SECTION 2.1
GEOGRAPHY AND DEMOGRAPHY

TABLE OF CONTENTS

Section	Title	Page
2.1	GEOGRAPHY AND DEMOGRAPHY	2.1-1
2.1.1	SITE AND LOCATION DESCRIPTION	2.1-1
2.1.1.1	Site Location	2.1-1
2.1.1.2	Site Description	2.1-2
2.1.1.3	Boundary for Establishing Effluent Release Limits	2.1-3
2.1.2	EXCLUSION AREA AUTHORITY AND CONTROL	2.1-3
2.1.2.1	Authority	2.1-3
2.1.2.2	Control of Activities Unrelated to Plant Operation	2.1-4
2.1.2.3	Arrangements for Traffic Control	2.1-5
2.1.3	POPULATION DISTRIBUTION	2.1-5
2.1.3.1	Resident Population Within 10 Miles	2.1-5
2.1.3.2	Resident Population Between 10 and 50 Miles	2.1-6
2.1.3.3	Transient Population	2.1-6
2.1.3.3.1	Transient Population Within 10 Miles	2.1-6
2.1.3.3.2	Transient Population Between 10 and 50 Miles	2.1-8
2.1.3.4	Low Population Zone	2.1-9
2.1.3.5	Population Center	2.1-10
2.1.3.6	Population Density	2.1-10
2.1.4	REFERENCES	2.1-11

LIST OF FIGURES

Number	Title
2.1-201	20-Mile Surrounding Area
2.1-202	10-Mile Surrounding Area
2.1-203	VCSNS Exclusion Area Boundary
2.1-204	10-Mile Surrounding Area
2.1-205	10-Mile 2000 Population Distribution
2.1-206	10-Mile 2010 Population Distribution
2.1-207	10-Mile 2020 Population Distribution
2.1-208	10-Mile 2030 Population Distribution
2.1-209	10-Mile 2040 Population Distribution
2.1-210	10-Mile 2050 Population Distribution
2.1-211	10-Mile 2060 Population Distribution
2.1-212	50-Mile Surrounding Area
2.1-213	50-Mile 2000 Population Distribution
2.1-214	50-Mile 2010 Population Distribution
2.1-215	50-Mile 2020 Population Distribution
2.1-216	50-Mile 2030 Population Distribution
2.1-217	50-Mile 2040 Population Distribution
2.1-218	50-Mile 2050 Population Distribution
2.1-219	50-Mile Radius 2060 Population Distribution
2.1-220	Population Compared to NRC Siting Criteria

2.1 GEOGRAPHY AND DEMOGRAPHY

This section of the referenced DCD is incorporated by reference with the following departure(s) and/or supplement(s).

Insert the following sections following Section 2.1 of the DCD.

VCS DEP 2.0-1

Section numbering of this section is based on Regulatory Guide 1.206 down to the X.Y.Z level, rather than following the AP1000 DCD numbering. Left-hand margin annotations indicate where DCD COL Items (VCS COL X.Y-#) have been responded to or supplementary information (VCS SUP X.Y-#) has been added.

{DEPARTURE JUSTIFICATION: Section 2.1 of the AP1000 DCD is not organized in a fashion that readily supports NRC review or applicant presentation of the required information. This administrative change is necessary to present the required information in a regulatory accepted fashion. Marginal annotations direct the reader to the proper location for the information required to be provided. This change is acceptable since it does not alter the information required to be provided.}

Insert the following at the end of DCD Subsection 2.1.1.

VCS COL 2.1-1

2.1.1 SITE AND LOCATION DESCRIPTION

2.1.1.1 Site Location

VCSNS is located in Fairfield County, South Carolina, approximately 15 miles west of the county seat of Winnsboro and 26 miles northwest of Columbia, the state capital, as shown in Figure 2.1-201. Units 2 and 3 are located within the VCSNS site as shown in Figure 2.1-201. Unit 2 is located approximately 4615 feet south-southwest from the center of the Unit 1 containment building. Unit 3 is located approximately 900 feet south-southwest of Unit 2. The coordinates of the center of the containment buildings for Units 2 and 3 are provided below:

Unit	SC State Plane (NAD 83) (Feet)	UTM Zone 17N (84 W TO 78 W) (Meters)	Latitude/Longitude (Deg/Min/Sec)
2	N 892,742.50 E 1,903,286.39	N/S 3,793,982.323 E/W 470,529.004	N 34 17 11.81100 W 81 19 12.75308
3	N 891,908.03 E 1,902,949.24	N/S 3,793,728.043 E/W 470,426.253	N 34 17 03.54504 W 81 19 16.74066

The Broad River, which is located approximately 4,460 feet west of Units 2 and 3, flows in a southeast direction and serves as the boundary between Fairfield County (to the east) and Newberry County (to the west). Lake Murray, a 50,000-

acre reservoir used for hydroelectric power generation and recreation, is located 12 miles south of the site as shown in Figure 2.1-201.

Fairfield County includes the incorporated towns of Ridgeway and Winnsboro; Richland County includes the incorporated town of Blythewood. None of the towns are within 10 miles of the site. According to the 2000 census survey, Chapin, in Lexington County, which has a population of 628, is the largest community within 10 miles of VCSNS (Reference 209). Figure 2.1-202 shows the location of the VCSNS site and localities surrounding the site within 10 miles. Access to the site is via I-26 and SC 215 to County Road 311. The Norfolk Southern Railroad runs along the east bank of the Broad River and lies approximately 4,320 feet west of Unit 2; just outside the site boundary.

Regionally, as indicated in Figure 2.1-201 and Figure 2.1-212, the site is approximately 26 miles northwest of Columbia, South Carolina, 80 miles southeast of Greenville, South Carolina, 90 miles south-southwest of Charlotte, North Carolina, and 75 miles northeast of Augusta, Georgia. The nearest Interstate highway, I-26 connecting Columbia, South Carolina with Spartanburg, South Carolina, is located approximately 8 miles south of the VCSNS site.

2.1.1.2 Site Description

VCSNS is located within the Piedmont region; an area of gently rolling to hilly terrain with relatively broad stream valleys. The site is situated on the southern shore of the Monticello Reservoir (Figure 2.1-201), a 6,800-acre man-made reservoir that includes a 300-acre recreational impoundment at the north end of the reservoir (Monticello Sub-Impoundment).

The Broad River originates on the eastern slope of the Blue Ridge Mountains near Lake Lure, North Carolina, and flows 220 miles southeast into South Carolina before joining the Saluda River at Columbia, South Carolina, to form the Congaree River. This reach of the Broad River, impounded for a small, run-of-the-river hydroelectric plant, Parr Hydro, in 1914; is known as Parr Reservoir. Originally 1,850 acres, the Parr Reservoir was enlarged to approximately 4,400 acres in 1977 by raising the level of the dam by 9 feet. This modification was necessary to support the development of the Fairfield Pumped Storage Facility, which was built on Frees Creek, a small tributary of the Broad River. The Monticello Reservoir serves as the upper pool for the Fairfield Pumped Storage Facility, as well as the cooling water source for all three VCSNS units (Reference 204).

The combined Exclusion Area Boundary (EAB) covers approximately 2,600 acres and is shown in Figure 2.1-203. The combined exclusion area consists of an area within approximately 1 mile of the Unit 1 containment which converges with the circular area located 3390 feet from the centroid between the Units 2 and 3 containments This area encompasses parts of the Monticello Reservoir and the Fairfield Pumped Storage Facility. SCE&G owns all land within the combined EAB, which also serves as the site boundary. For purposes related to the

operation of the nuclear facilities the plant property line is considered to coincide with the site boundary.

There are no commercial, industrial, institutional, recreational, or residential structures within the site area (Reference 203).

2.1.1.3 Boundary for Establishing Effluent Release Limits

As discussed in Section 2.1.1.2, a combined EAB has been established with Unit 1 as shown on Figure 2.1-203. There are no residents in this exclusion area.

For the purposes of representing airborne doses attributable to hypothetical accident and normal releases from Units 2 and 3, a dose evaluation periphery has been used and is also shown on Figure 2.3-221. As shown on that figure, the EAB and the dose evaluation periphery coincide in the southern sectors. The dose evaluation periphery as shown in Figure 2.3-221 is a 3,390-foot circle centered between Units 2 and 3, and 2,640 feet from the power block area.

The 10 CFR 20 liquid effluent release limits for Units 2 and 3 apply at the point of dilution in the blowdown discharge line; the liquid radwaste discharge is injected into the blowdown discharge line at a point within the EAB.

All areas outside the combined EAB would be unrestricted areas in the context of 10 CFR 20.

Additionally, the guidelines provided in 10 CFR 50, Appendix I for radiation exposures to meet the criterion “as low as reasonably achievable” would be applied at the exclusion area boundary.

2.1.2 EXCLUSION AREA AUTHORITY AND CONTROL

2.1.2.1 Authority

The combined exclusion area ownership percentages vary for the singular EABs of Unit 1 and for Units 2 and 3. Within the 1-mile exclusion area of Unit 1, SCE&G has property ownership of 66 2/3 percent and the South Carolina Public Service Authority (Santee Cooper) has ownership of 33 1/3%. For the half-mile Units 2 and 3 exclusion area, SCE&G has ownership of 55%, while Santee Cooper has 45% ownership. The overlap area for the exclusion areas of Units 2 and 3 and Unit 1 will fall under the ownership arrangement established for Unit 1. All mineral rights and easements associated with the property are under the ownership of SCE&G or Santee Cooper, with the exception of one power distribution easement in the Unit 1 EAB that was provided to Duke Energy. Pursuant to the VCSNS owner’s agreement authorizing the development, construction, licensing, and operation of additional generating units, SCE&G, for itself and as agent for the co-owners, retains complete authority to regulate any and all access and activity within the entire site combined EAB (Reference 203).

The VCSNS combined EAB will not be traversed by other than wholly owned land accesses. The closest primary public road, SC 215, lies approximately 6,800 feet east of the Unit 1 reactor building and is outside of the combined EAB. There are no residents living within the combined EAB.

The Broad River is approximately 4,460 feet west of the Unit 2 containment and is outside of the combined exclusion area. The closest railroad not owned by SCE&G and Santee Cooper lies approximately 4320 feet to the west of Units 2 and 3 on the outside edge of the combined EAB. The southern portion of the Monticello Reservoir lies within the combined EAB. The portion of the combined EAB traversing the Monticello Reservoir is implanted with floating bottom-moored buoys supporting “Nuclear Exclusion Area” signs.

A 68-foot right-of-way has been granted through the combined EAB for a 115kV transmission line owned by Duke Energy. Terms of this agreement provide for SCE&G to retain authority to determine all activities within the exclusion area.

SCE&G owns and maintains railroad facilities within the combined EAB as shown in Figure 2.1-203. These facilities are used for receipt and shipment of carload freight to and from the VCSNS site in accordance with an agreement between Norfolk Southern and SCE&G. SCE&G is the sole authority for control and operation of these rail facilities. (Reference 203)

2.1.2.2 Control of Activities Unrelated to Plant Operation

The Fairfield Pumped Storage Facility, shown in Figure 2.1-203, is the only area within the site combined EAB in which activities unrelated to plant operation occur. Personnel of this facility are limited to employees of SCE&G and, therefore, are subject to administrative controls of the company. The pumped storage facility is staffed by approximately 24 people during the day-shift. This number may increase to 34 individuals in the future. The night/weekend-shift has two operators for each shift, except for shift changes, when there are four operators. The emergency plan provides for notifying any personnel working at the Fairfield Pumped Storage Facility concerning the proper actions to be taken and evacuation instructions in the event of an emergency. The estimated time to evacuate all personnel from this facility is 10 minutes if the pumped storage facility is not running and 20 minutes if the pumped storage facility must be shut down (Reference 203).

SCE&G and Santee Cooper own all property within the combined EAB and have the authority to determine all activities, including exclusion or removal of personnel and property from the area.

SCE&G and Santee Cooper maintain the right to limit access to and control evacuation from the site combined EAB.

2.1.2.3 Arrangements for Traffic Control

No land traffic control is necessary since no state or county roads, or railways traverse the Units 2 and 3 combined EAB. The EAB bottom-moored buoys, which are described in Subsection 2.1.2.1, are used to control recreational water traffic on the Monticello Reservoir.

2.1.3 POPULATION DISTRIBUTION

The population surrounding the VCSNS site, within a 50-mile radius, was estimated based on the most recent U.S. Census Bureau decennial census data (Reference 210). The population distribution is estimated in 10 concentric bands at 0 to 1 mile, 1 to 2 miles, 2 to 3 miles, 3 to 4 miles, 4 to 5 miles, 5 to 10 miles, 10 to 20 miles, 20 to 30 miles, 30 to 40 miles, and 40 to 50 miles from Units 2 and 3, and 16 directional sectors, each direction consisting of 22.5 degrees. The populations for years 2010 through 2060 have been projected by calculating a growth rate using state population projections (by county) as the base (References 202 and 206).

