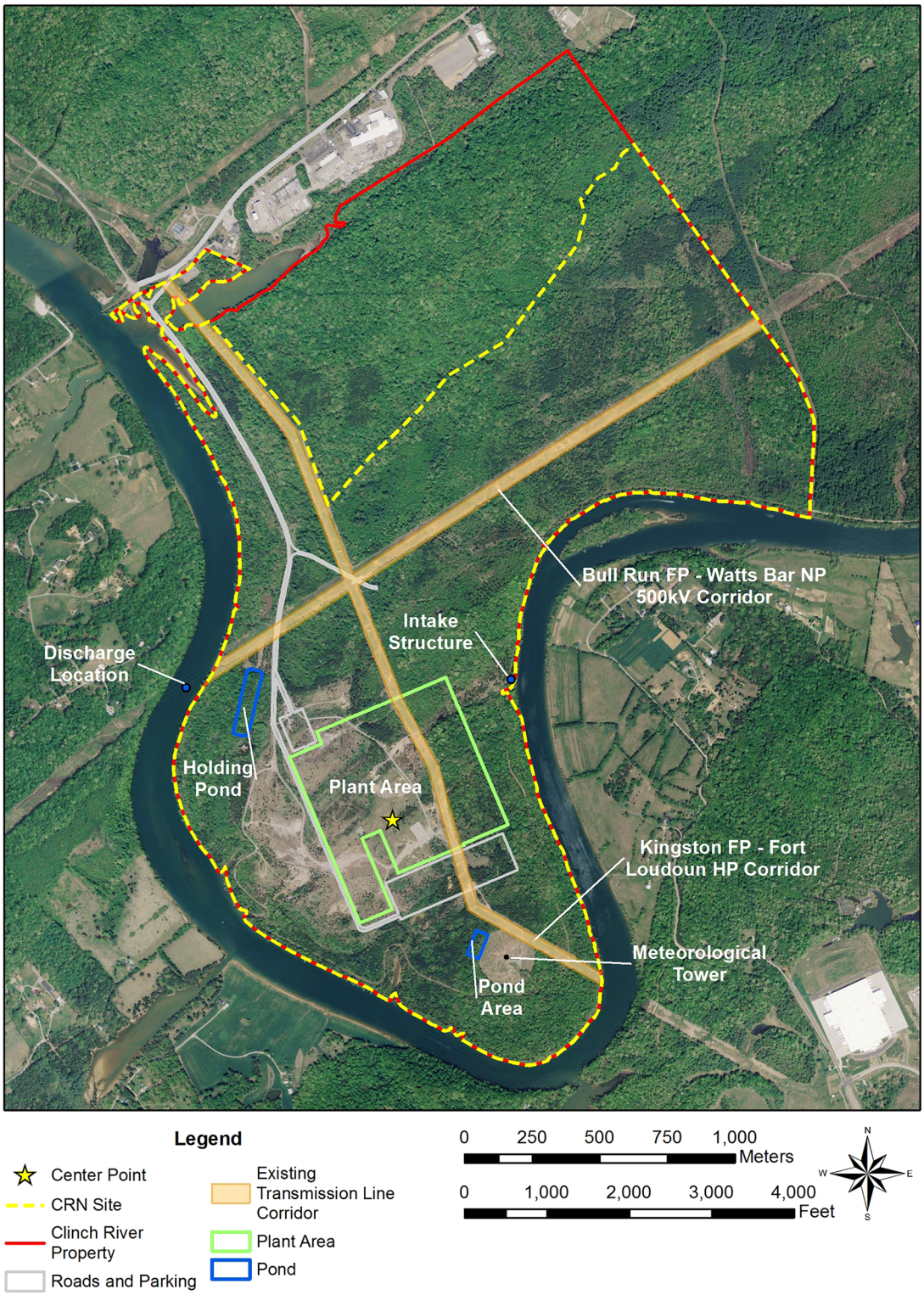
Table 2.1-6
National and State Parks Within 50 mi with Reported Visitor Data

Tennessee State Parks	Peak Daily[(a)] Visitors
Big Ridge State Park	2,894
Bledsoe State Forest	612
Cove Lake State Park	1,849
Cumberland Mountain State Park	3,944
Cumberland Trail	504
Fort Loudoun State Historic Park	493
Frozen Head State Park and Natural Area	656
Hiwassee/Ocoee Scenic River State Park	3,763
Indian Mountain State Park	1,678
Norris Dam State Park	314
National Parks and Recreation Areas	**Peak Daily[(a)] Visitors**
Great Smoky Mountains National Park	26,537
Big South Fork National River and Recreation Area	1,644
Obed Wild Scenic River	582

(a) Values presented in this column represent peak or calculated peak daily visitors.

