

Memorandum

Date: October 29, 2021

To: Jacob Armstrong and Damon Davis, County of San Diego

From: Katy Cole, Andrew Scher, Jon Stanton

Subject: Infill Areas in Unincorporated San Diego County

SD21-0407

Introduction

The County of San Diego is exploring how infill development will influence the process for evaluating transportation VMT impacts consistent with CEQA Guidelines Section 15064.3: *Determining the Significance of Transportation Impacts*. On September 27, 2013, Governor Jerry Brown signed Senate Bill 743 ("SB 743") into law changing the impact criteria for transportation impact analysis as part of CEQA compliance. The law and subsequent updates to the CEQA Guidelines Section 15064.3 eliminates automobile delay as a basis for determining significant impacts under CEQA. SB 743 includes the following two legislative intent statements:

1. Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns continue to be properly addressed and mitigated through the California Environmental Quality Act.
2. More appropriately balance the needs of congestion management with *statewide goals related to infill development*, promotion of public health through active transportation, and reduction of GHG emissions.

As part of the implementation of SB 743, the California Attorney General's Office of Planning and Research (OPR) produced the Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018). The technical advisory contains suggestions on evaluating transportation impacts including information on when a VMT analysis is necessary and suggestions on characteristics of projects that can be screened from performing analysis. In consideration of SB 743's legislative intent related to infill development and the OPR information about screening projects that meet various characteristics, the County set out to understand the locations within the unincorporated area that may be considered an infill location. This information could be used

to help inform the VMT transportation analysis either as a simple project consideration or to help with future county planning efforts.

To understand what may be considered “infill development” in the unincorporated areas of San Diego County we evaluated multiple land use and transportation network variables to create a quantitative definition for “infill development” in the County. The following sections summarize a methodology for selecting values that define infill development and reflect the intent of the law.

Qualitative Definitions of “Infill” Development

To identify areas where new development would be largely considered as “infill”, the term “infill” must be defined, then quantitative values set that would meet the definition of infill.

Infill development patterns have been studied for decades by researchers and each research study and paper has provided varying definitions for “infill” development. *Developing Site Plan Standards for Infill* (Center for Urban Policy Research, Edward J. Bloustein School of Planning & Public Policy Rutgers, The State University of New Jersey New Brunswick, New Jersey) provides a summary the wide variety of definitions for “infill” as shown on Exhibit 1:

TABLE 1.1
Illustrative Definitions of Infill

1. "The development of new housing or other uses on scattered vacant sites in a built-up area." (Moskowitz and Lindbloom 2004.)
2. Infill is the "development of vacant or remnant lands passed over by previous development in urban areas." Redevelopment is "the act or process of redeveloping; *esp.*: renovation of a blighted area. Replacement, remodeling, or reuse of existing structures to accommodate new development." (Otak, Inc. 1999.)
3. "The construction of new buildings on vacant lots, filling a "hole" in the built environment." (Downtown Brookings, Inc. 2004.)
4. "The construction of new buildings along the traditional commercial street. These new buildings relate harmoniously with the older buildings which surround them. Since these buildings are often constructed on vacant lots, thus filling a "hole" in the street, they are called infill." (City of San Bernardino 2002.)
5. Infill is "the new development of vacant, abandoned, passed over, or underutilized land within built-up areas of existing communities, where infrastructure is already in place. Infill also includes redevelopment of lots in those areas. Redevelopment is described as encompassing construction in previously developed areas, which may include the demolition of existing structures and building new structures or the substantial renovation of existing structures, often changing form and function." (State of Maryland 2001.)
6. "The creative recycling of vacant or underutilized lands within cities and suburbs." (Northeast-Midwest Institute and Congress for New Urbanism 2001.)
7. "Infill development refers to construction of new housing, workplaces, shops, and other facilities within existing urban or suburban areas. This development can be of several different types: building on vacant lots; reuse of underutilized sites, such as parking lots and old industrial sites; and rehabilitation or expansion of existing buildings." (Wheeler 2002.)
8. An infill lot is defined as "any lot that is bounded on one or more sides by lots with existing residences, in an established neighborhood." (Village of Glenview 2003.)
9. "Infill is development that occurs on vacant or abandoned parcels in an otherwise built-up portion of the city." (City of Frederick 2002.)
10. "Urban infill and redevelopment area means an area or areas designated by a local government where (a) public services such as water and wastewater, transportation, schools, and recreation are already available or are scheduled to be provided in an adopted five-year schedule of capital improvements; (b) the area (or one or more neighborhoods within the area) suffers from pervasive poverty, unemployment, and general distress as defined by s. 290.0058 [1998 Florida statutes, chapter 290, section 0058]; (c) the area exhibits a proportion of properties that are substandard, overcrowded, dilapidated, vacant or abandoned, or functionally obsolete that is higher than the average for the local government; (d) more than 50 percent of the area is within one-quarter mile of a transit stop, or a sufficient number of such transit stops will be made available concurrent with the designation; and (e) the area includes or is adjacent to community redevelopment areas, brownfields, enterprise zones, or Main Street programs, or has been designated by the state or federal government as an urban redevelopment, revitalization, or infill area under empowerment zone, enterprise community, or brownfield showcase community programs or similar programs." (State of Florida 2005.)

TABLE 1.1, continued

11. "Developing on empty lots of land within an urban area rather than on new undeveloped land outside the city or town." (State of Massachusetts n.d.)
12. "In housing construction, the process of developing open areas within an established area before developing outside the established area." (Rosner and Rosner 1996.)
13. "Development on vacant lots or through redevelopment to create additional new residential units." (City of Burlington 1994.)
14. "The development of vacant land that was bypassed by earlier waves of development and is now largely surrounded by developed land." (Clark County Board of County Commissioners 2005.)
15. "Development that occurs on a site after completion of the initial development of the area." (Calgary Area, Inc. 1999.)
16. "Infill development is simply redevelopment within existing developments." (Abalos 2003.)
17. "Residential or nonresidential development that occurs on vacant sites scattered throughout the more intensely developed areas of municipalities. Generally, these sites are vacant because they were once considered of insufficient size for development, because an existing building located on the site was demolished, or because there were other, more desirable sites for development." (Schultz and Kasen 1984.)
18. Infill is "development on vacant sites in urbanized areas and redevelopment of areas contiguous to urban development where all services and facilities are projected to have capacity to accommodate additional demand." (Davis 2004.)
19. Infill development is "the process of developing vacant or underused parcels within existing urban areas that are already largely developed." (Municipal Research and Services Center of Washington 1997.)
20. "Infill is the creative recycling of vacant or underutilized lands within cities and suburbs. Successful infill often includes new development on vacant lots within urbanized areas, redevelopment of underused buildings and sites, and the rehabilitation of historic buildings for new uses." (Northeast-Midwest Institute and Congress for New Urbanism 2001.)
21. "Unlike reuse, infill occurs on smaller tracts of vacant land in otherwise developed areas." (Envision Utah 2002.)
22. Infill means "the development of new housing or other buildings on scattered vacant lots in a built-up area." Redevelopment means "the removal or replacement or adaptive reuse of an existing structure or of land from which previous improvements have been removed, including the conservation or rehabilitation of any structure." (New Jersey State Planning Commission 2001.)
23. Infill "is defined as development that occurs on previously developed lots within existing developed areas." (Nisenso 2005.)

Exhibit 1: Excerpt from Developing Site Plan Standards for Infill (Center for Urban Policy Research, Edward J. Bloustein School of Planning & Public Policy Rutgers, The State University of New Jersey New Brunswick, New Jersey)

Infill development is defined by OPR as "...building within unused and underutilized lands within existing development patterns, typically but not exclusively within urban areas." (OPR)¹. A definition for Infill is also codified in California's Public Resources Code (PRC) §21061.3:

"Infill site" means a site in an urbanized area that meets either of the following criteria:

(a) The site has not been previously developed for urban uses and both of the following apply:

(1) The site is immediately adjacent to parcels that are developed with qualified urban uses, or at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses, and the remaining 25 percent of the site adjoins parcels that have previously been developed for qualified urban uses.

(2) No parcel within the site has been created within the past 10 years unless the parcel was created as a result of the plan of a redevelopment agency.

(b) The site has been previously developed for qualified urban uses.²

Both definitions refer to development of unused land or redevelopment of land within urban areas. Therefore, if urban areas can be geographically defined within the Unincorporated County, most development within those geographic areas would meet the above standards of having adjacent urban uses and be considered infill. In addition, "urban areas" as referenced by OPR are referring the US Census Bureau's definition of infill. For the 2020 Census, the following documentation is provided on the definition of urban:

*The Census Bureau proposes to begin the delineation process by identifying and aggregating contiguous census blocks each having a housing unit density of at least 385 housing units per square mile. This aggregation of continuous census blocks would be known as the "initial urban area core." The initial urban area core must encompass at least 385 housing units (consistent with the requirement for at least 1,000 people in the 2010 criteria).*³

¹ OPR: <https://opr.ca.gov/planning/land-use/infill-development/>

² PRC §21061.3:

https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=21061.3

³ <https://www.federalregister.gov/documents/2021/02/19/2021-03412/urban-areas-for-the-2020-census-proposed-criteria#p-44>

Early efforts to define urban areas began with characterizing urban sprawl in the 1990's (Pendall 1999)⁴, but the first literature that considered a comprehensive set of variables to define urban areas was Cervero & Kockelman (1997) who developed the '3 D's'; Density, Diversity, and Design. The 3 D's included such built environment variables as population density, mix of land uses, and the design of infrastructure (such as street intersection density)⁵. These would be updated by Ewing and Cervero (2010) to 5 D's; adding Destination accessibility and Distance to transit⁶. The 5 D's have become the framework for subsequent literature which has further refined and added variables that compose each of the D's.

Defining places was further refined by Salon (2015)⁷ and Frost (2018)⁸. For example, Salon (2015) defined places such as: Central City, Urban, Suburban, Rural-in-Urban, and Rural Places. Many variables representing the built environment were collected based on their relationship and aggregated into key 'factors' representing the 'Ds'.