2.1.3.1 Resident Population Within 10 Miles

Figure 2.1-204 shows the general locations of the municipalities and other features within 10 miles of the VCSNS site. According to the 2000 census, Chapin, which had a 2000 population of 628, is the largest community within 10 miles of the site. Other towns within the 10-mile radius include Little Mountain (2000 population of 255), Peak (61), and Pomaria (177) (Reference 210). Peak lies within 5 miles of the VCSNS site. The small communities of Jenkinsville and Monticello also lie within 5 miles of the VCSNS site, but population data for these communities is not included in the published census data.

The resident population distribution within 10 miles of the site was computed by overlaying the 2000 census block points data (the smallest unit of census data) on the grid shown on Figure 2.1-205, and summing the population of the census block points within each sector. SECPOP 2000, a code developed for the NRC by Sandia National Laboratories, was used to calculate population by emergency planning zone sectors (Reference 214). SECPOP uses 2000 block data from the U.S. Census Bureau and overlays it into the sectors in the annuli prescribed by the user. The 2030 population projections for each county within 50 miles of the VCSNS site were obtained from the South Carolina Budget and Control Board and the North Carolina State Data Center, and was used to calculate an exponential growth rate over 30 years. Each county growth rate 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 and in all 16 directions. Figures 2.1-205 through 2.1-211 show the resident and transient population for the year 2000 and projected populations (by decade) through the year 2060. Each figure also shows totals by direction and by radius (ring populations). The SECPOP 2000 and

transient study results produced the 10-mile radius populations for the years 2000 through 2060 (by decade) as follows:

Year	10-Mile Radius Population
2000	12,209
2010	13,311
2020	14,546
2030	15,923
2040	17,440
2050	19,141
2060	21,043

2.1.3.2 Resident Population Between 10 and 50 Miles

The 50-mile radius centered at the VCSNS site includes all or parts of 21 counties in South Carolina and one county in North Carolina. The closest population center to the site is the corporate limit of Columbia, South Carolina, measured at approximately 14.5 miles southeast of the VCSNS site (see Figure 2.1-212). Columbia's population was 116,278 in year 2000 (Reference 210). Estimates of the year 2000 resident population between 10 and 50 miles from the VCSNS site 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 2.1-212. The 50-mile population distributions for the years 2000 through 2060 (by decade) are shown on Figures 2.1-213 through 2.1-219. Totals for each year are as follows:

Year	50-Mile Radius Population
2000	1,028,075
2010	1,151,180
2020	1,295,424
2030	1,461,057
2040	1,648,935
2050	1,872,539
2060	2,131,394

2.1.3.3 Transient Population

2.1.3.3.1 Transient Population Within 10 Miles

The area within 10 miles of the site is predominantly rural and characterized by farmland and wooded tracts of land. Suburban development is prevalent south of I-26 between Little Mountain and Irmo, South Carolina. There are no population significant commercial or industrial facilities in the area other than VCSNS. Given the mostly rural setting and lack of significant commercial or industrial facilities within 10 miles of the site, the transient employment population is more likely to move out of rather than into the area. There are no operating hotels, bed and breakfast establishments, prisons, hospitals, or farms using migrant workers within 10 miles of the VCSNS site.

Recreational use is considered the primary contributor to the transient population in the area. Hunting, fishing, and boating can be experienced on three state-designated wildlife management areas located on the Broad River as well as Parr and Monticello Reservoirs (Reference 207). Six boat ramps were identified—three providing access to the river and three providing access to the two reservoirs (References 201 and 211). Camping can be experienced along the Broad River at the Enoree District of the Sumter National Forest and a private facility in Jenkinsville near the Monticello Reservoir (Reference 201). Primitive camping is also allowed at the Monticello Sub-Impoundment. There are no figures available on the use of these boat ramps or campsites. It was assumed that there are eight picnic sites in the 10-mile radius, consistent with the number of boat ramps and county parks. Forty hunters are assumed to occupy hunting sites within the 10-mile radius, including sites at the Mayo Creek and Blue Hole Hunt Clubs on the SCE&G property at VCSNS.

Given the rural setting and proximity to regionally dominant recreational opportunities beyond the 10-mile radius such as Lake Murray and the city of Columbia, it is assumed that recreating within 10 miles of the VCSNS site will be performed primarily by local residents. The South Carolina Department of Parks, Recreation, and Tourism reports that approximately 90% of participation in outdoor recreation occurs in an area close to a resident's home (Reference 208). Most of the recreational opportunities within 10 miles of the site are outdoor activities.

It was assumed that a maximum of 320 people could be recreating (hunting, fishing, boating camping, and picnicking) on the Broad River and the Parr and Monticello Reservoirs on a weekend day. This estimate is based on 120 people boating (20 people for each of the six boat ramps), 80 people camping (40 two-person campsites), 80 people picnicking (eight 10-person picnic areas), and 40 people hunting (20 two-person hunting sites). The South Carolina Department of Parks, Recreation, and Tourism identified 90% of recreators as residents, and therefore 10 percent would be transients. The percentage of transients was doubled for conservatism, resulting in 76 transients on a weekend day. This represents 20% of the 320 people recreating (64) plus 12 people generated from rounding fractions of people to whole number. The 10-mile transient population was added to the resident distribution and projected for future years (Figures 2.1-205 through 2.1-211). The baseline (2000) transient population distribution is as follows:

Radius	Direction	Number of Transients
1-2	ENE	2
1-2	S	4
2-3	NE	2
2-3	ESE	8
2-3	W	6
3-4	NE	6
3-4	NW	6
4-5	SW	1

Radius	Direction	Number of Transients
4-5	NNW	1
5-10	N	12
5-10	NNE	1
5-10	NE	2
5-10	ENE	1
5-10	E	2
5-10	ESE	1
5-10	SE	1
5-10	WSW	1
5-10	W	2
5-10	WNW	2
5-10	NW	1
5-10	NNW	14
	TOTAL	76

It was estimated that the number of people recreating within 10 miles of the VSCNS site to be 33,800 people per year, 20% of which (6,760) are assumed transients. The annual estimate is based on a maximum of 320 people recreating on each weekend day and 80 people on each weekday (1,040 people per week) during the peak season of the year. Twenty-five percent of this seasonal peak is assumed for the remaining nonpeak months (260 people per week or 6,760 people annually).

2.1.3.3.2 Transient Population Between 10 and 50 Miles

A small transient employment population is expected given the economic influence of Columbia's metropolitan area, the state government headquarters, the University of South Carolina, and Fort Jackson. The economics of the 50-mile region are mostly independent of any other large metropolitan areas with the exception of the Rock Hill area, which is a bedroom community near Charlotte, North Carolina.

Recreational use is considered the primary contributor to the transient population in the area. Cities and towns in the area include Columbia, Greenwood, Lexington, Rock Hill, Camden, Newberry, Union, Batesburg, Lancaster, and Winnsboro. Significant lakes in the area include Lake Murray, Lake Greenwood, and Lake Wateree, and rivers in the area include the Broad, Saluda, Catawba, Congaree, and Wateree. There are also 11 state parks, three state wildlife management areas, the Enoree and Long Cane Districts of the Sumter National Forest, and a national park (Congaree National Park) in the area. The University of South Carolina and Fort Jackson are both located in the city of Columbia. Each of these locations provides recreational opportunities for visitors to the area. The city of Columbia and Lake Murray provide the greatest recreational opportunity in the area.

In 2003, the state of South Carolina collected data on visitation to the Capital City/ Lake Murray Country area that indicated 2.6 million visitors spent 6.9 million

visitor days in the region annually. Of that number, 42% were from South Carolina and 44% indicated their reason for travel was business. Therefore, approximately 1.5 million visitors were from out of state and roughly 1.5 million visitors were visiting the area for reasons other than business. The top destination was the city of Columbia (83%). The top recreational activity was shopping (23%). Outdoor activities made up 14% (i.e., beach, historic places, national and state parks, outdoors, and water sports) (Reference 205).

It was conservatively estimated that a peak number of approximately 203,000 visitors could be present in the area on a summer day, possibly the Independence Day holiday, in the Capital City/Lake Murray Country area. This number was generated assuming a 50% increase in the 135,000 participants in the annual Independence Day celebration (one of the largest celebrations in South Carolina) (Reference 208). Using the 58% out-of-state visitor statistic as the transient percentage, it is estimated that the maximum number of transients on any given day in the Capital City/Lake Murray Country area is approximately 117,000 (Reference 205).

2.1.3.4 Low Population Zone

The low population zone (LPZ) for the VCSNS site is the same as the LPZ for Unit 1 and consists of the area falling within a 3-mile radius of Unit 1. Figure 2.1-204 shows the LPZ in relation to Units 1, 2, and 3.

The community of Jenkinsville lies within the LPZ, as well as portions of the Parr and Monticello Reservoirs. No industries, quarries, hospitals, schools, or prisons are known to exist within the LPZ, as determined using geographic information system data. In addition to VCSNS, Parr Hydro and Fairfield Pumped Storage Facility (both SCE&G-owned plants) lie within the LPZ.

The resident and transient population distributions within the LPZ for each decade from 2000 through 2060 are shown on Figures 2.1-205 through 2.1-211. Because it is centered on Unit 1, the population sectors are offset from the LPZ. Although a small portion the LPZ extends into Newberry County, population projections were made using only the growth rate calculated for Fairfield County. At least 95% of the LPZ population resides in Fairfield County. Newberry County's growth rate is slightly higher than Fairfield's, but this reflects faster growing areas such as the town of Newberry. The portion of the LPZ that falls in Newberry County is rural and most likely has a similar growth rate to Fairfield County. The population within the LPZ for the years 2000 through 2060 is as follows:

Year	LPZ Population
2000	611
2010	651
2020	693
2030	739
2040	787
2050	838
2060	893

2.1.3.5 Population Center

The nearest population center to the VCSNS site with more than 25,000 residents is the city of Columbia, South Carolina, with a 2000 population of 116,278 (Reference 210). The closest point of Columbia's corporate limit to the VCSNS site was measured at approximately 14.5 miles to the southeast (Figure 2.1-212). This distance is over seven times the distance from the center of Units 2 and 3 to the closest LPZ boundary, and 4.8 times the radius of the LPZ (because the LPZ is centered on Unit 1). Both of these distances meet 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 100.11(a)(3)).

2.1.3.6 Population Density

Given a conservative startup date of 2020, and an operational period of 40 years, operations could extend until 2060. Figure 2.1-220 shows the cumulative population in year 2000 within 30 miles of the site and projected cumulative populations in years 2020 (startup date) and 2060 (end of operations). On the same figure, spanning the same radial distances, population curves are calculated for hypothetical densities of 500 people per square mile and 1,000 people per square mile.

Figure 2.1-220 demonstrates that the population density at the startup date (2020) and for approximately five years thereafter, including transients, over any radial distance out to 30 miles, would not exceed 500 people per square mile. The results conform to the guidance in Regulatory Guide 4.7, Regulatory Position C.4 (Reference 213) and NRC Review Standard RS-002 (Reference 215).

Similarly, the expected population density out to 30 miles would not exceed 1,000 people per square mile over the lifetime of Units 2 and 3 (through 2060). The results conform to the guidance in NRC Review Standard RS-002 (Reference 215) and Regulatory Guide 1.70 (Reference 212).

2.1.4 REFERENCES

201. Kingfisher Maps Inc., *South Carolinas Lake Murray and Lake Monticello*, Map 311. 2001.

202. NC State Data Center, Available at http://demog.state.nc.us/demog/pop0030.html. Accessed May 31, 2006.

203. SCE&G, *Updated Final Safety Analysis Report: Virgil C. Summer Nuclear Station, Unit 1,* 2005.

204. SCE&G, Appendix E, Applicant's Environmental Report, Operating License Renewal Stage, Virgil C. Summer Nuclear Station, Columbia, South Carolina, August 2002.

205. South Carolina Budget and Control Board, Available at www.ors2.state.sc.us/abstract/chapter 15/recreation 2b.asp. Accessed March 28, 2006.

206. South Carolina Budget and Control Board. Available at http://www.ors2.state.sc.us/population/proj2030.asp. Accessed May 31, 2006.

207. South Carolina Department of Natural Resources. Available at www.dnr.sc.gov/regs/pdf/wmas.pdf. Accessed June 5, 2006.

208. South Carolina Electric & Gas, *Initial Consultation Document Saluda Hydroelectric Project Relicensing FERC No. 516*, April 2005.

209. U.S. Census Bureau*; American Factfinder,* at www.factfinder.census.gov, Available at http://factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=cHAPIN&_cityTown=cHAPIN&_state=04000US45&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010&show_2003_tab=&redirect=Y. Accessed February 22, 2007.

210. U.S. Census Bureau, Available at http://factfinder.census.gov. Accessed May 24, 2006.

211. U. S. Forest Service, Sumter National Forest, *South Carolina, Broad River. Southern Region*, November 10, 2005.

212. U.S. NRC, Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, LWR Edition, Regulatory Guide 1.70, Revision 3, November 1978.

213. U.S. NRC, *General Site Suitability Criteria for Nuclear Power Plants,* Regulatory Guide 4.7, Revision 2, April 1998.