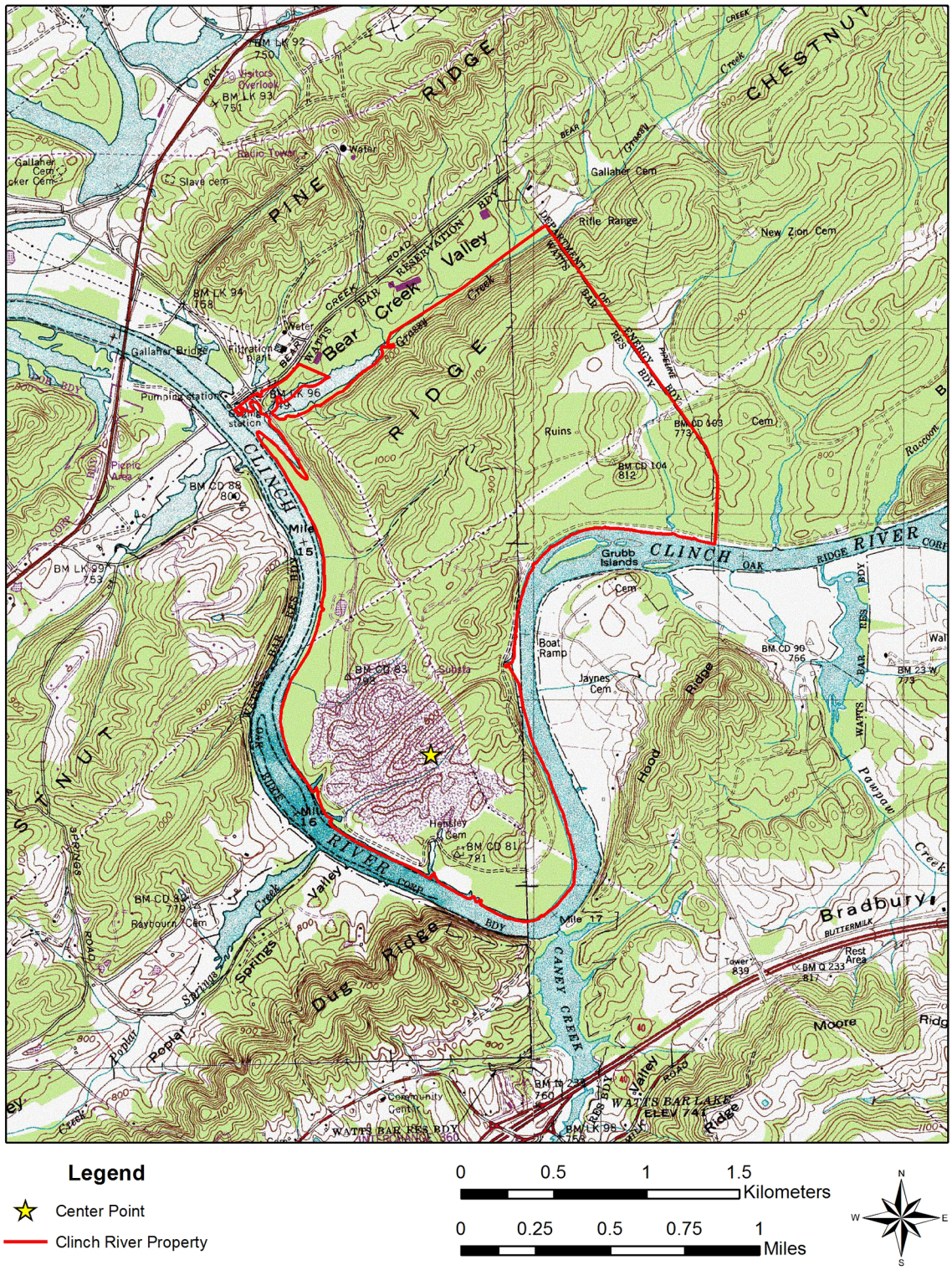
Table 2.1-7
2010 Population Distribution in the Low-Population Zone

Direction	0–1 (mi)	1–2 (mi)	0–2 (mi)
N	0	0	0
NNE	0	0	0
NE	5	0	5
ENE	8	8	16
E	7	13	20
ESE	6	37	43
SE	8	40	48
SSE	7	57	64
S	12	27	39
SSW	13	29	42
SW	12	49	61
WSW	15	65	80
W	17	102	119
WNW	20	85	105
NW	19	24	43
NNW	0	1	1
Totals	**149**	**537**	**686**