Creating Quantitative Values for Infill

The analysis to develop an infill definition and criteria was based on the socioeconomic data from the San Diego Association of Governments (SANDAG) Activity-Based Model (ABM) Series 13. The socioeconomic data is provided by traffic analysis zone (TAZ). The core concept of the three 'Ds' and factors provides a framework for selecting appropriate variables and setting thresholds based on the literature. The following data was compiled into maps and evaluated as part of the process to define infill:

- Population density
- Housing density
- Employment density
- Intersection density
- Access to jobs within a 15 mile radius
- Access to shopping/restaurants within a one-mile radius

⁴ Pendall, R. (1999). Do land-use controls cause sprawl? *Environment and Planning B: Planning and Design*, 26(4), 555–571. <https://doi.org/10.1068/b260555>

⁵ Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research Part D: Transport and Environment*, 2(3), 199–219. [https://doi.org/10.1016/S1361-9209\(97\)00009-6](https://doi.org/10.1016/S1361-9209(97)00009-6)

⁶ Ewing, R., & Cervero, R. (2010). Travel and the Built Environment: A Meta-Analysis. *Journal of the American Planning Association*, 76(3), 265–294. <https://doi.org/10.1080/01944361003766766>

⁷ Salon, D. (2015). Heterogeneity in the relationship between the built environment and driving: Focus on neighborhood type and travel purpose. *Research in Transportation Economics*, 52, 34–45. <https://doi.org/10.1016/j.retrec.2015.10.008>

⁸ Frost, A. R. (2017). Quantifying the sustainability performance of urban form in California / by Alexander Rijiro Frost. San Diego State University.

Based on review of each of these maps and the literature review, the following data was considered the largest predictor for “infill” and the specific criteria for each is defined as follows:

-
- Map of San Diego County showing household density per square mile by community plan area. The map uses a color scale where light green indicates a density of less than 385 households per square mile, and dark blue indicates a density of 385 or greater. High-density areas are concentrated in the coastal and central regions, including San Diego, Escondido, and the northern coastal strip. The map also shows major geographical features like mountains and the desert. A scale bar (0 to 20 miles) and a north arrow are included in the bottom right corner.
- Community Plan Areas labeled on the map include: Pendleton - De Luz, Rainbow, Palomar Mountain, North Mountain, Borrego Springs, Desert, Julian, Central Mountain, Cuyamaca, Descanso, Pine Valley, Mountain Empire, Boulevard, Jacumba, Lake Morena / Campo, Potrero, Tijuana, Otay, Jamul, West - Chula Vista, Lakeside, Escondido, San Marcos, County Islands, San Diego, Bonsall, Valley Center, North County Metro, Palms - Pauma, Palomar, and Escondido.
- Legend:
- Community Plan Area
 - Household Density per Square Mile:
 - Less than 385
 - Greater than or equal to 385
- Scale: 0 to 20 Miles. North arrow pointing up.

Figure 1: Household Density in Unincorporated San Diego County

⁹ <https://www.federalregister.gov/d/2021-03412/p-44>

2. **Intersection density.** Intersection density above 128 intersections/square mile matches Frost (2018) average value for 'Urban Places'⁷. Intersection density fulfills the design factor. Figure 2 below (and attached in higher resolution) shows Intersection Density above 128 intersections/square mile in the Unincorporated County.

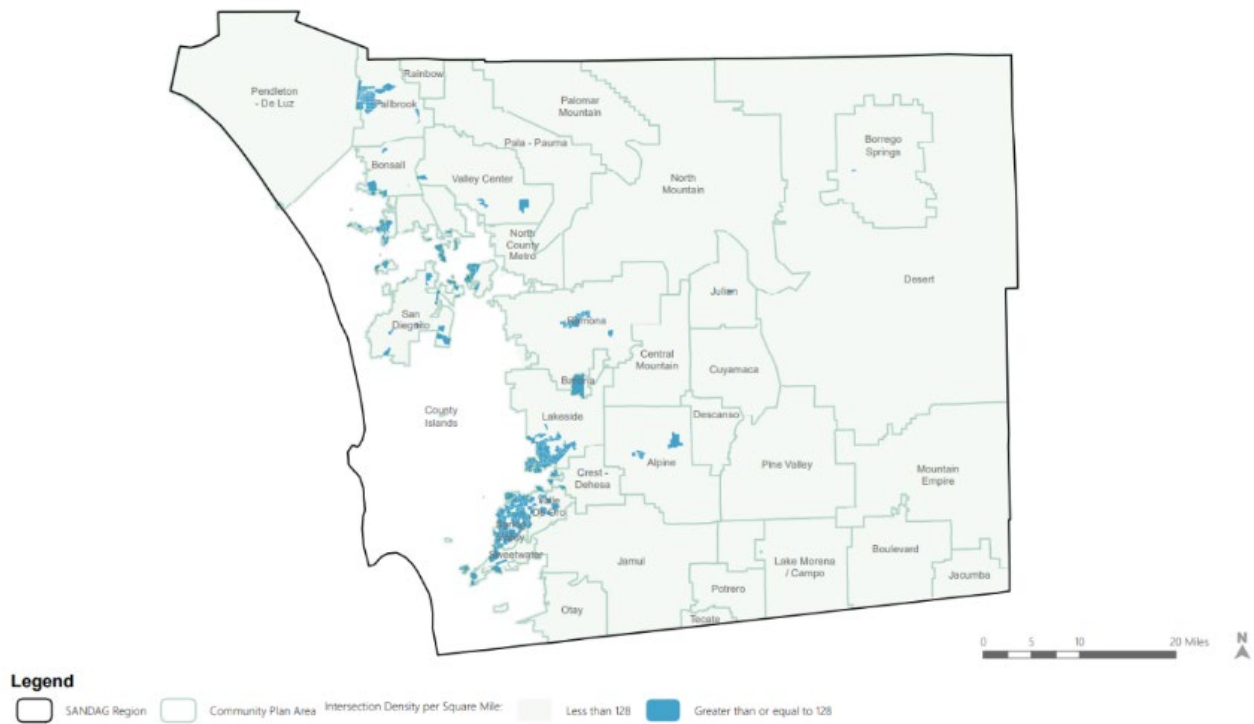


Figure 2: Intersection Density in Unincorporated San Diego County

3. **Jobs Accessibility.**

Job Accessibility of 12.73 is the average value for local employment accessibility in Salon (2014).⁶ Jobs accessibility is measured as an inverse distance-weighted sum of jobs within a 5-mile radius. The current variable used for jobs accessibility for Unincorporated County areas uses an inverse distance-weighted sum for areas within a 15-mile radius. Jobs accessibility fulfills the destination accessibility factor, and more broadly the diversity factor. Figure 3 shows Jobs Accessibility above 12.73 in the Unincorporated County.

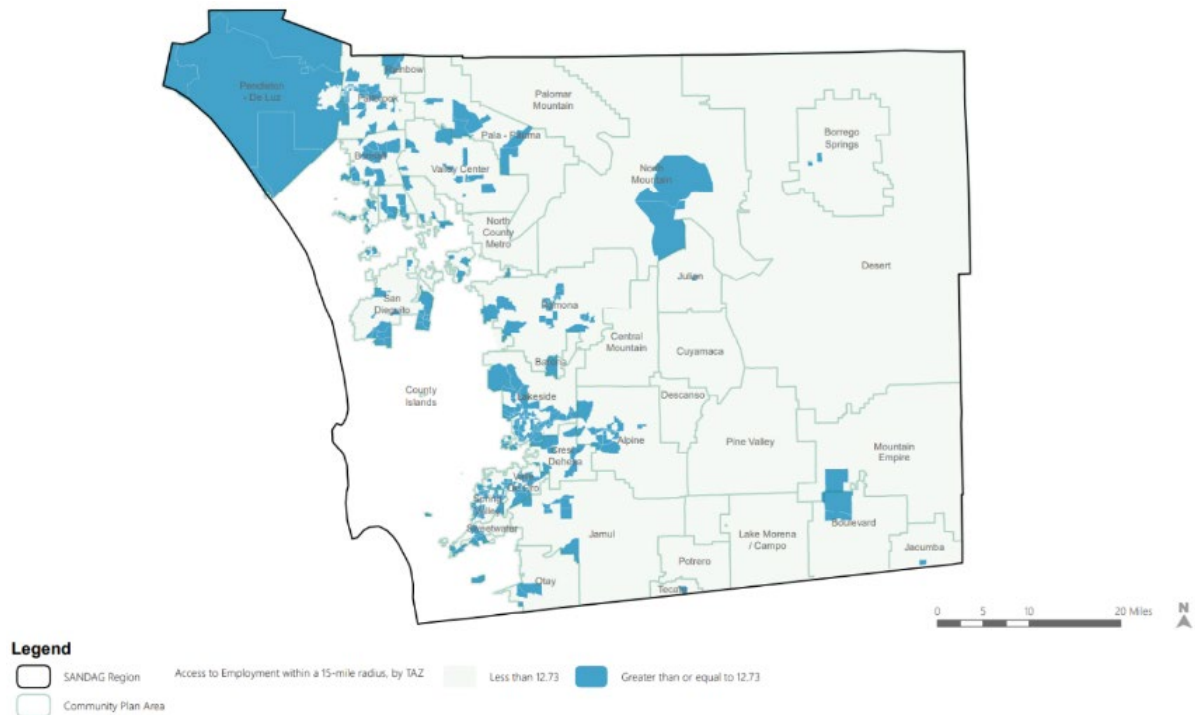


Figure 1: Jobs Accessibility in Unincorporated San Diego County

These variables, while limited compared to the number used in literature, are appropriate in representing the core aspects of the three D's and are among the largest contributing variables to their respective factors. Using the above metrics and cutoff values for Unincorporated County areas creates a narrow selection of geographic areas that are visually and intuitively associated with urban development. Development in dense areas with high job accessibility support the three D's, leading to more diversity in land use, demand for multimodal infrastructure, and shorter vehicle trips which reduce greenhouse gasses.

Results

Applying Infill Values

The above values were used to categorize Traffic Analysis Zones (TAZs) in the Unincorporated County. Out of 1,104 TAZs that lie within the Unincorporated areas of the County, 138 meet the above criteria for household density, intersection density, and jobs accessibility. **Figure 4** shows a map of TAZs that meet the thresholds for urban places and infill in blue.