214. U.S. NRC, *SECPOP 2000: Sector Population, Land Fraction, and Economic Estimation Program,* August 2003.

215. U.S. NRC, *NRC Review Standard RS-002, Processing Applications for Early Site Permits,* May 3, 2004.

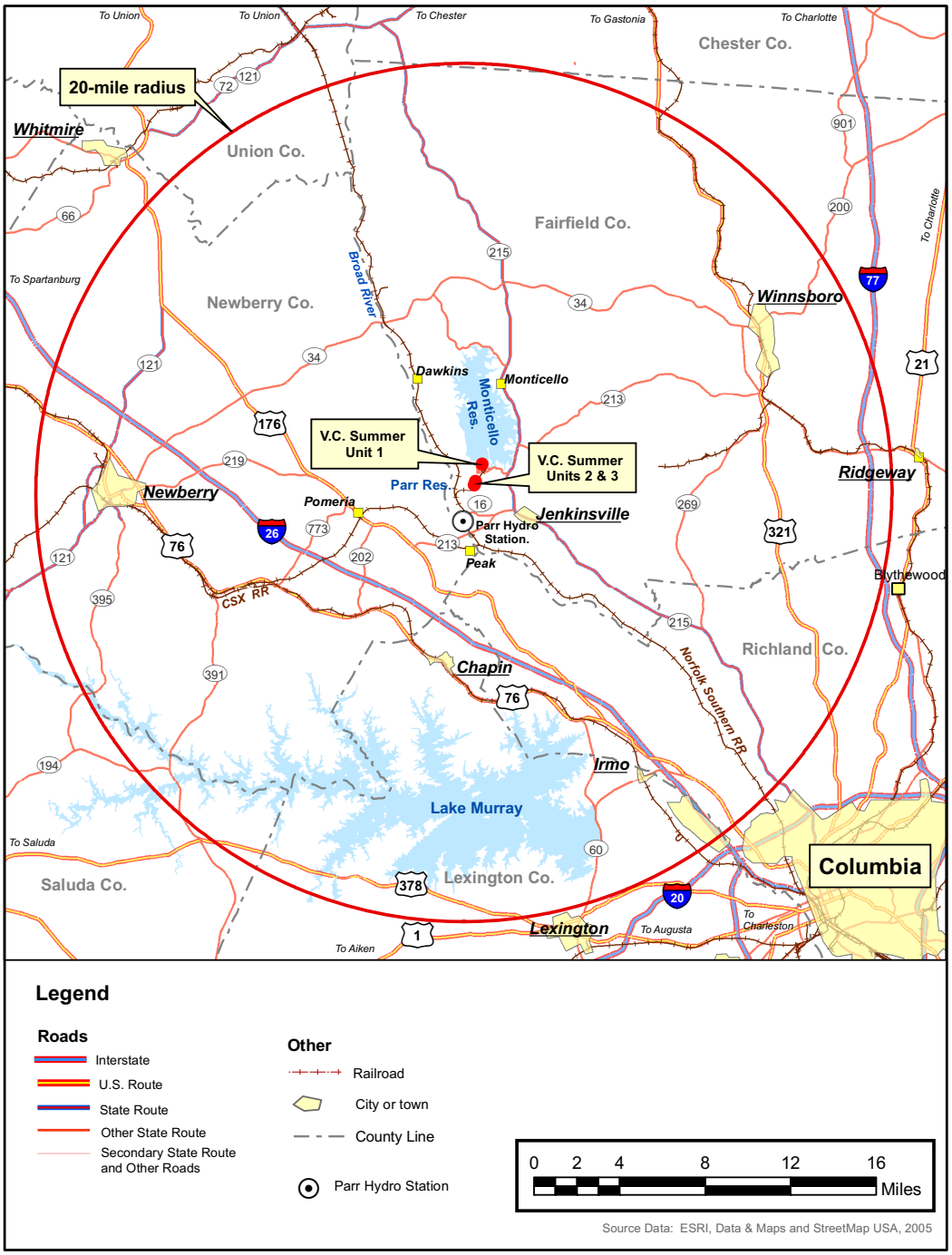

Figure 2.1-201. 20-Mile Surrounding Area

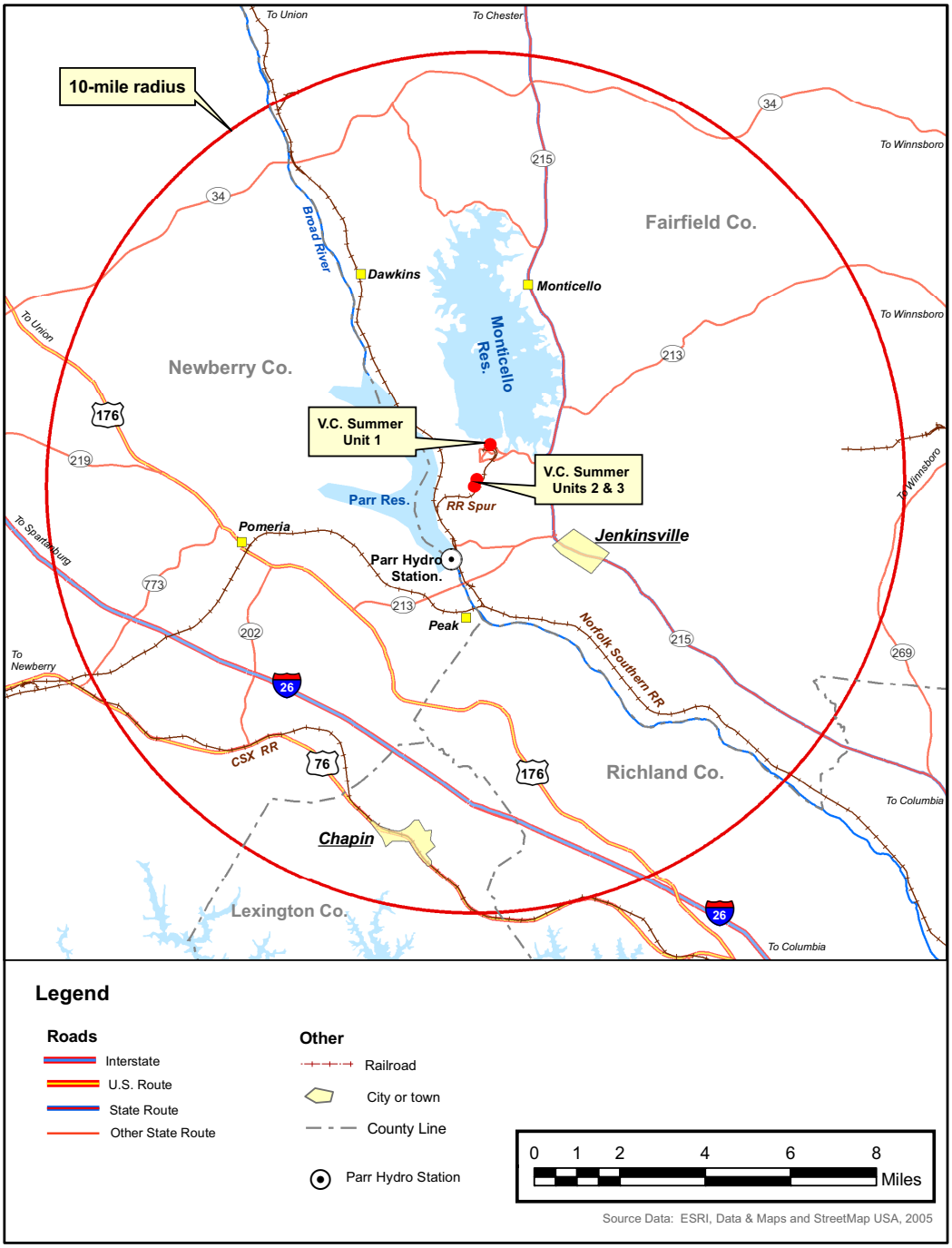