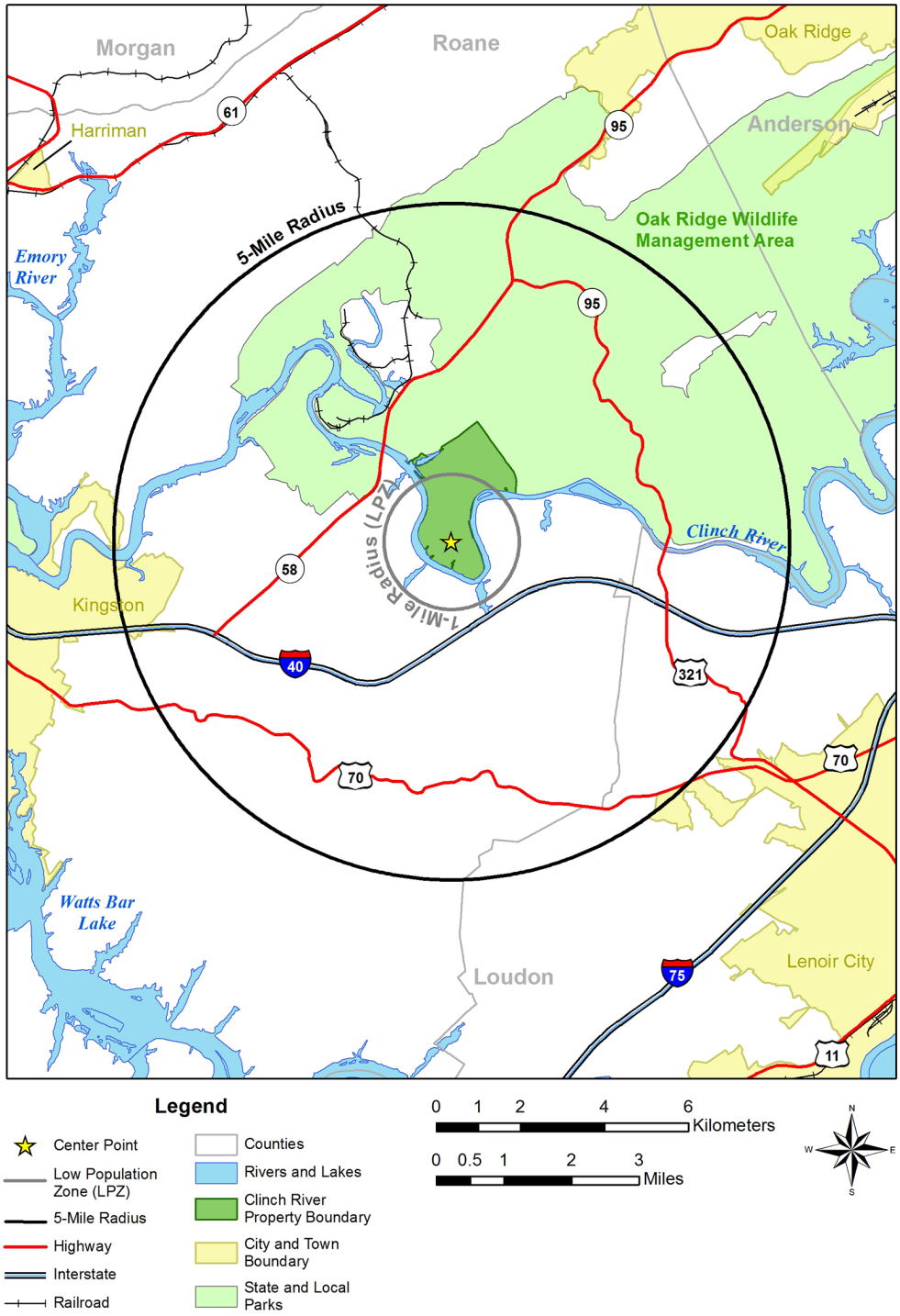
Source: Reference 2.1-12

Figure 2.1-1. Site Map



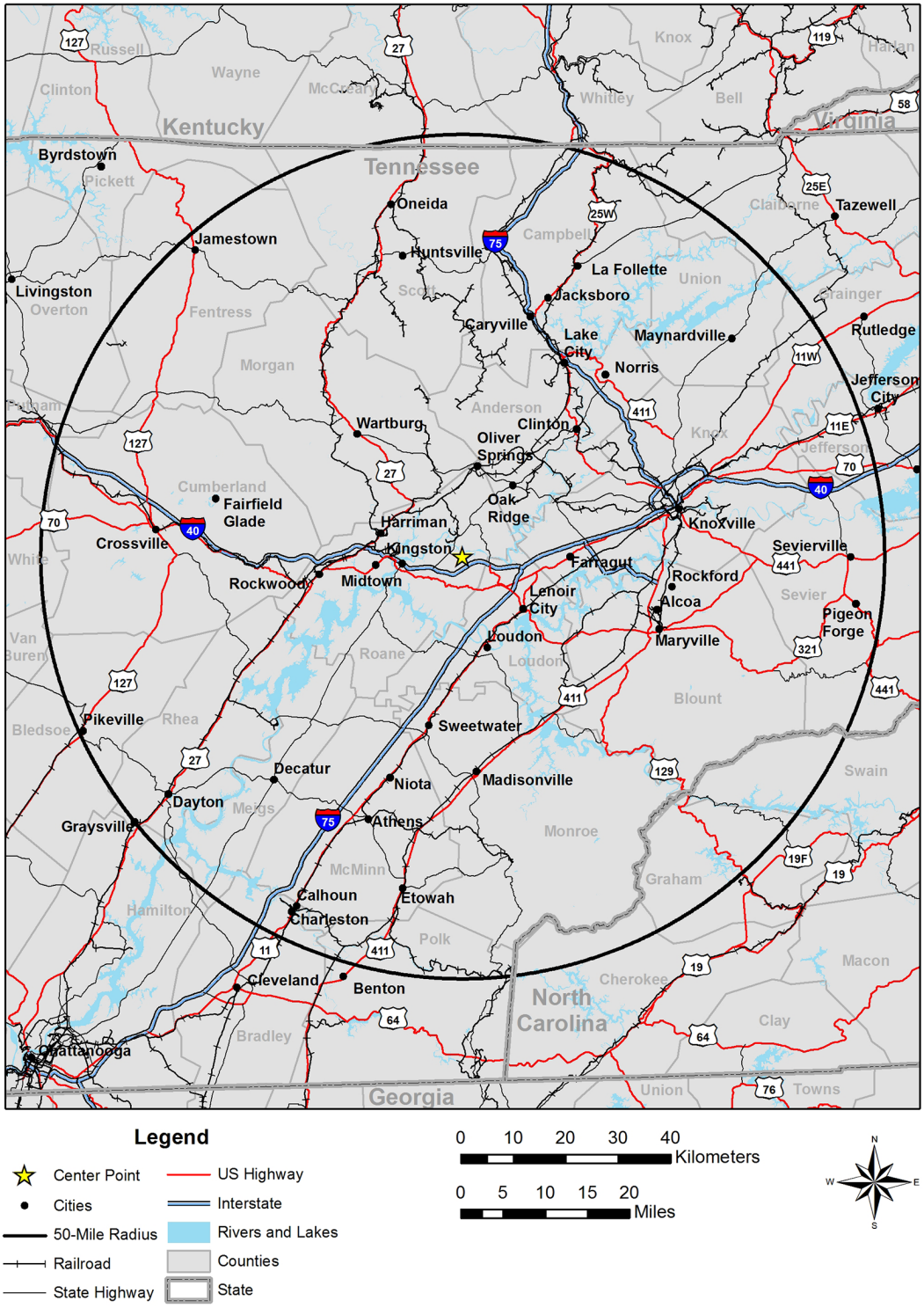
Source: Reference 2.1-12

Figure 2.1-2. Topographic Map



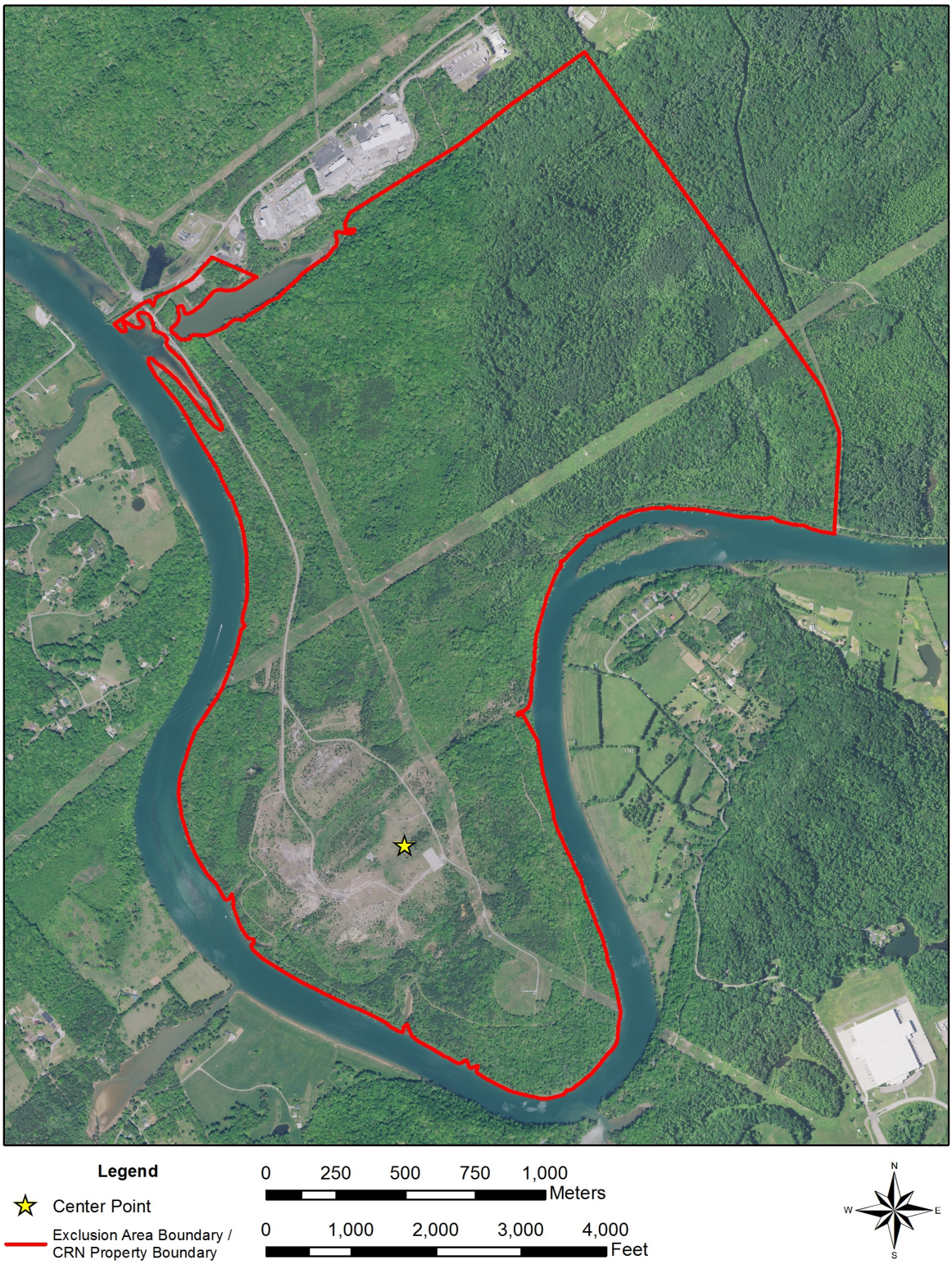