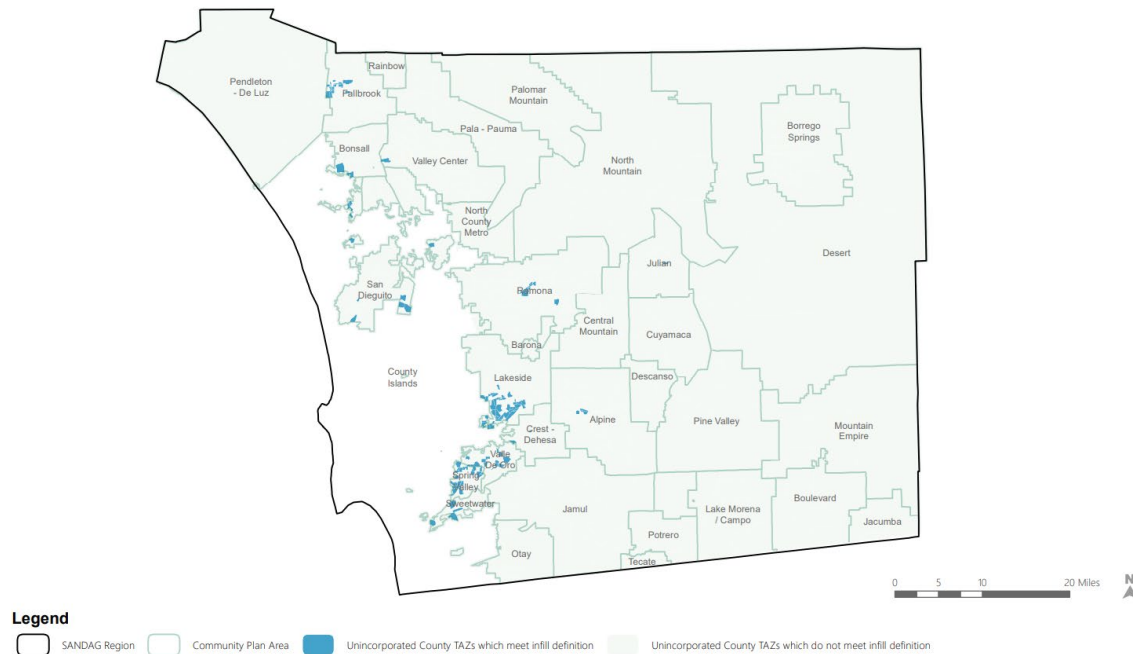


Figure 2: Infill Areas in the Unincorporated San Diego County

The areas that meet the infill definition generally align with intuitive concepts of urban areas. These locations are close to incorporated cities and within the sphere of development for urbanized San Diego. Specifically, core areas of Fallbrook, San Dieguito, Bonsall, Ramona (along Main Street), Lakeside, Valle De Oro, Spring Valley, Alpine, and Sweetwater all meet the definition.

These areas meet the household and intersection density requirements, indicating a certain level of development and compactness to development. There is reasonable access to jobs, and jobs are close enough to be potentially accessible to alternative modes of transportation. Further, developments that occur in these areas would likely meet definitions of infill – being adjacent to urban uses or located in an area with majority urban uses.

Other Considerations

The analysis looked at a variety of other considerations as follows:

- ***Are there infill areas in high fire hazard areas?*** – **Figure 5** displays the results of overlaying the fire severity with the infill areas based on the definition in this technical memorandum. The majority of infill areas are outside of high and very high fire severity zones.
- ***How do the infill areas align with Senate Bill 9 Urbanized Areas?*** – **Figure 6** displays the results of overlaying the SB 9 Urbanized Areas with the infill areas based on the definition in this technical memorandum. All infill areas fall within the SB 9 Urbanized Areas, with the exception of one small area within the Valley Center Community Plan. SB 9 is legislation that was signed into law on September 16, 2021 that allows for the ministerial approval of housing applications that split a parcel into two separate parcels, each parcel with 2 residential units under specific conditions. For housing proposals in an unincorporated area, the development must be located within a US Census Bureau Urbanized Area.
- ***How do the infill areas align with SB 330 Affected Census Designated Places (CDPs)?*** – **Figure 7** displays the results of overlaying the SB 330 Affected CDPs with the infill the infill areas based on the definition in this technical memorandum. Many of the infill areas fall within the SB 330 Affected CDPs, with the exception of infill designations in Fallbrook, Bonsall, Valley Center, North County Metro, San Dieguito, Ramona, Lakeside, and Spring Valley. SB 330 is legislation that was signed into law on October 9, 2019 and makes changes to the Permit Streamlining Act and the Housing Accountability Act and establishes the Housing Crisis Act.
- ***Are there other options for expanding and “smoothing” out the infill areas?*** – The County team was curious to explore other options for displaying the infill areas to smooth out the results and provide a larger infill context. Fehr & Peers and County staff discussed two options that are displayed on **Figures 14 and 15**.
 1. Figure 14 displays an option to include any County Village area that contains an infill area. The map shows the original infill areas in blue and the Village area in green.
 2. Figure 15 displays an option in include any TAZ that is adjacent to an infill area. The map shows the original infill areas in blue and the adjacent TAZs in green.

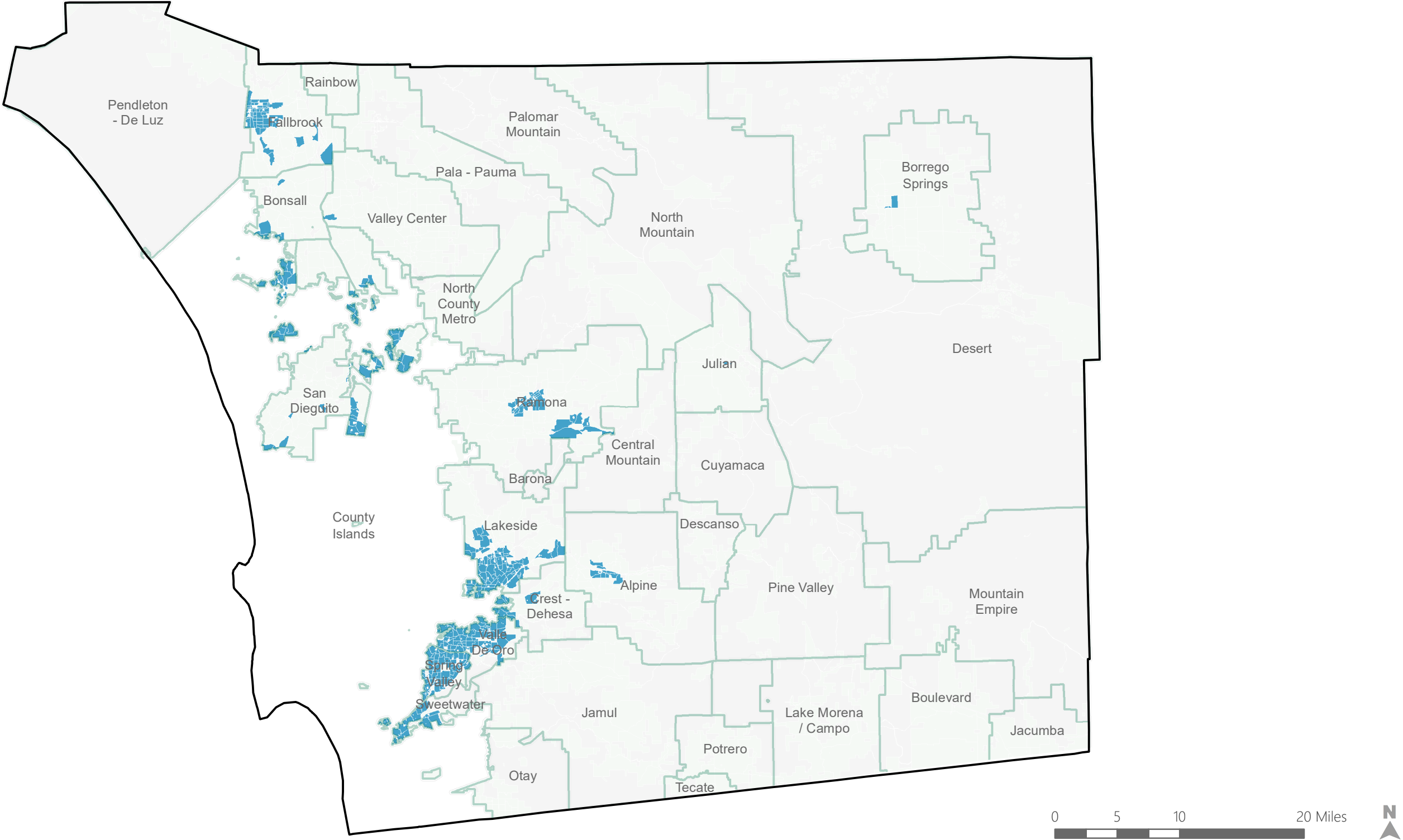
Conclusion

Using the chosen key variables/analysis to define urban places provides a representation of urban areas in the Unincorporated County. These variables provide the foundation for defining infill locations within the Unincorporated County. With guidance from County counsel, the County could use this information to establish a new SB 743 related screening criteria and allow the locations to be screened from performing VMT analysis. This would require evidence to support the determination that projects in these locations would have a less than significant transportation impact and meet the intent of SB 743. Another option is that the County could use

this information as a consideration when evaluating a project and use it to help make the case for adopting a statement of overriding considerations for a project that has a significant VMT impact. Additional County Counsel input is recommended to determine the implications of these options.