Figure 2.1-202. 10-Mile Surrounding Area

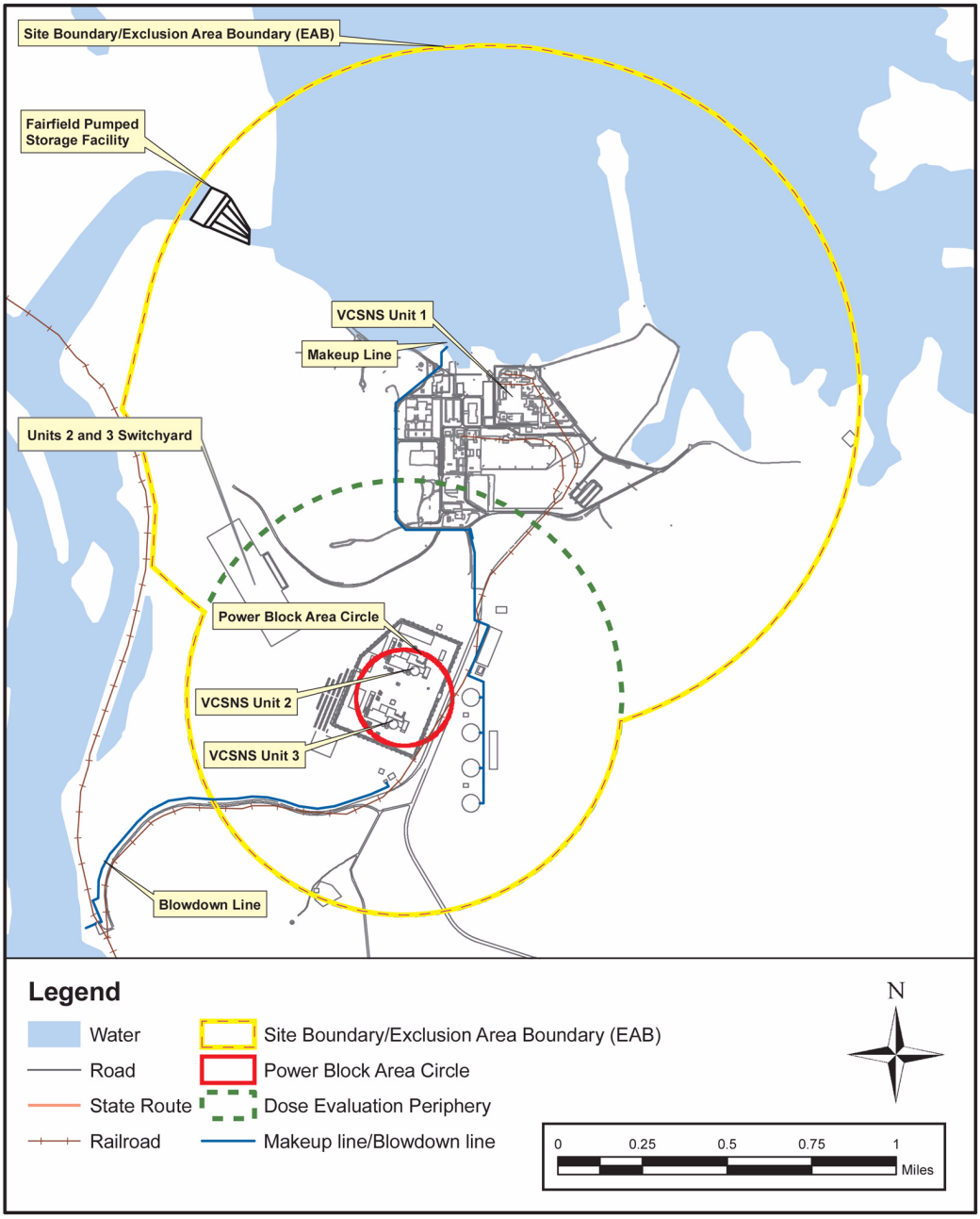

Figure 2.1-203. VCSNS Exclusion Area Boundary

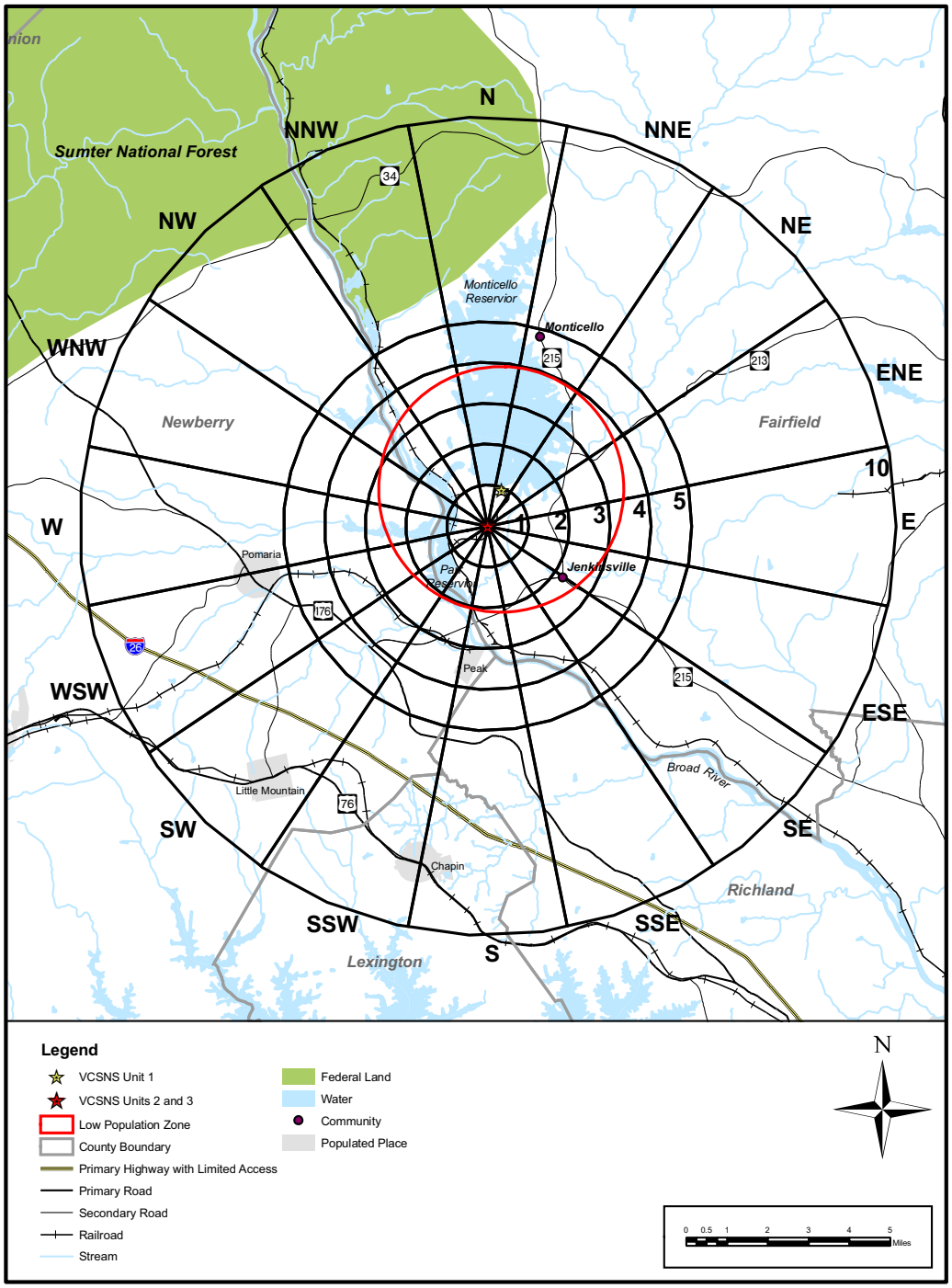

Figure 2.1-204. 10-Mile Surrounding Area

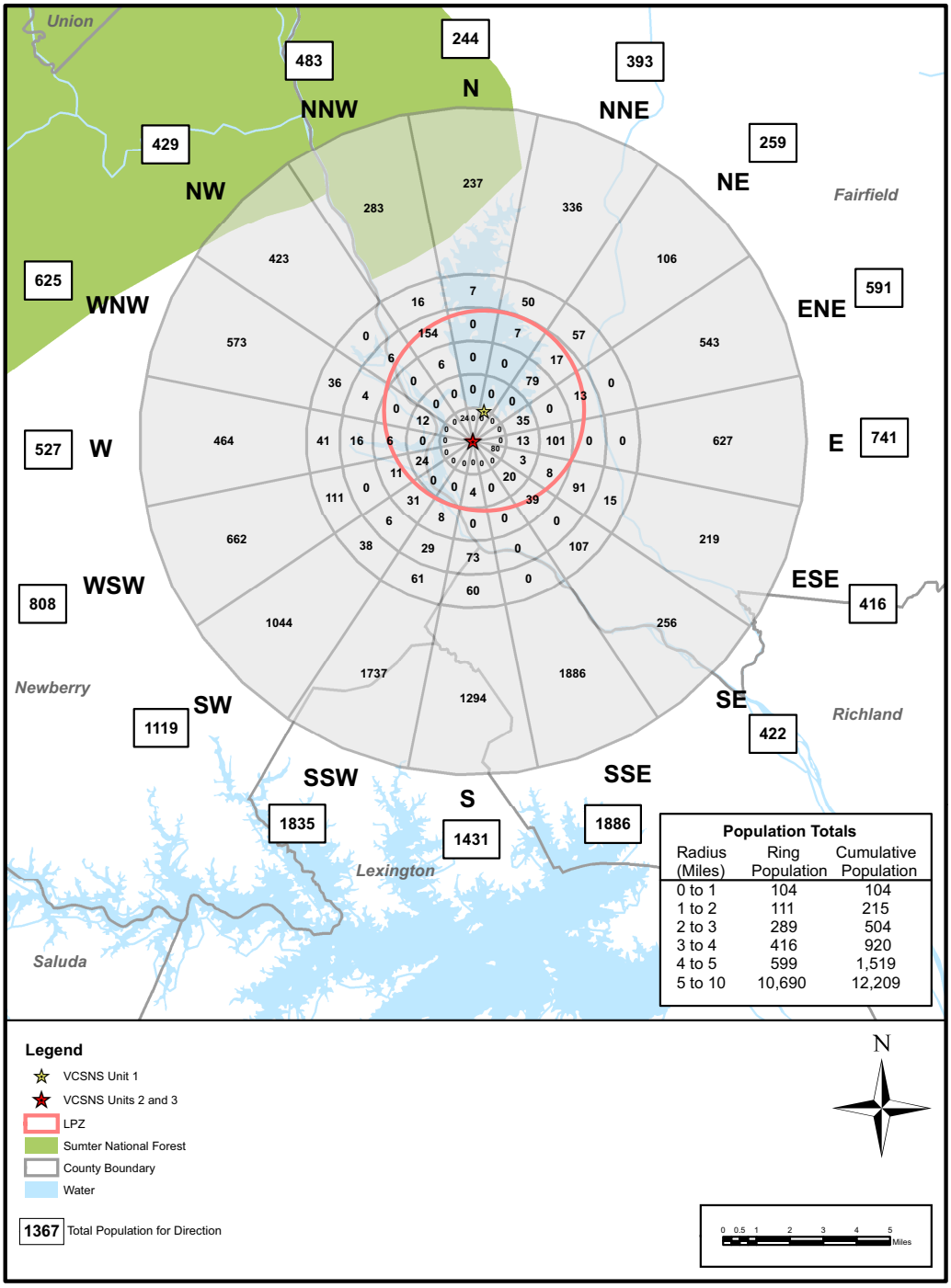

Figure 2.1-205. 10-Mile 2000 Population Distribution

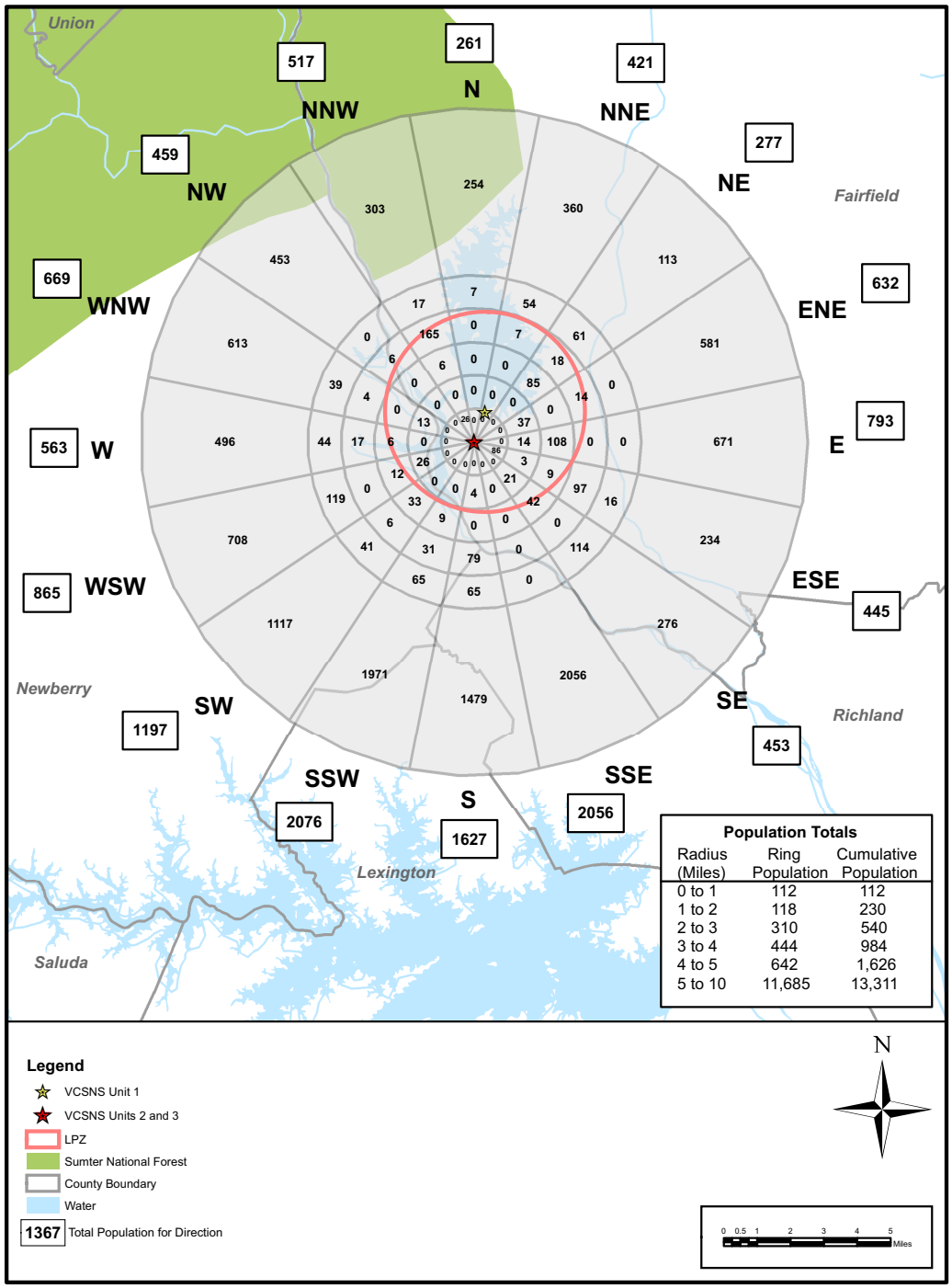