Source: Reference 2.1-13

Figure 2.1-3. Vicinity Map



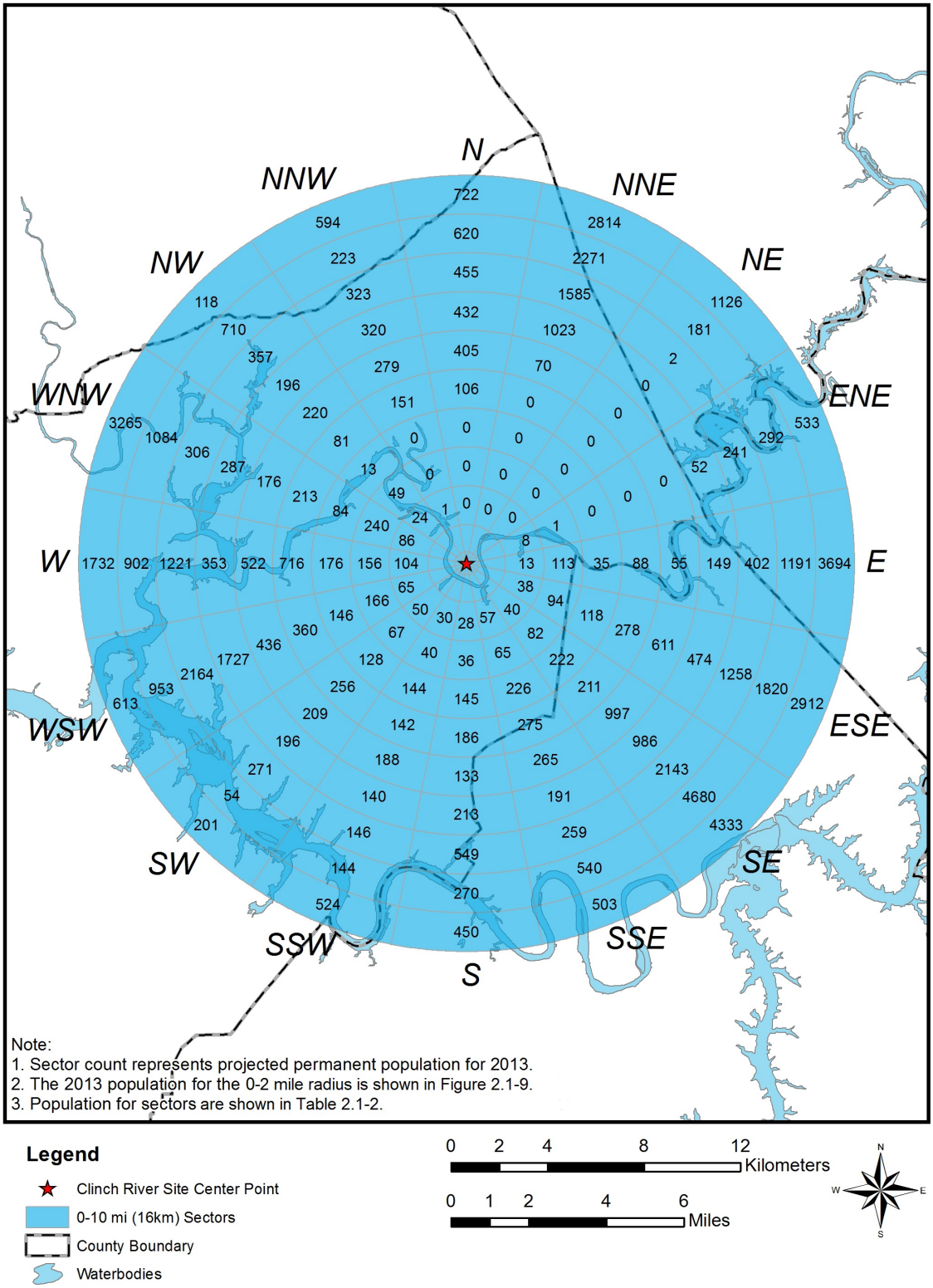
Source: Reference 2.1-13

Figure 2.1-4. 50-Mile Region



Source: Reference 2.1-12

Figure 2.1-5. Exclusion Area Boundary



Note:
1. Sector count represents projected permanent population for 2013.
2. The 2013 population for the 0-2 mile radius is shown in Figure 2.1-9.
3. Population for sectors are shown in Table 2.1-2.