Figure 10: Employment Accessibility by TAZ

\\psd03.fpairnc.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd



Legend





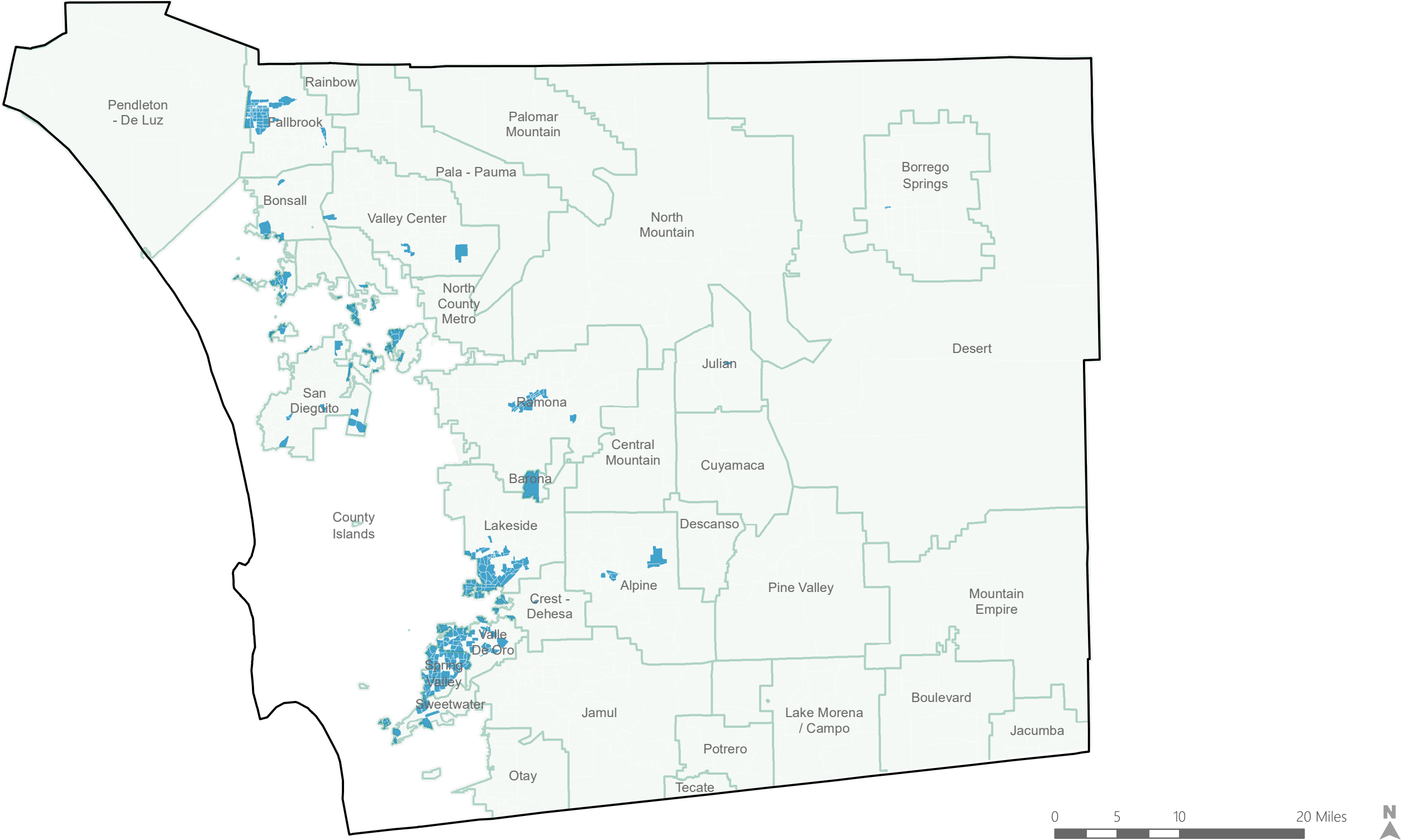
-  SANDAG Region
-  Community Plan Area
- Household Density per Square Mile:
-  Less than 385
-  Greater than or equal to 385



Figure 1: Household Density in Unincorporated San Diego County

*Based on the SANDAG Series 13 Base Year Model



Legend




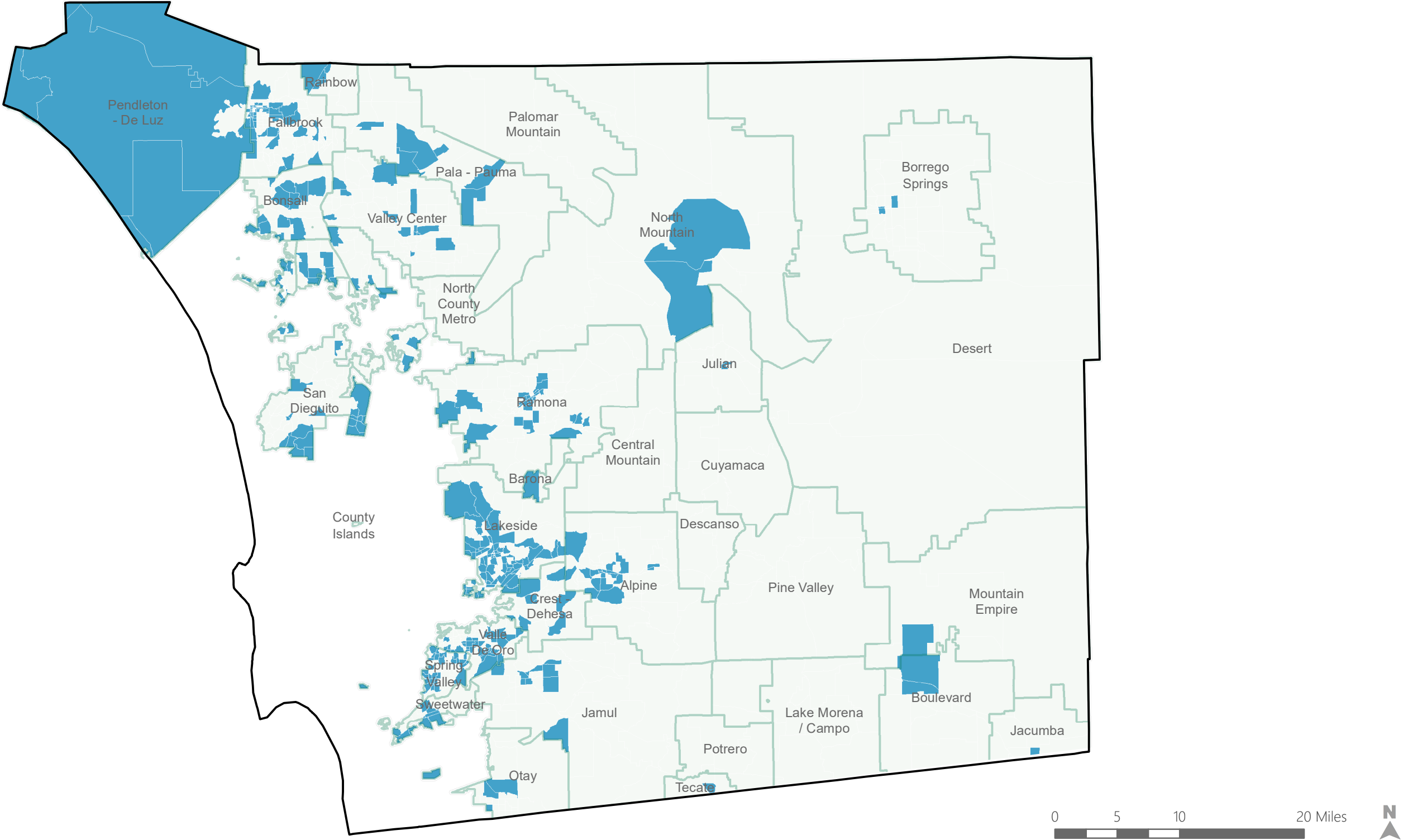
-  SANDAG Region  Community Plan Area Intersection Density per Square Mile:  Less than 128  Greater than or equal to 128



Figure 2: Intersection Density in Unincorporated San Diego County

*Based on the SANDAG Series 13 Base Year Model

\\psd03.fpainc.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd

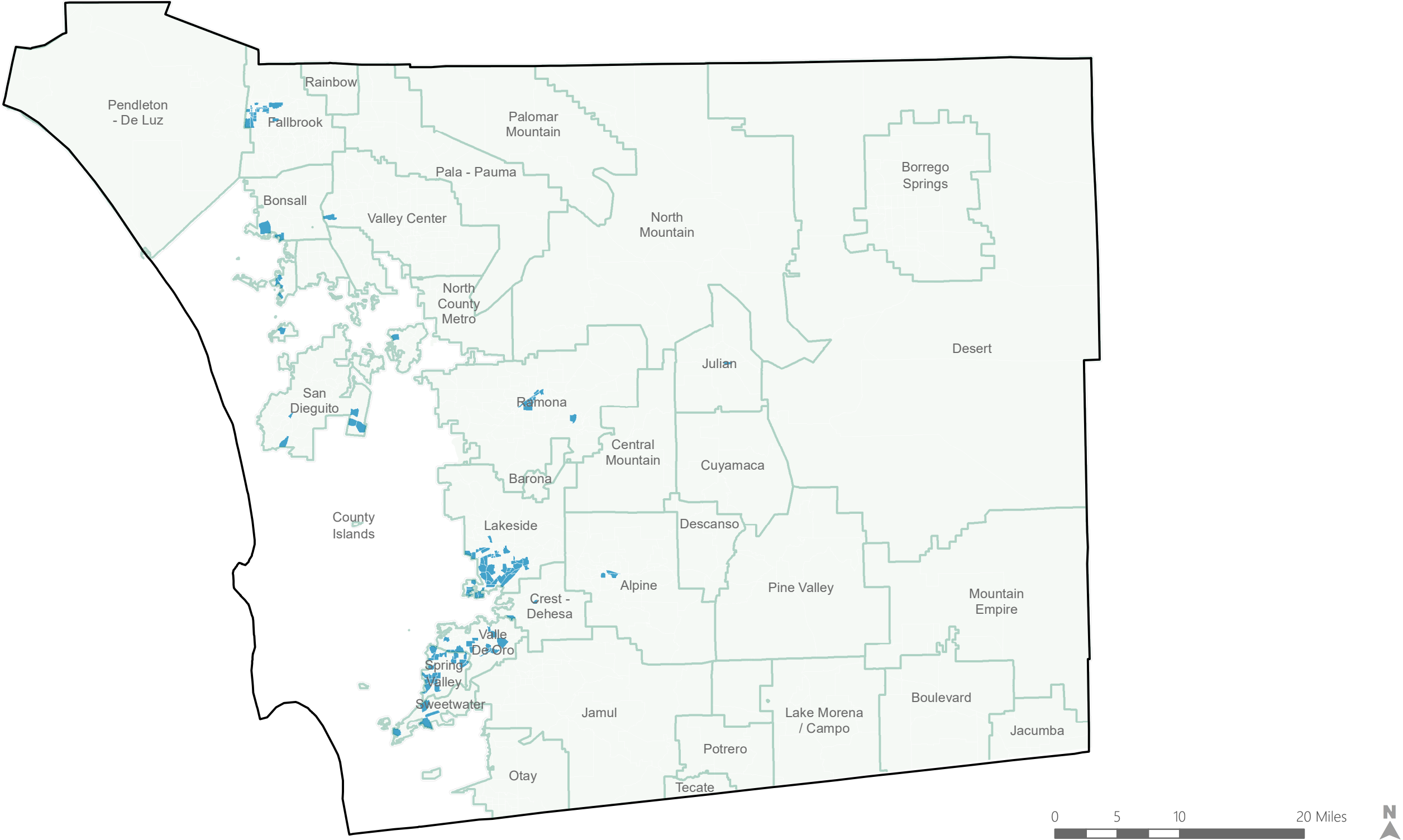


Legend

- SANDAG Region
- Community Plan Area
- Access to Employment within a 15-mile radius, by TAZ
- Less than 12.73
- Greater than or equal to 12.73