Figure 2.1-206. 10-Mile 2010 Population Distribution

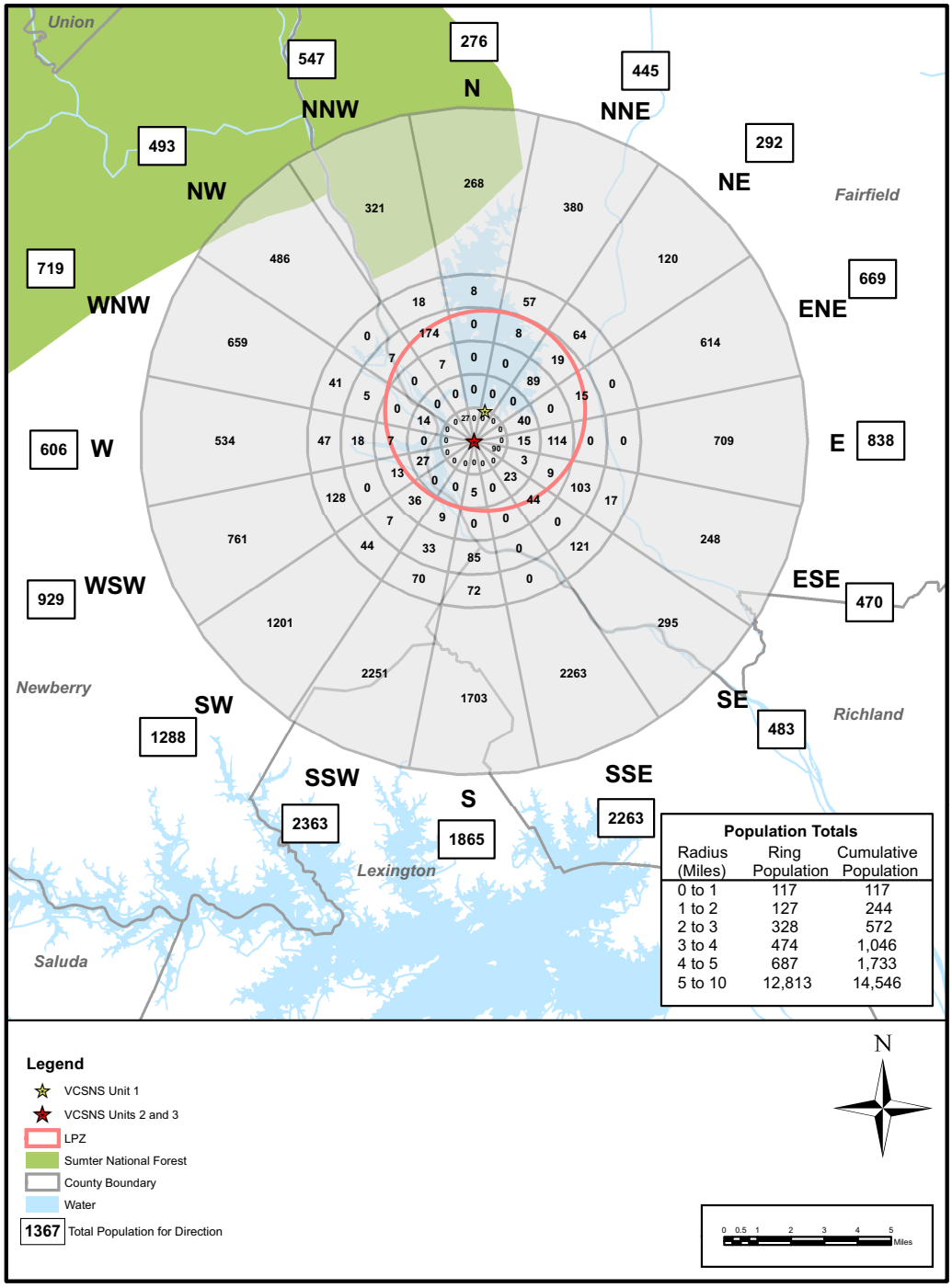

Figure 2.1-207. 10-Mile 2020 Population Distribution

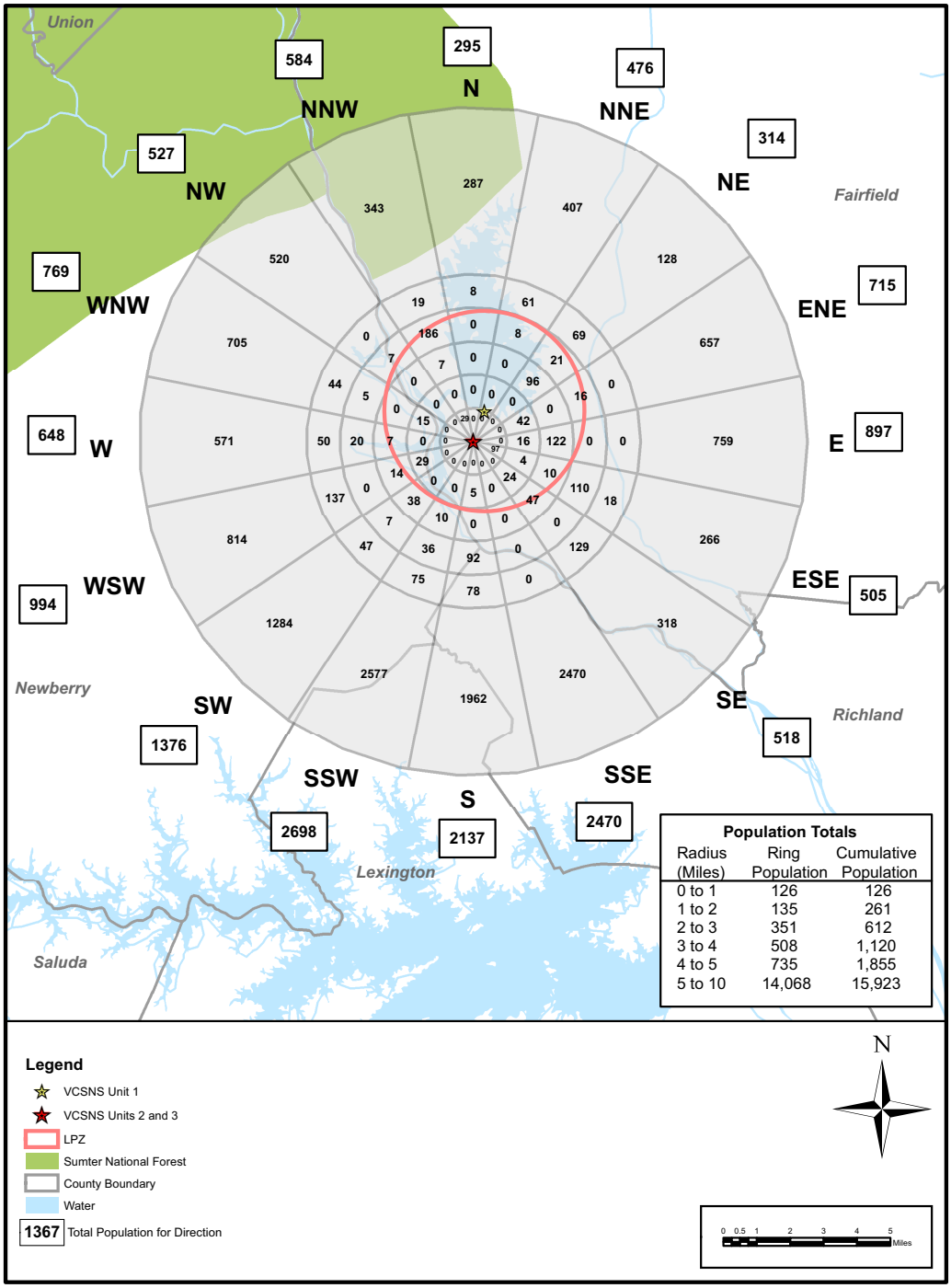

Figure 2.1-208. 10-Mile 2030 Population Distribution

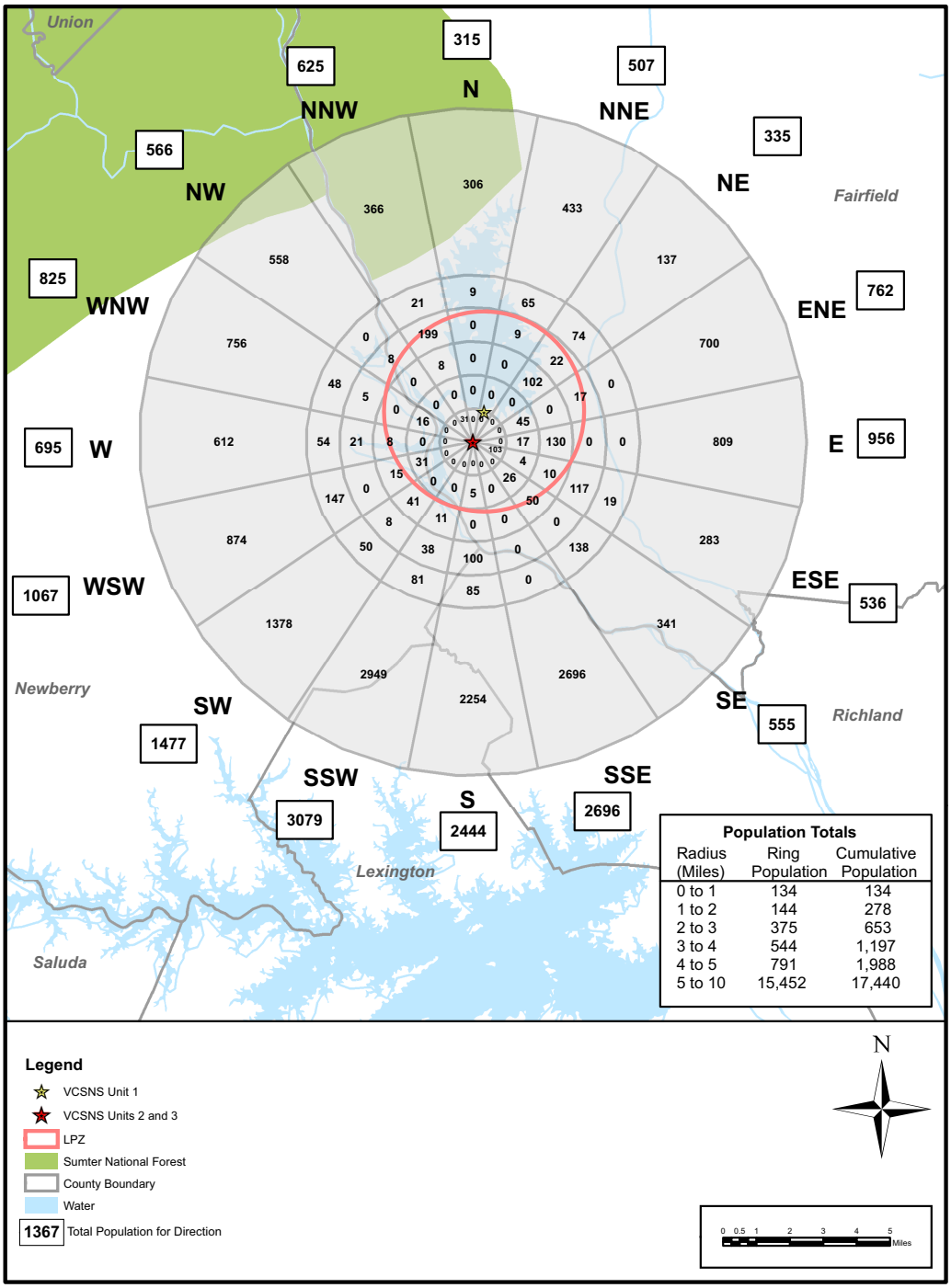

Figure 2.1-209. 10-Mile 2040 Population Distribution