Figure 2.1-6. 0–10 Mile Population Sector Map

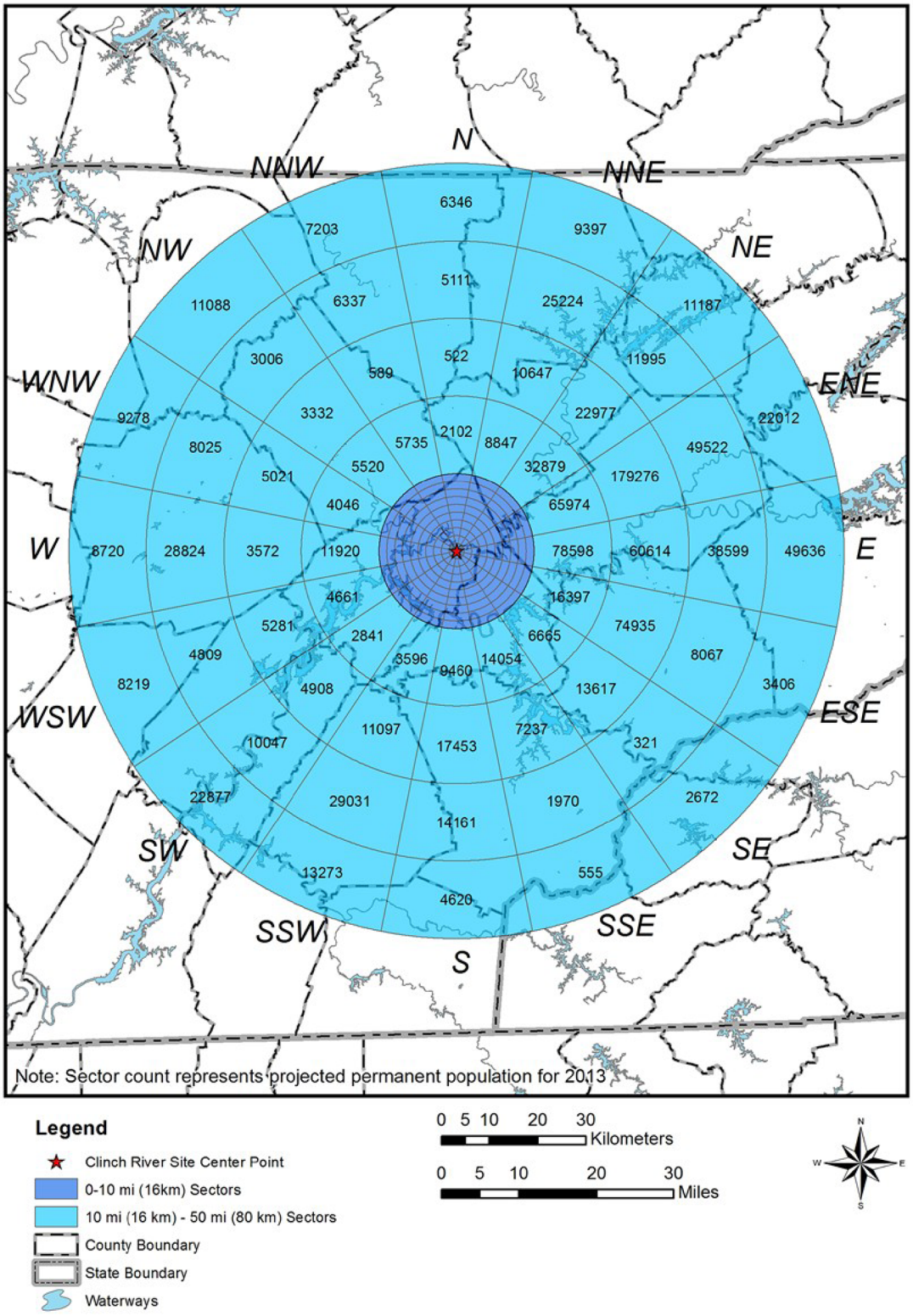


Figure 2.1-7. 10–50 Mile Population Sector Map

500 People per Square Mile Base Curve Year 2021

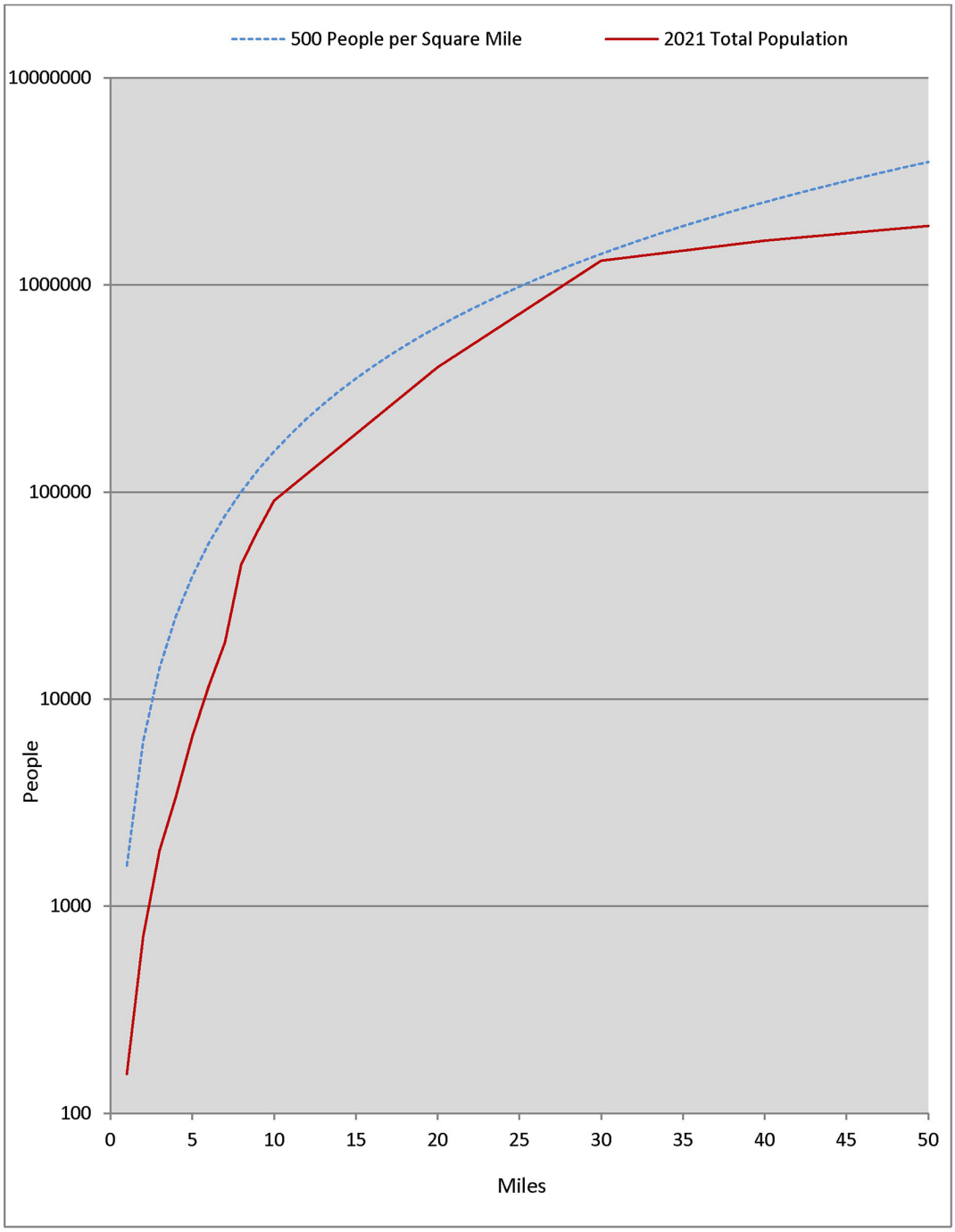