Figure 3: Employment Accessibility in Unincorporated San Diego County

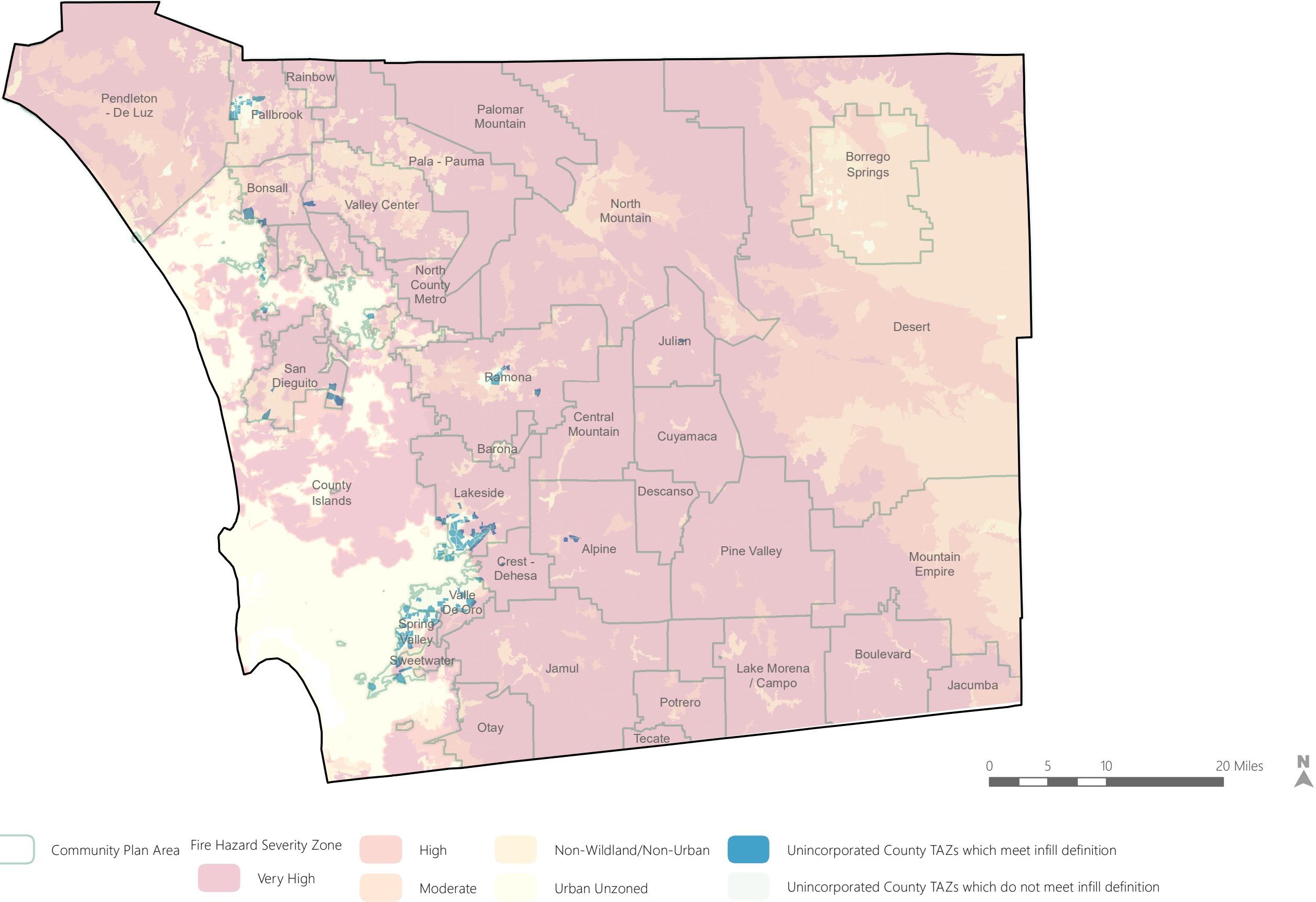


Legend

- SANDAG Region
- Community Plan Area
- Unincorporated County TAZs which meet infill definition
- Unincorporated County TAZs which do not meet infill definition



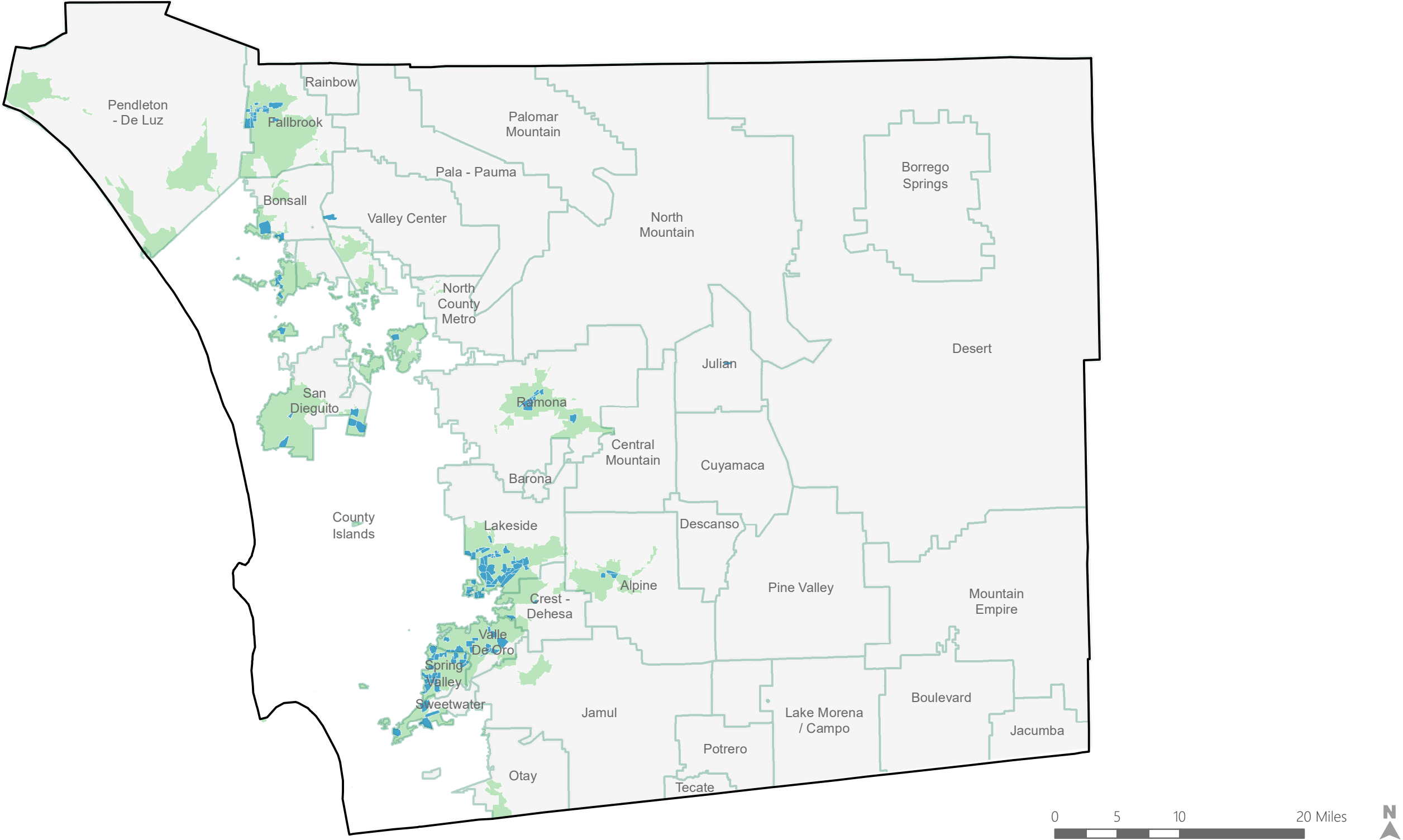
Figure 4: Areas of the Unincorporated County Which Meet Infill Definition



Legend

- SANDAG Region
- Community Plan Area
- Fire Hazard Severity Zone: High
- Fire Hazard Severity Zone: Moderate
- Fire Hazard Severity Zone: Very High
- Non-Wildland/Non-Urban
- Urban Unzoned
- Unincorporated County TAZs which meet infill definition
- Unincorporated County TAZs which do not meet infill definition

Figure 5: County Unincorporated Areas with Infill Areas and Fire Hazard Severity Zones