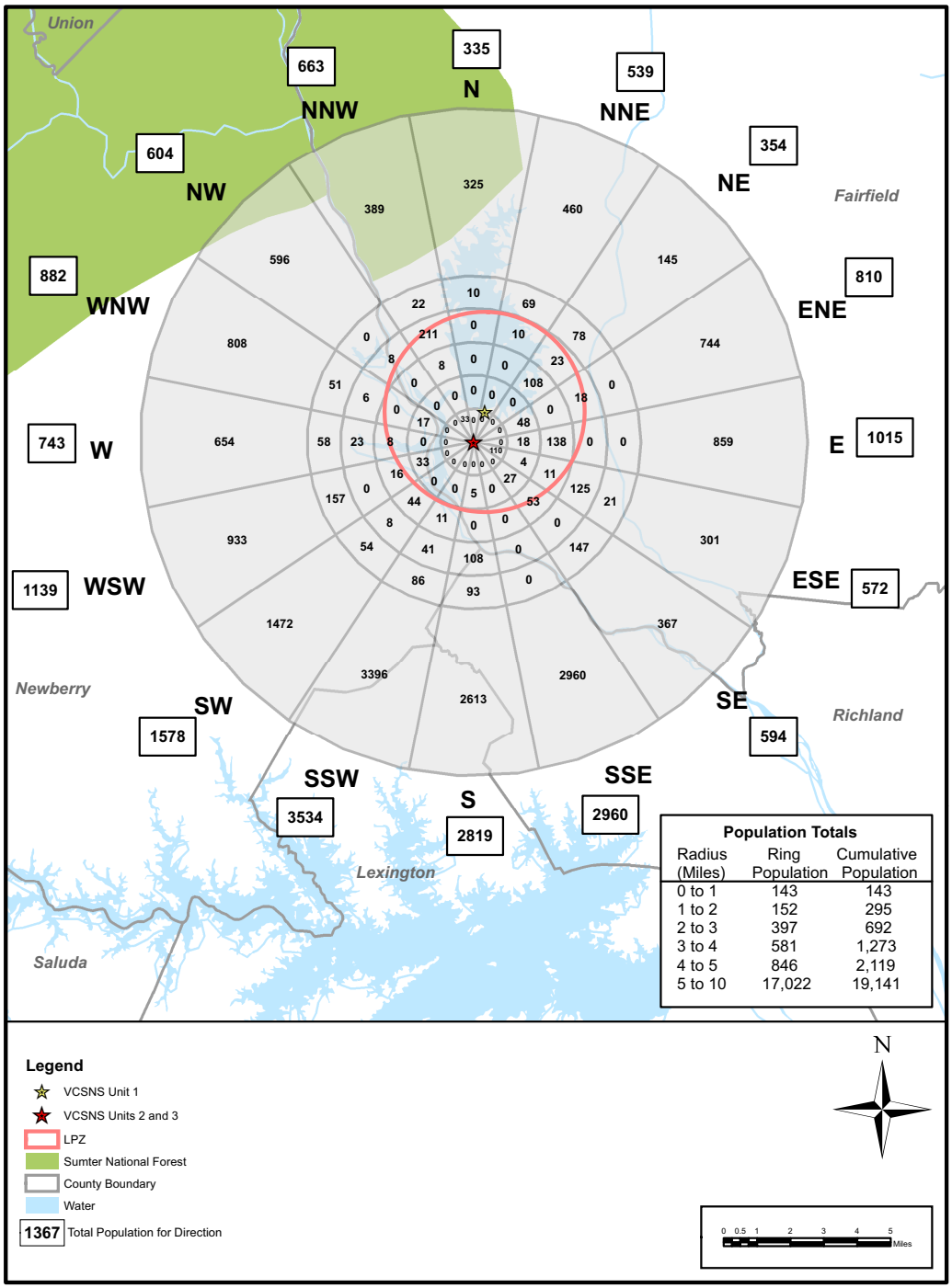

Figure 2.1-210. 10-Mile 2050 Population Distribution

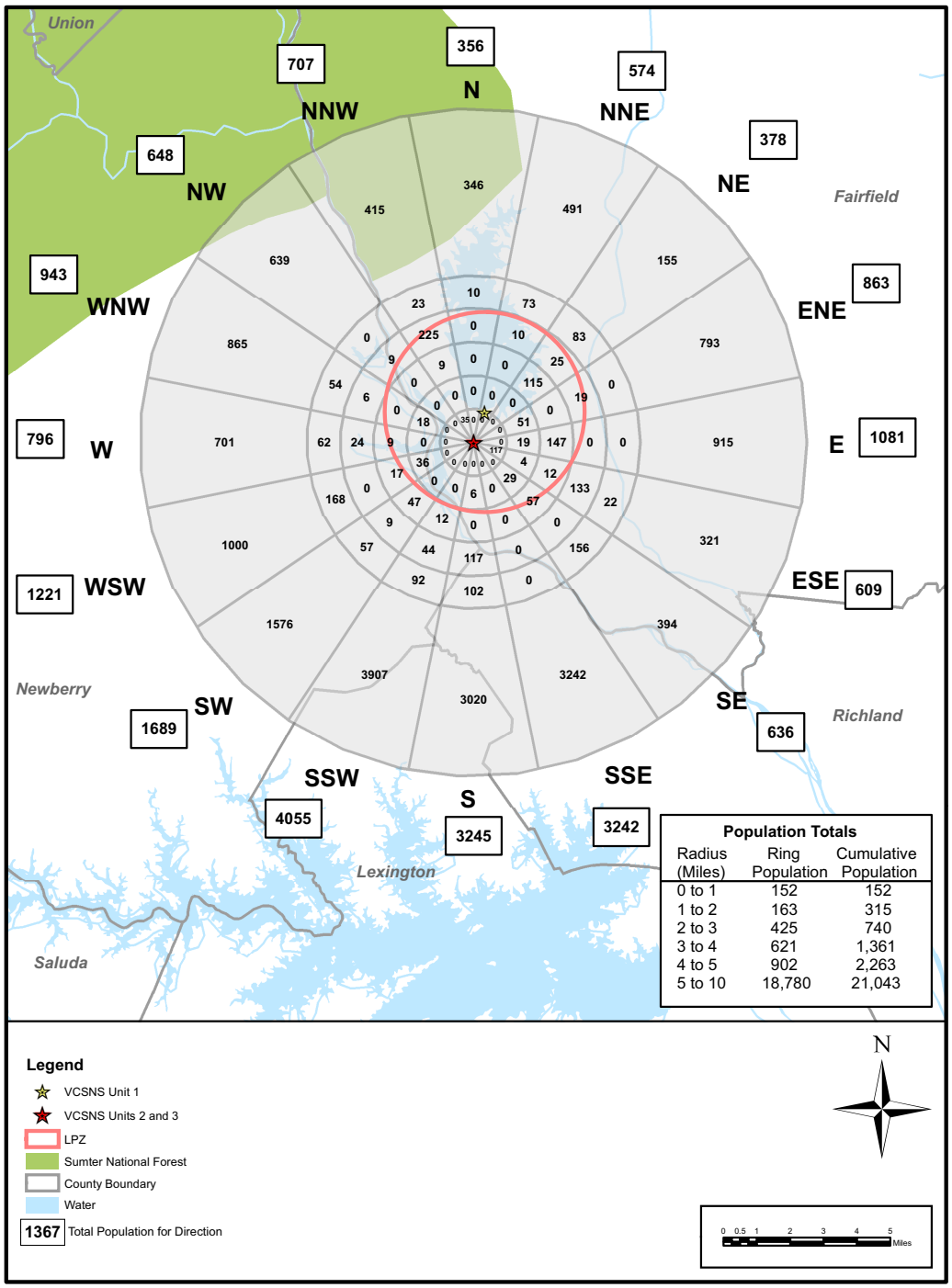

Figure 2.1-211. 10-Mile 2060 Population Distribution

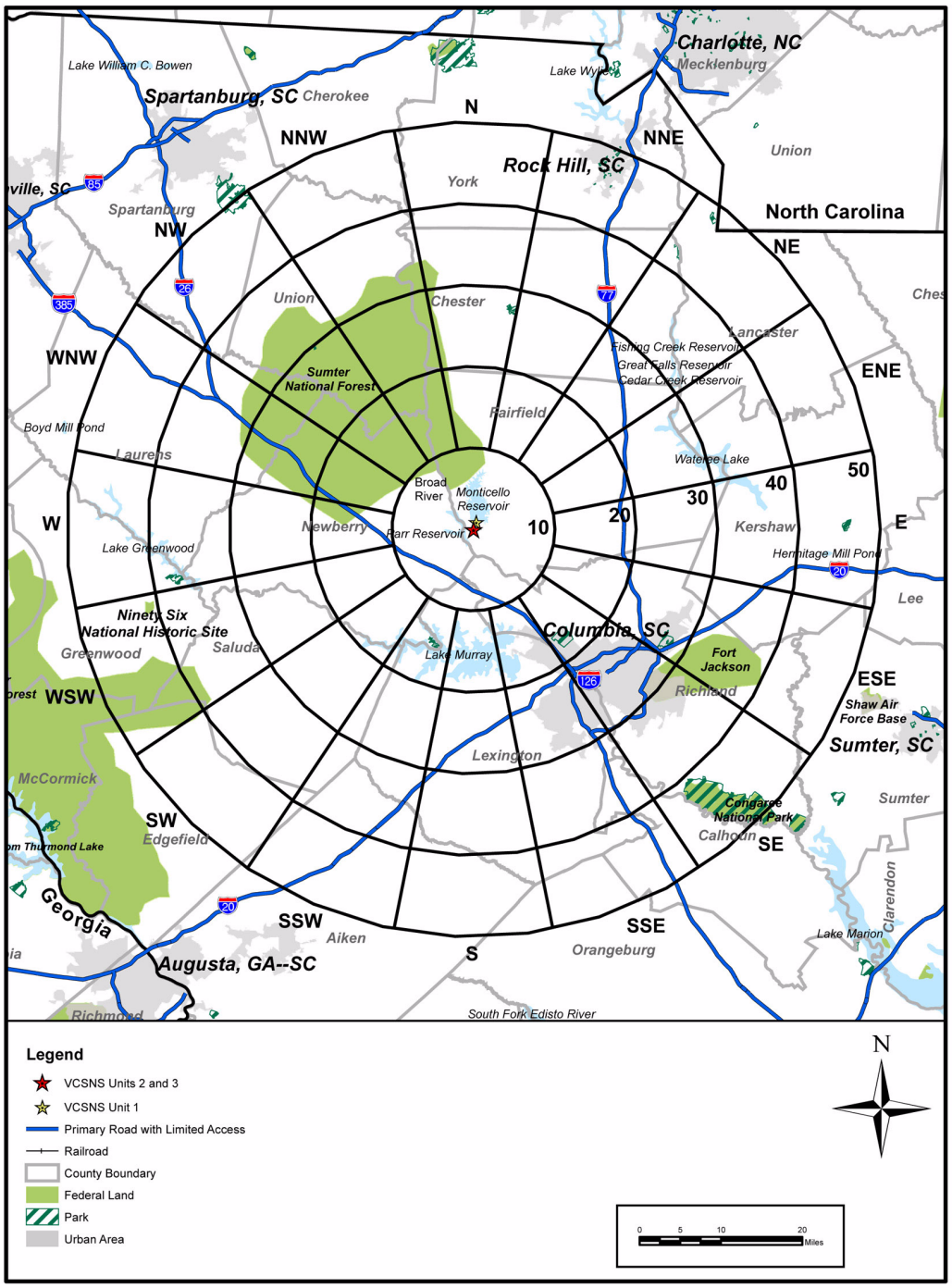

Figure 2.1-212. 50-Mile Surrounding Area

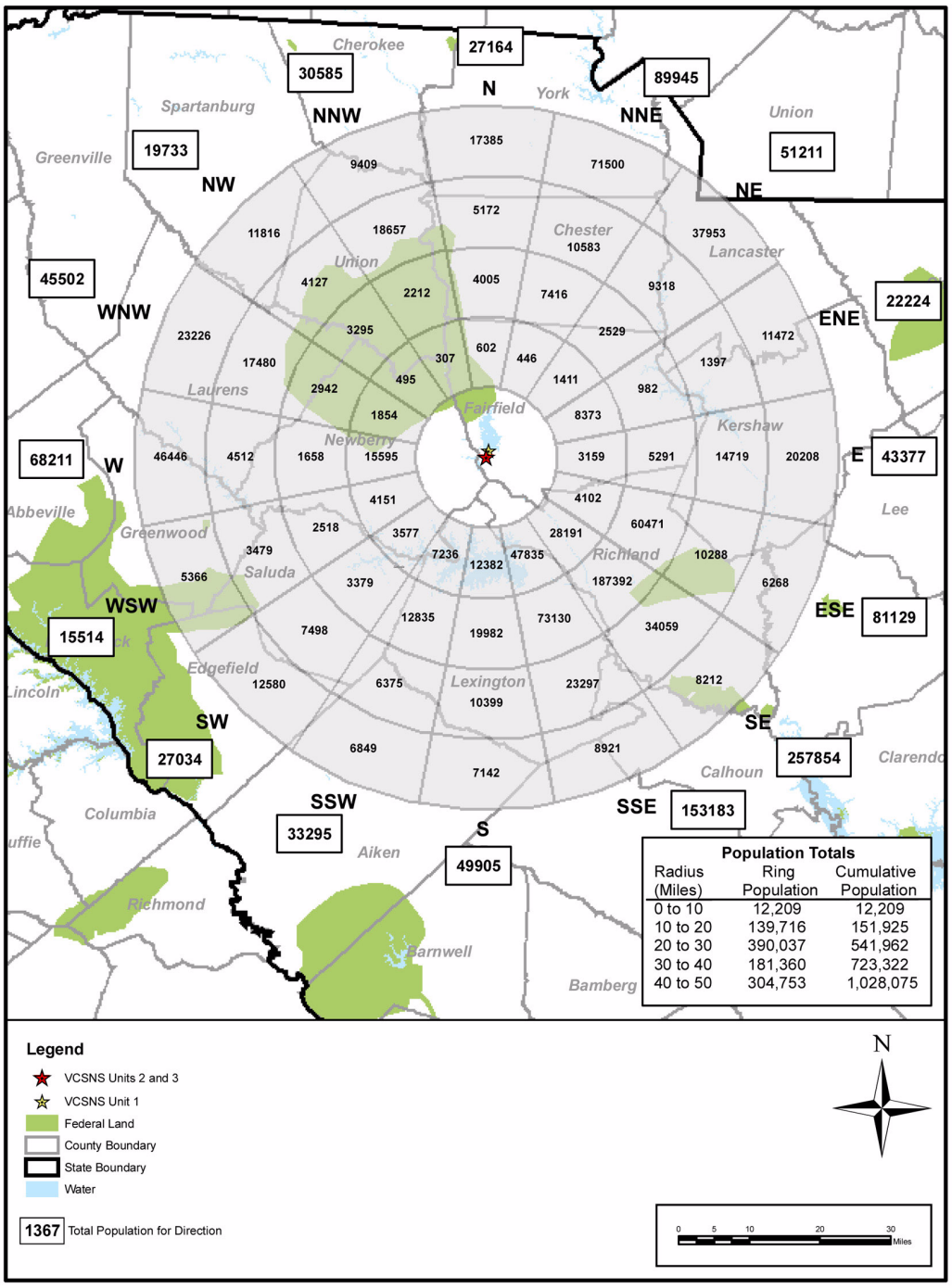

Figure 2.1-213. 50-Mile 2000 Population Distribution