Figure 2.1-8. (Sheet 1 of 3) Population Density Graph

500 People per Square Mile Base Curve Year 2027

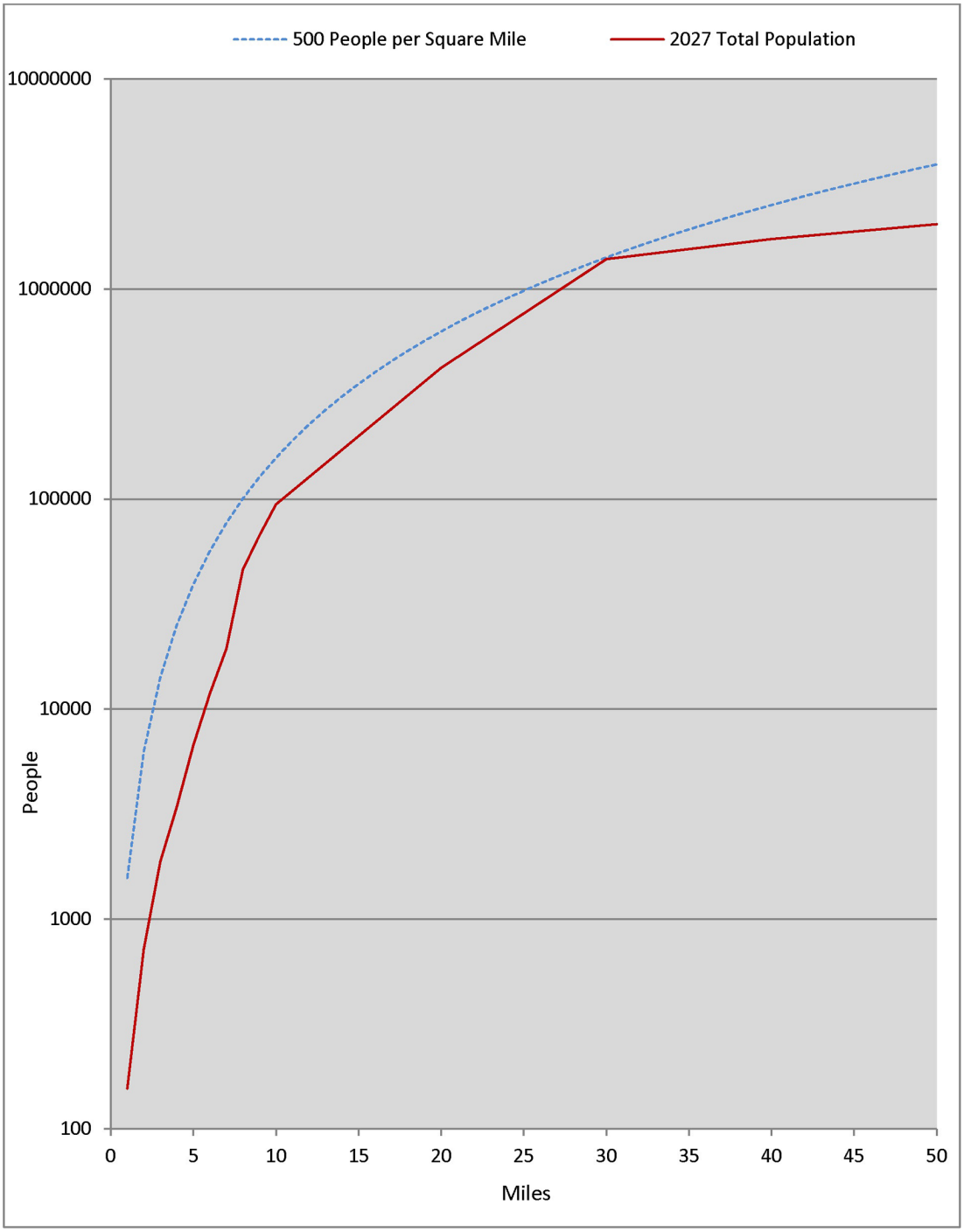


Figure 2.1-8. (Sheet 2 of 3) Population Density Graph