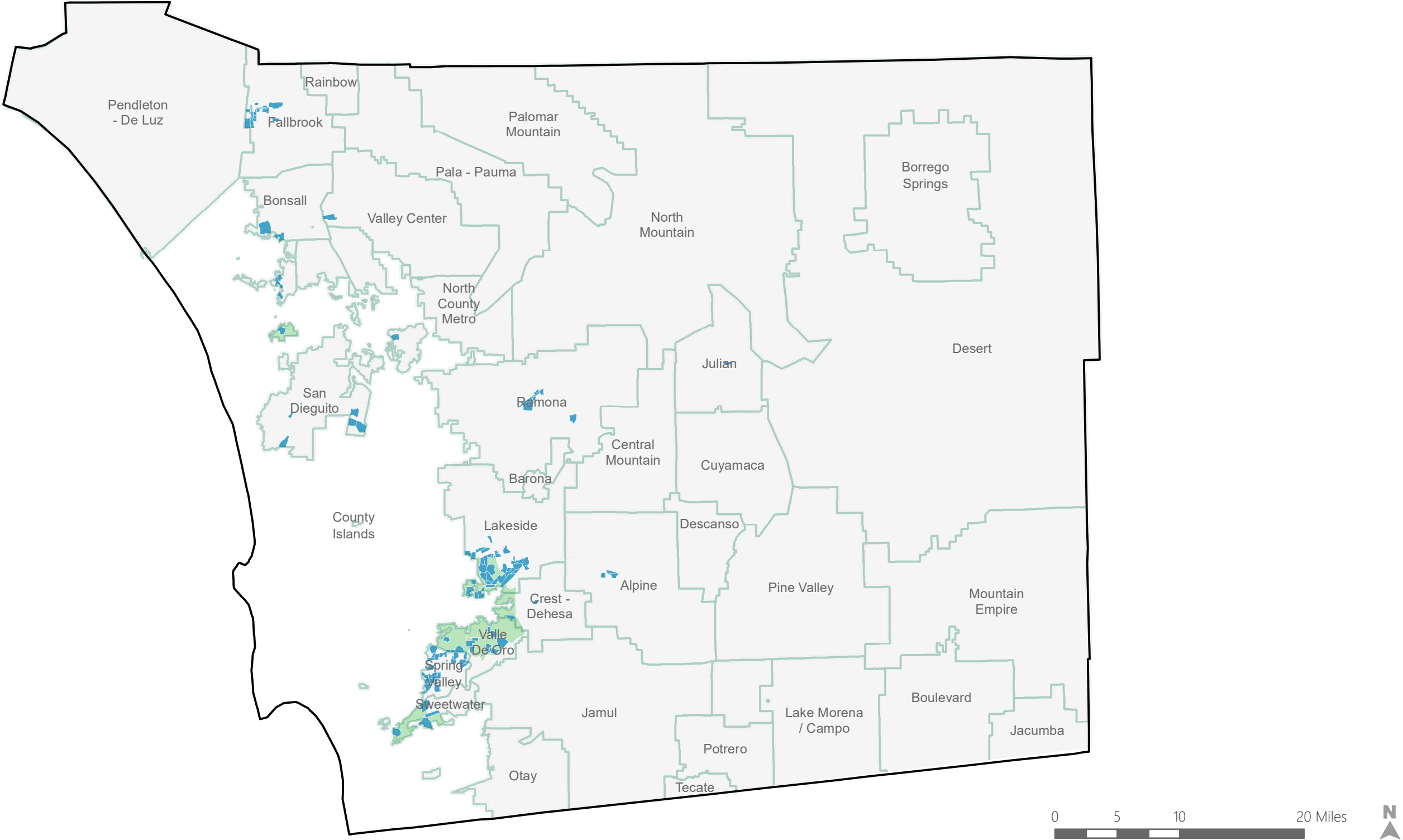


Legend

- SANDAG Region
- Community Plan Area
- Unincorporated County TAZs which meet infill definition
- Urbanized Areas



Figure 6: Unincorporated County Infill Areas and SB 9 Urbanized Areas (UAs)



Legend

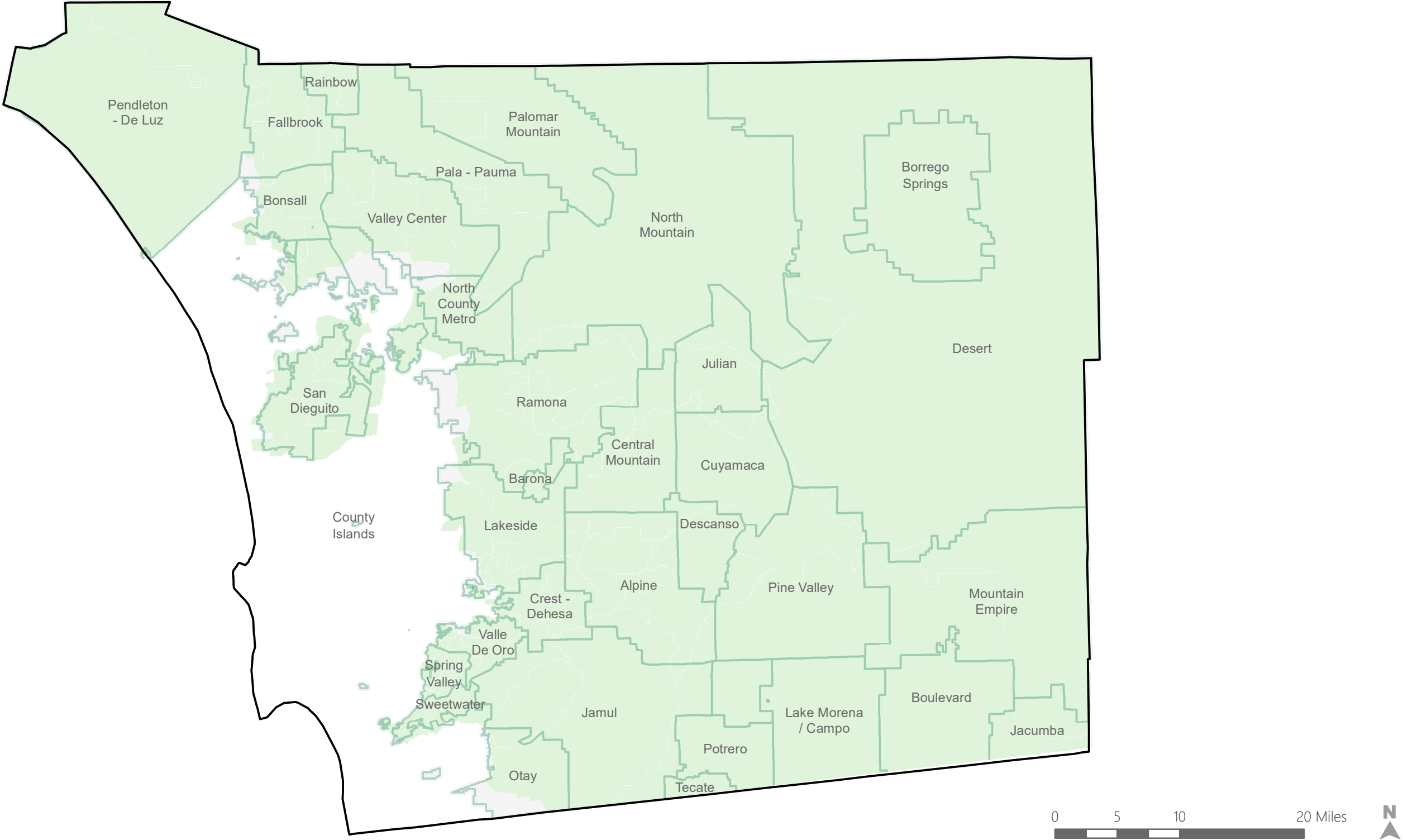
- SANDAG Region
- Community Plan Area
- Unincorporated County TAZs which meet infill definition
- SB 330 Affected CDPs



Figure 7: Unincorporated County Infill Areas and SB 330 Affected Census-Designated Places (CDP)

*Based on the SANDAG Series 13 Base Year Model

\\psd03.fpainc.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\WXD\All County\7 October 2021 Place Types Analysis.mxd



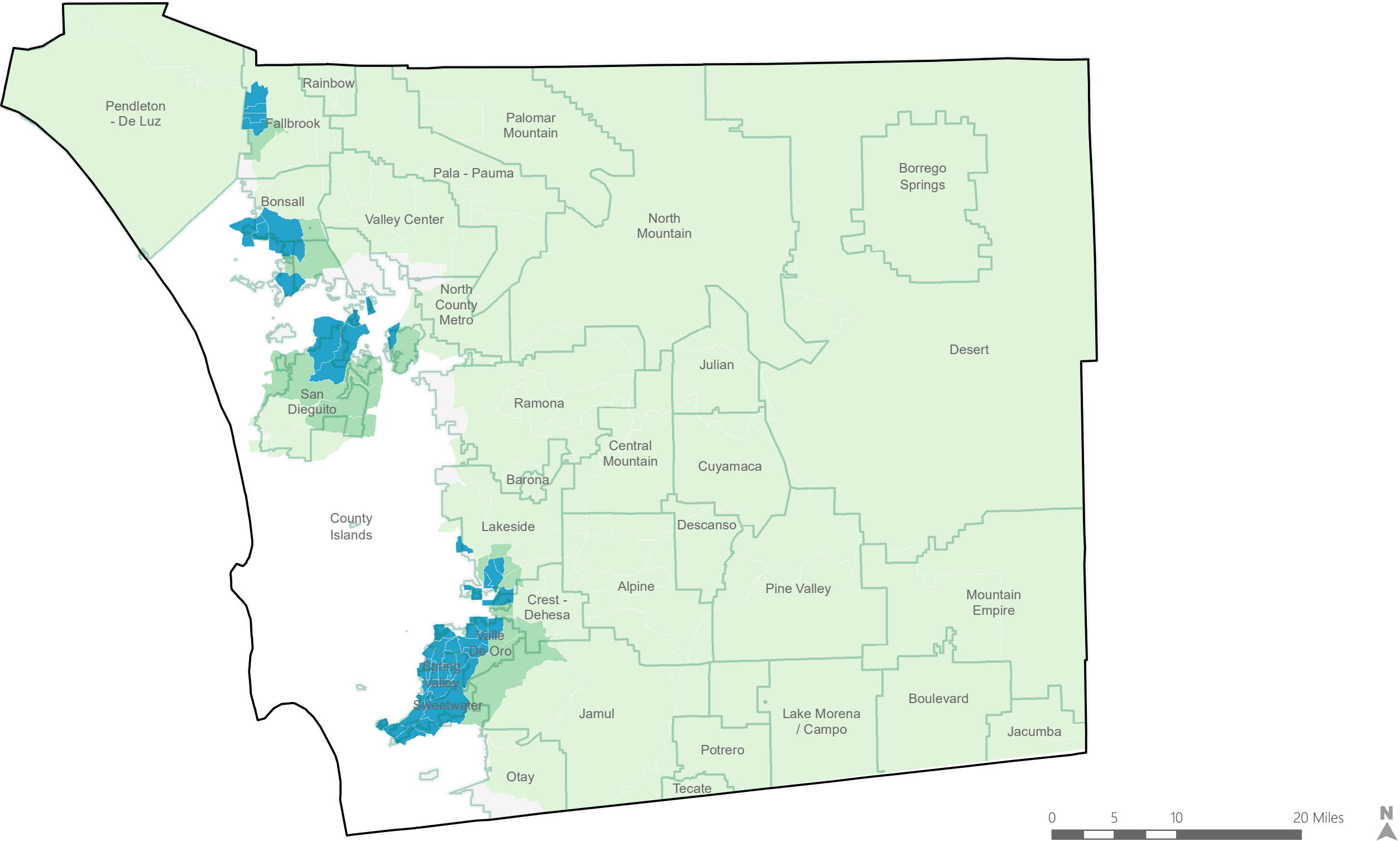
Legend

- SANDAG Region
- Community Plan Area
- At Least 15% below SANDAG Average VMT
- Between 15% below and SANDAG Average VMT
- Above SANDAG VMT



Figure 8: VMT per Capita by Census Tract, Categorized by SANDAG Average VMT per Resident (21.85)