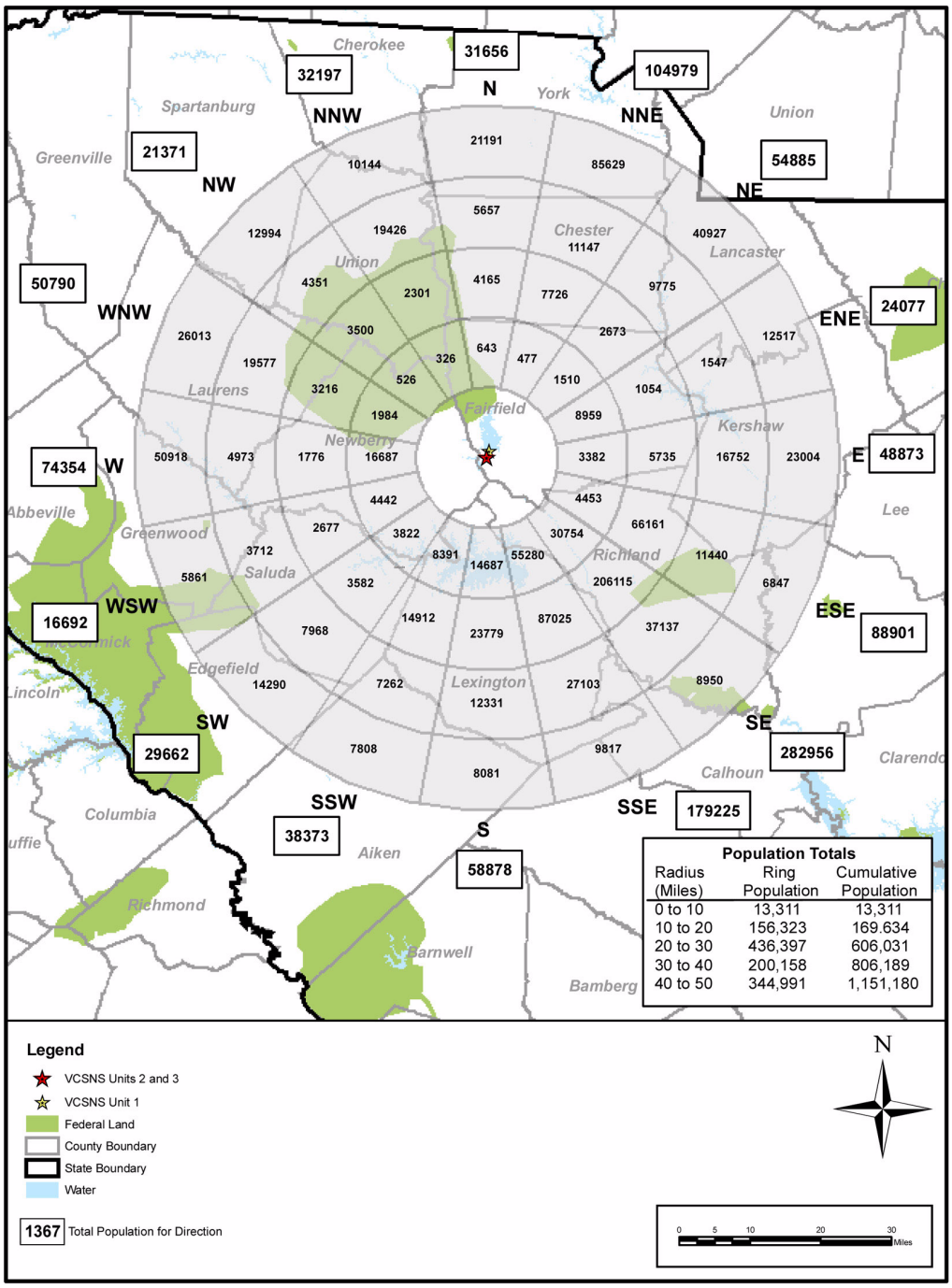

Figure 2.1-214. 50-Mile 2010 Population Distribution

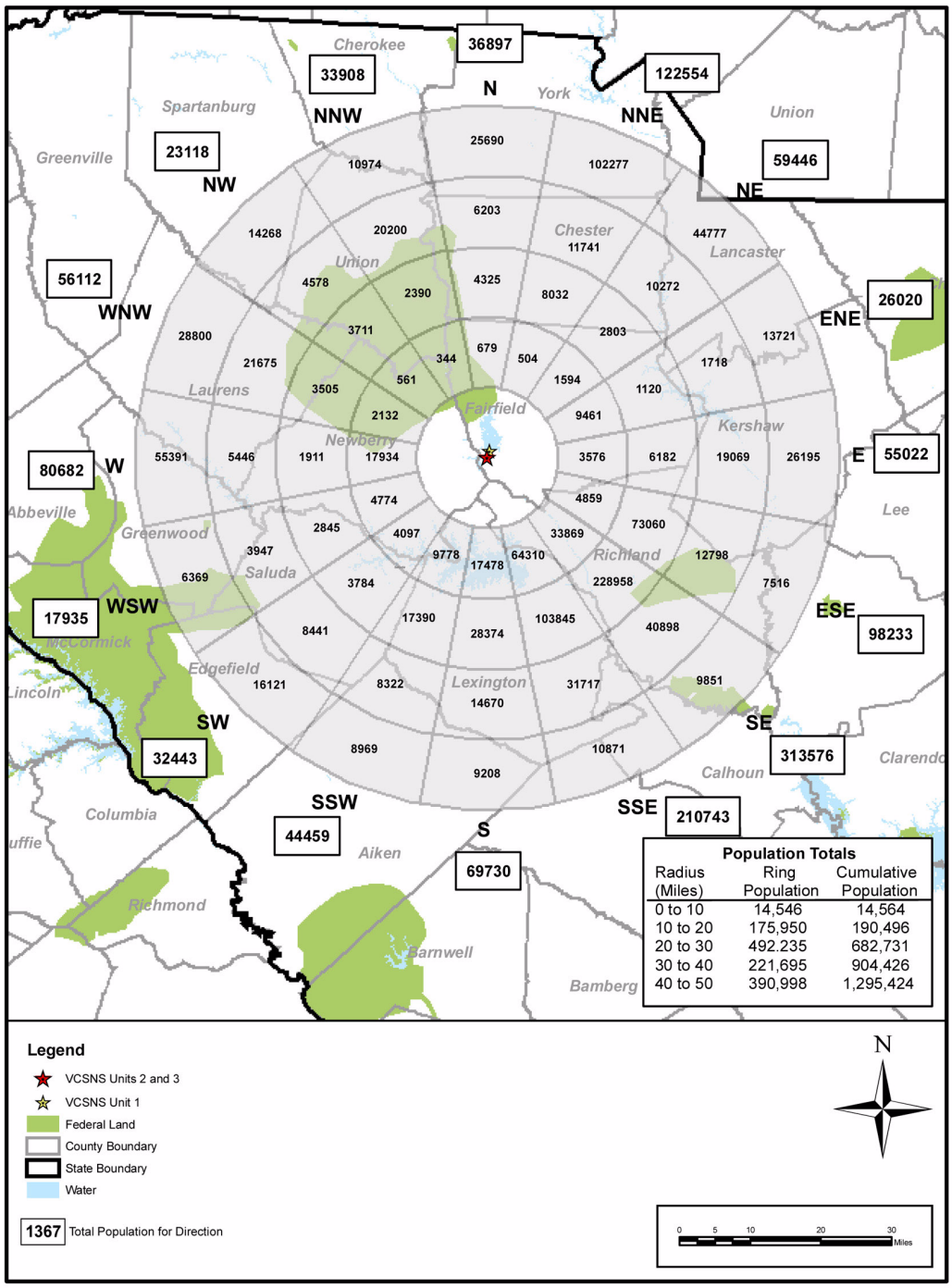

Figure 2.1-215. 50-Mile 2020 Population Distribution

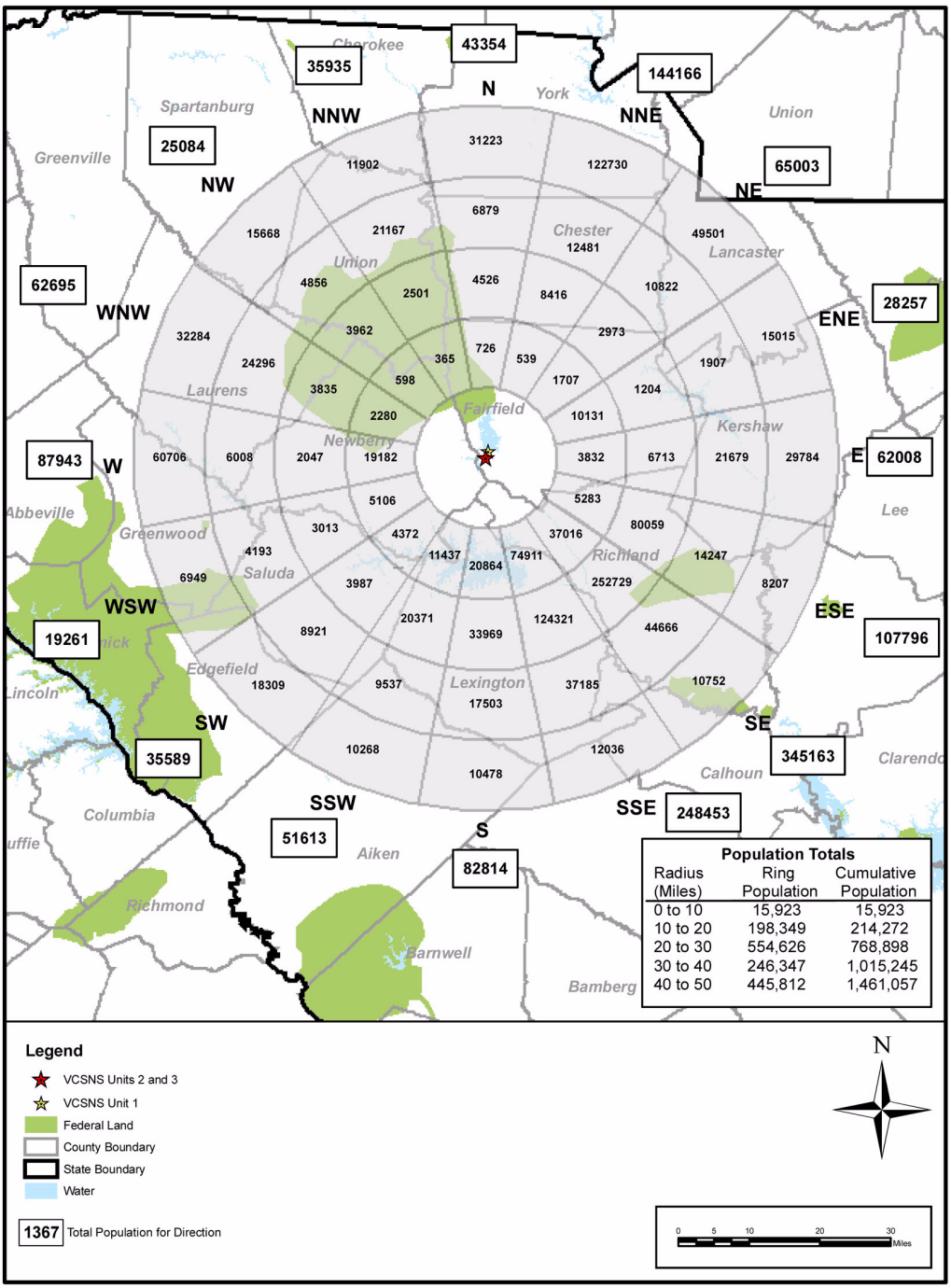

Figure 2.1-216. 50-Mile 2030 Population Distribution

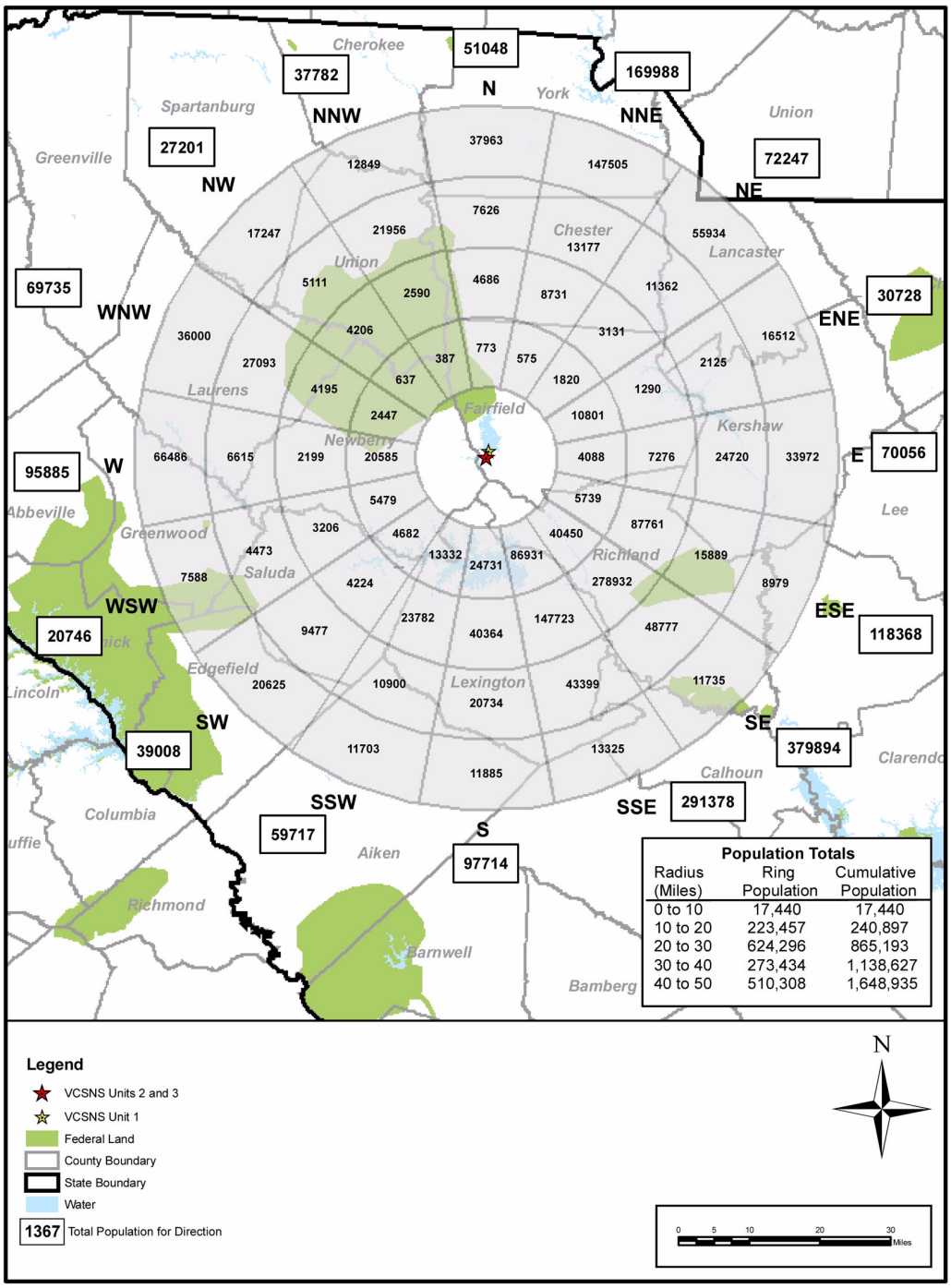