500 People per Square Mile Base Curve Year 2067

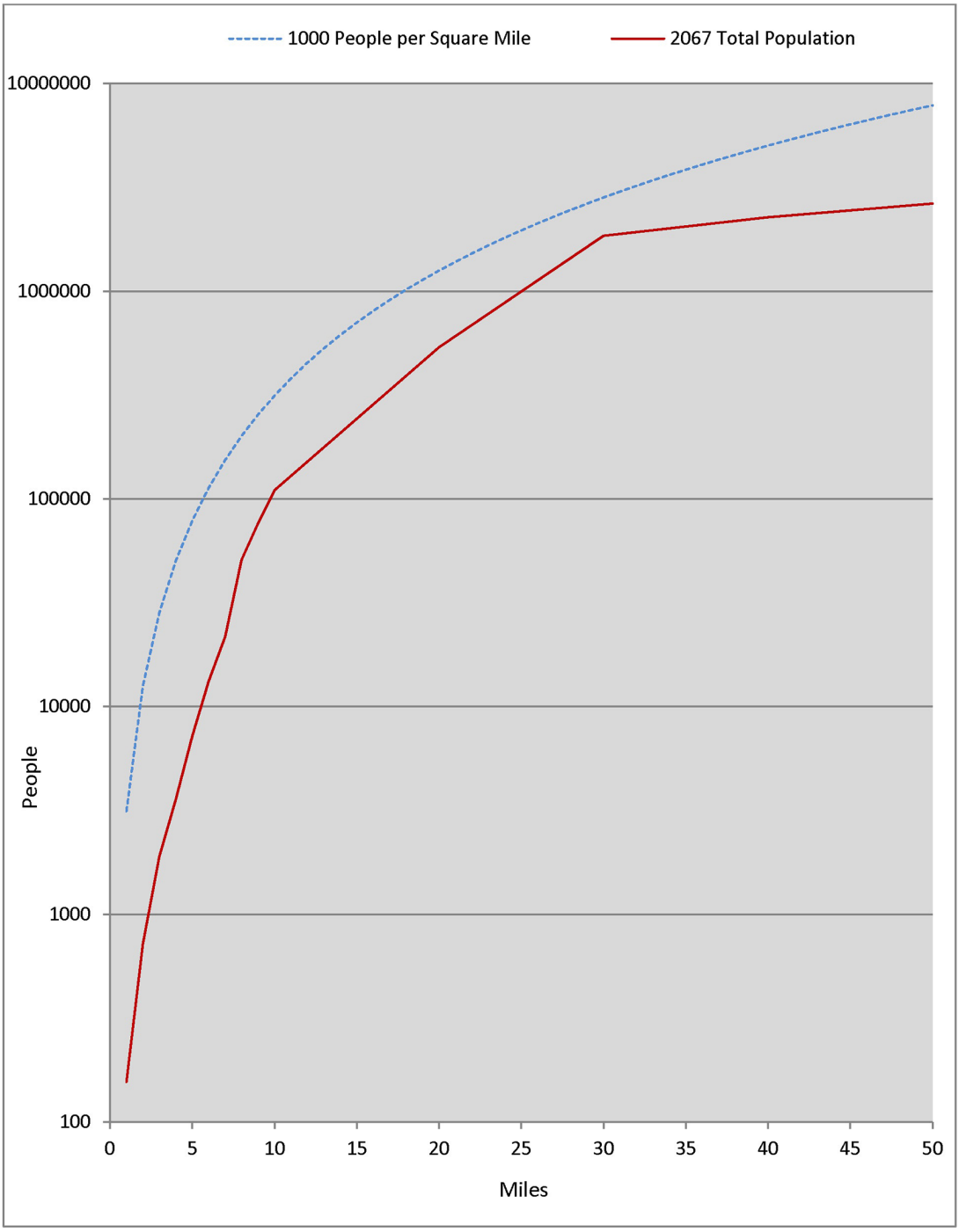


Figure 2.1-8. (Sheet 3 of 3) Population Density Graph

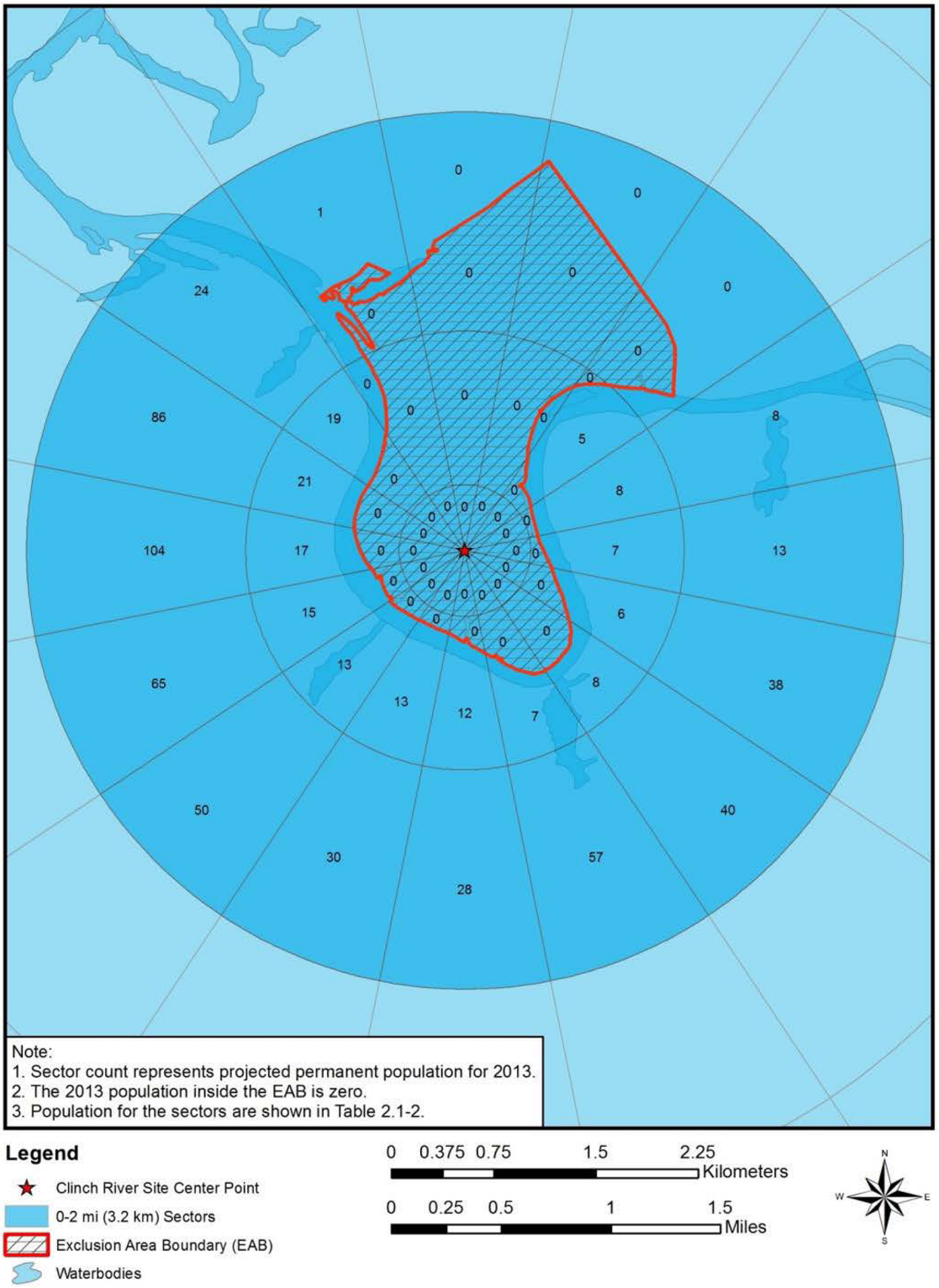


Figure 2.1-9. 0–2 Mile Population Sector Map