\\psd03.fpa\nc.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd



Legend

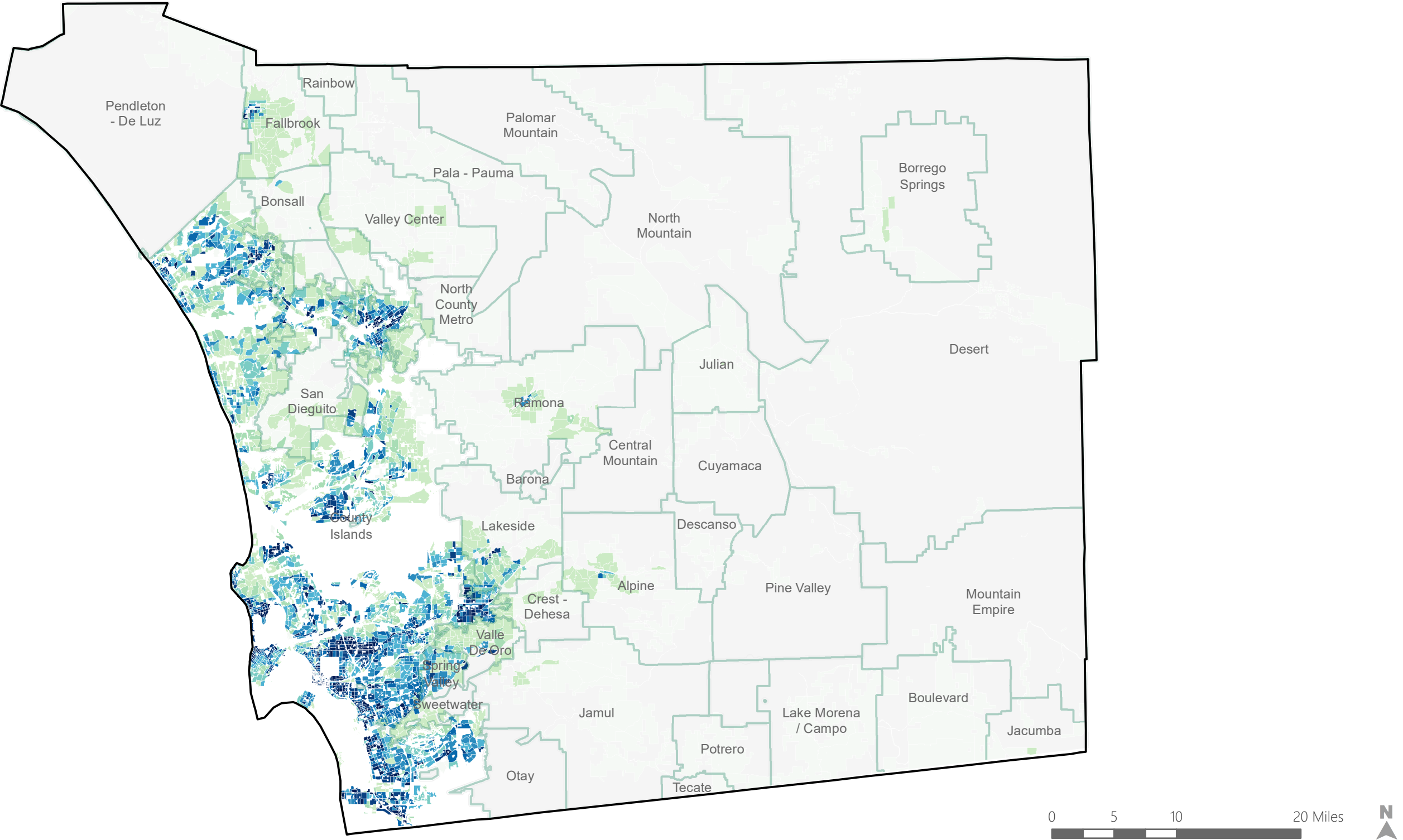
- SANDAG Region
- Community Plan Area
- At Least 15% below County Unincorporated Average VMT
- Between 15% below and County Unincorporated Average VMT
- Above County Unincorporated Average VMT

Figure 9: VMT per Capita by Census Tract, Categorized by Unincorporated County Average VMT per Resident (32.54)

*Based on the SANDAG Series 13 Base Year Model, consistent with Rescinded Transportation Study Guidelines



N:\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\XD\All County\7 October 2021 Place Types Analysis.mxd

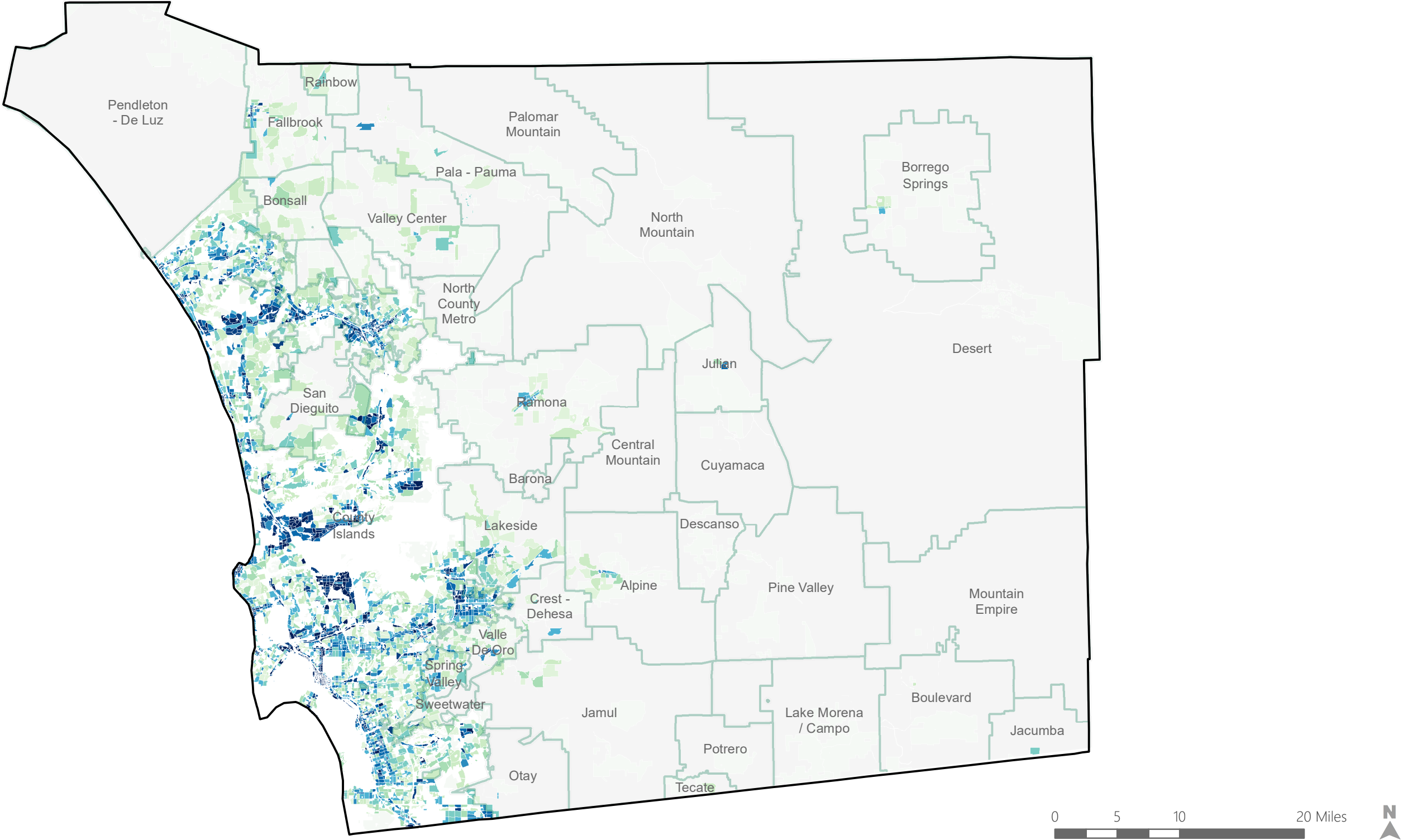


Legend



Figure 10: Population Density in San Diego County

*Based on the SANDAG Series 13 Base Year Model



Legend

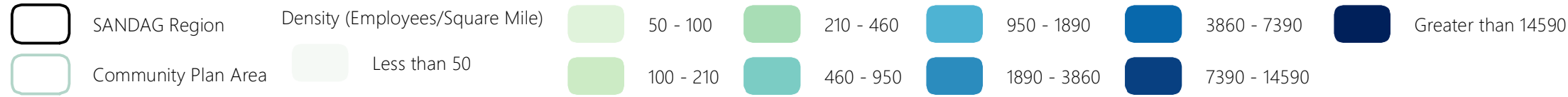
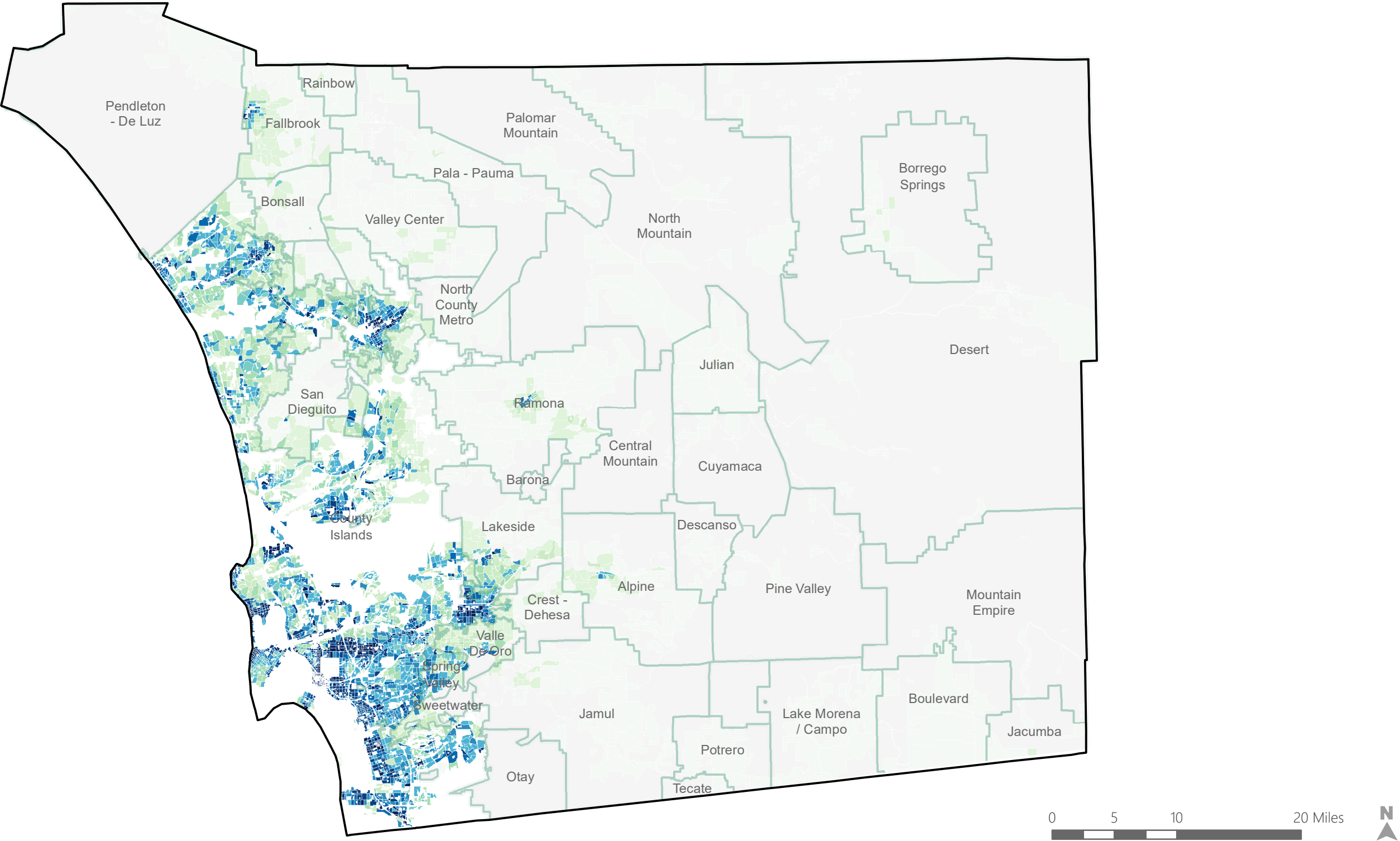