Figure 2.1-217. 50-Mile 2040 Population Distribution

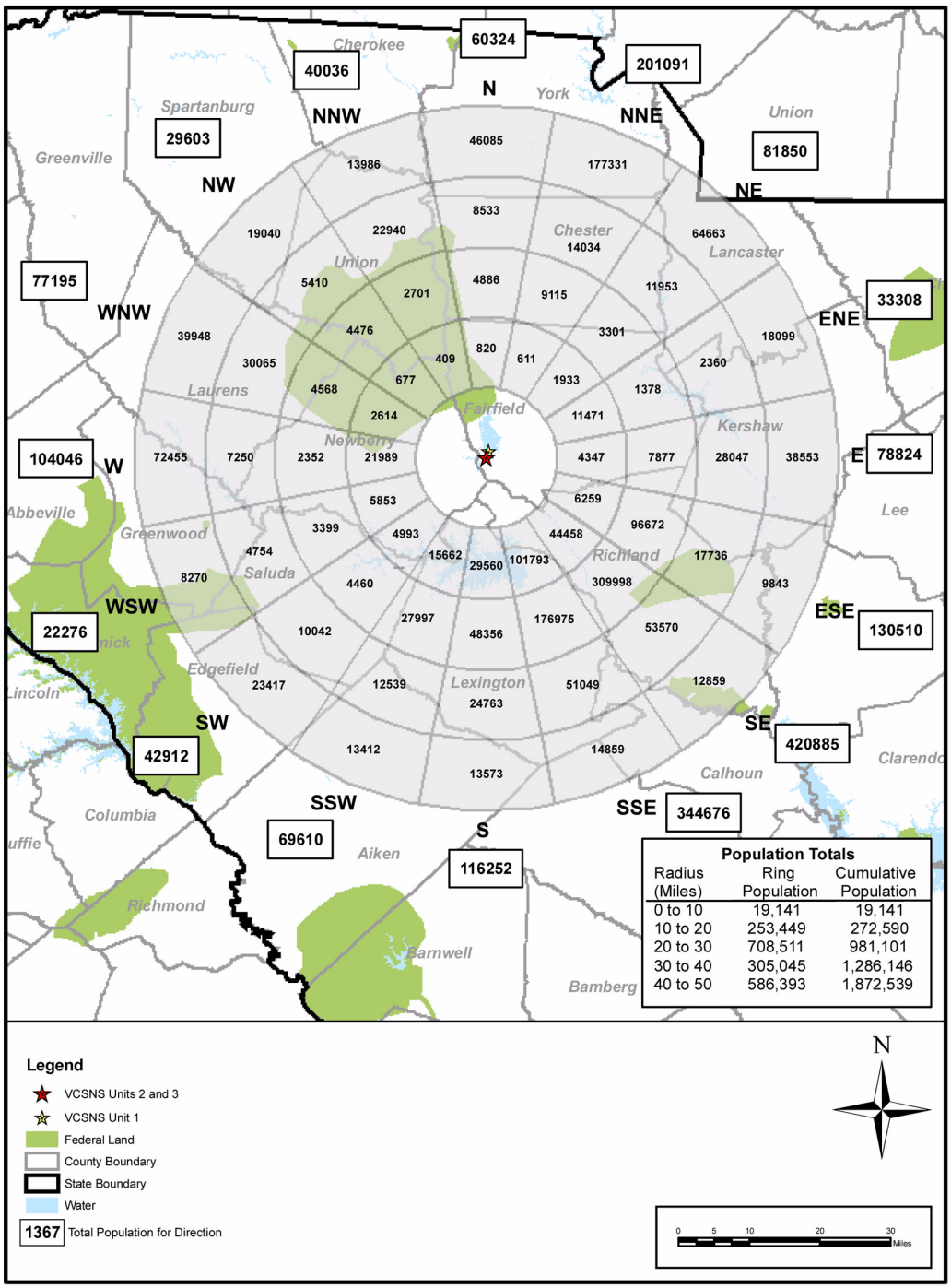

Figure 2.1-218. 50-Mile 2050 Population Distribution

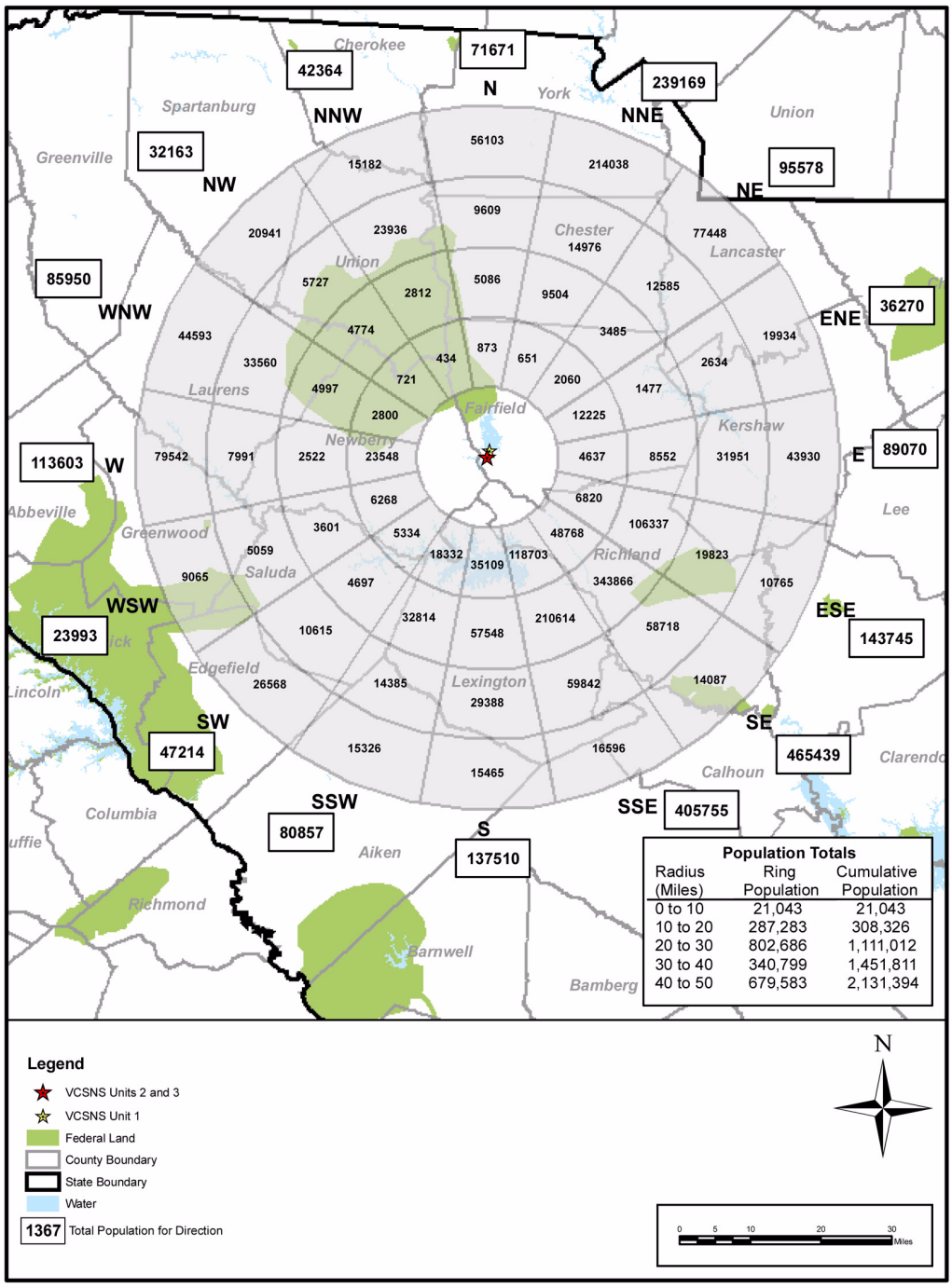

Figure 2.1-219. 50-Mile Radius 2060 Population Distribution

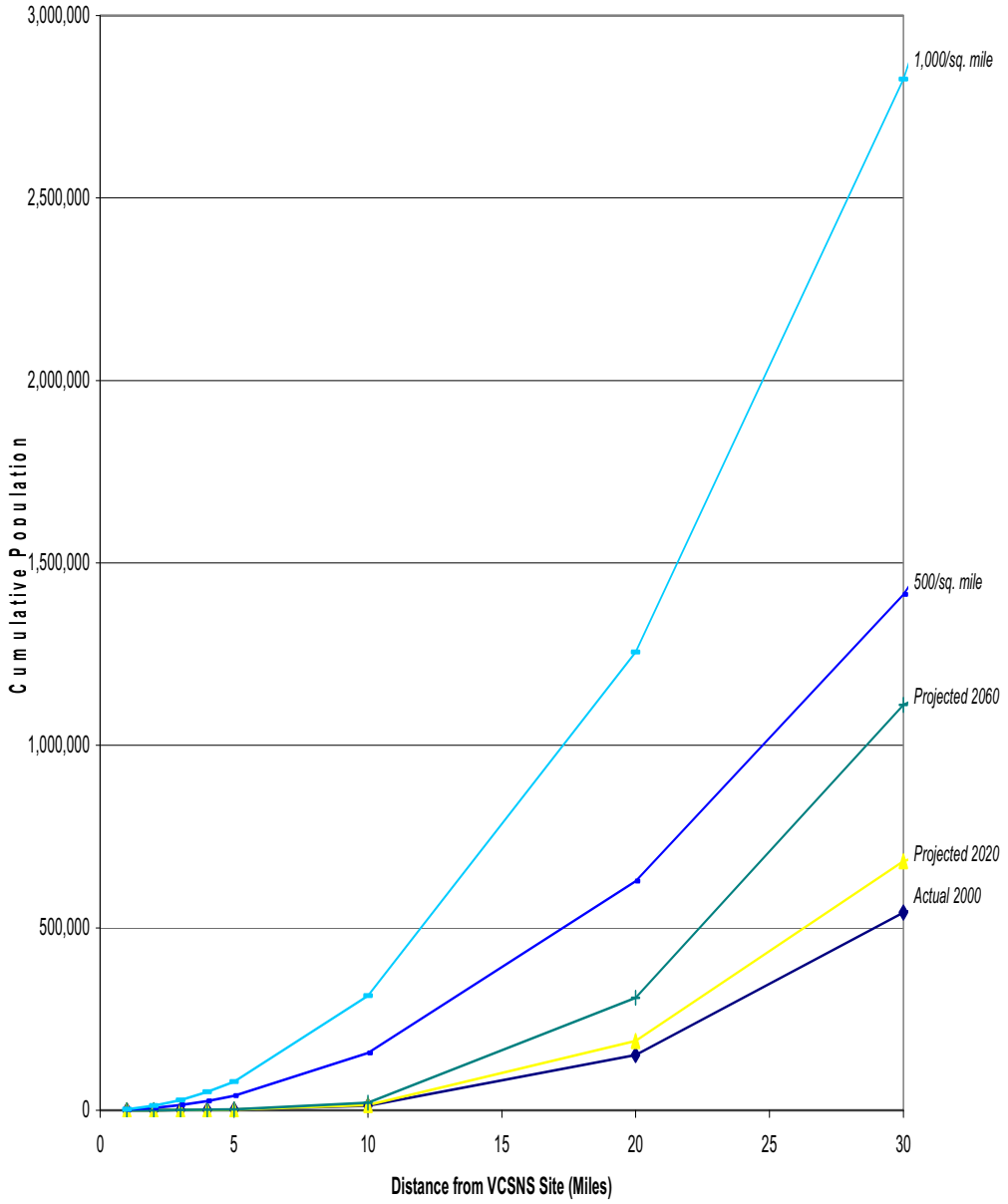

Figure 2.1-220. Population Compared to NRC Siting Criteria