Figure 11: Employment Density in San Diego County

*Based on the SANDAG Series 13 Base Year Model

N:\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\XD\All County\7 October 2021 Place Types Analysis.mxd



Legend

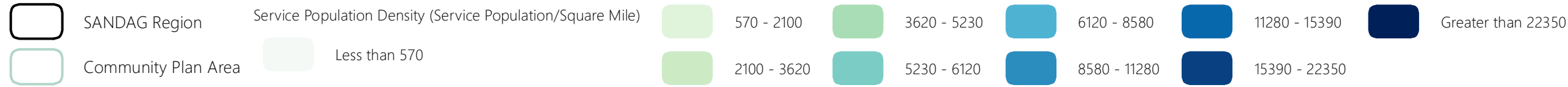
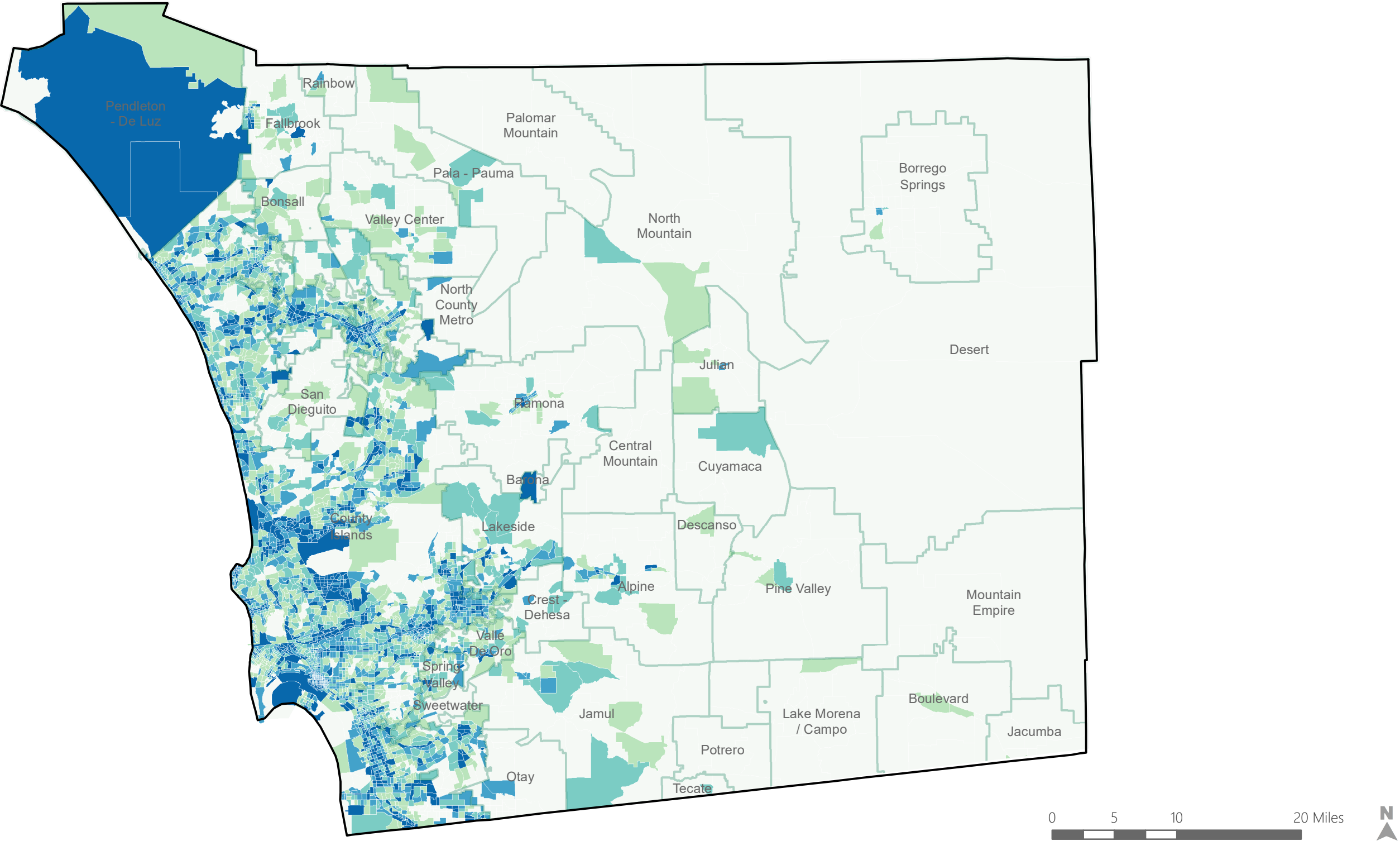


Figure 12: Service Population Density in San Diego County

*Based on the SANDAG Series 13 Base Year Model

\\psd03.fpa\nc.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd



Legend

- SANDAG Region

Community Plan Area
- Access to Retail and Restuarants within 1-mile, by TAZ

Less than 0.09

0.10 - 0.59

0.60 - 2.65

2.66 - 16.35

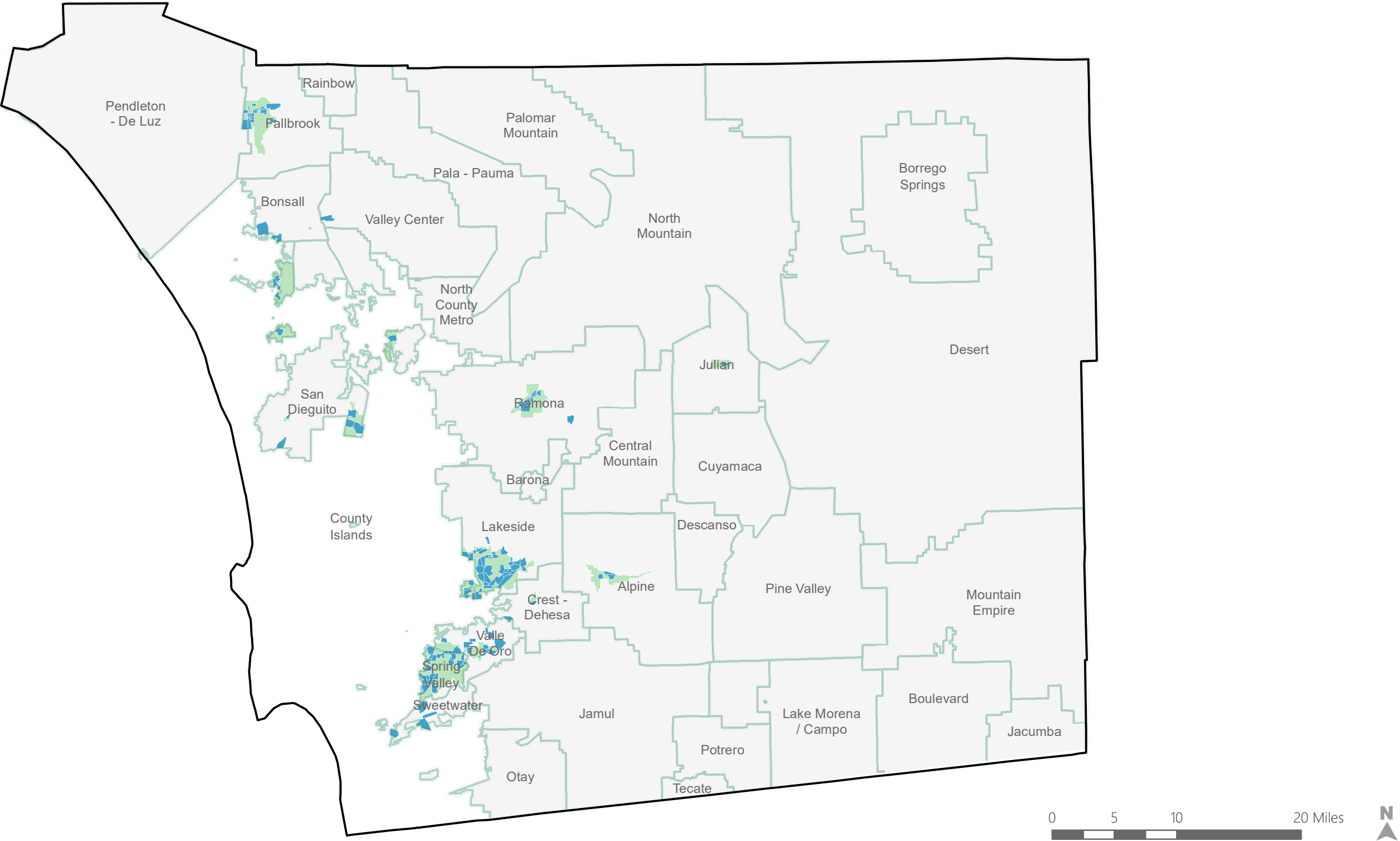
Greater than 16.35



Figure 13: Retail and Restuarant Accessibility in San Diego County

*Based on the SANDAG Series 13 Base Year Model

\\psd03.fpincl.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd



Legend

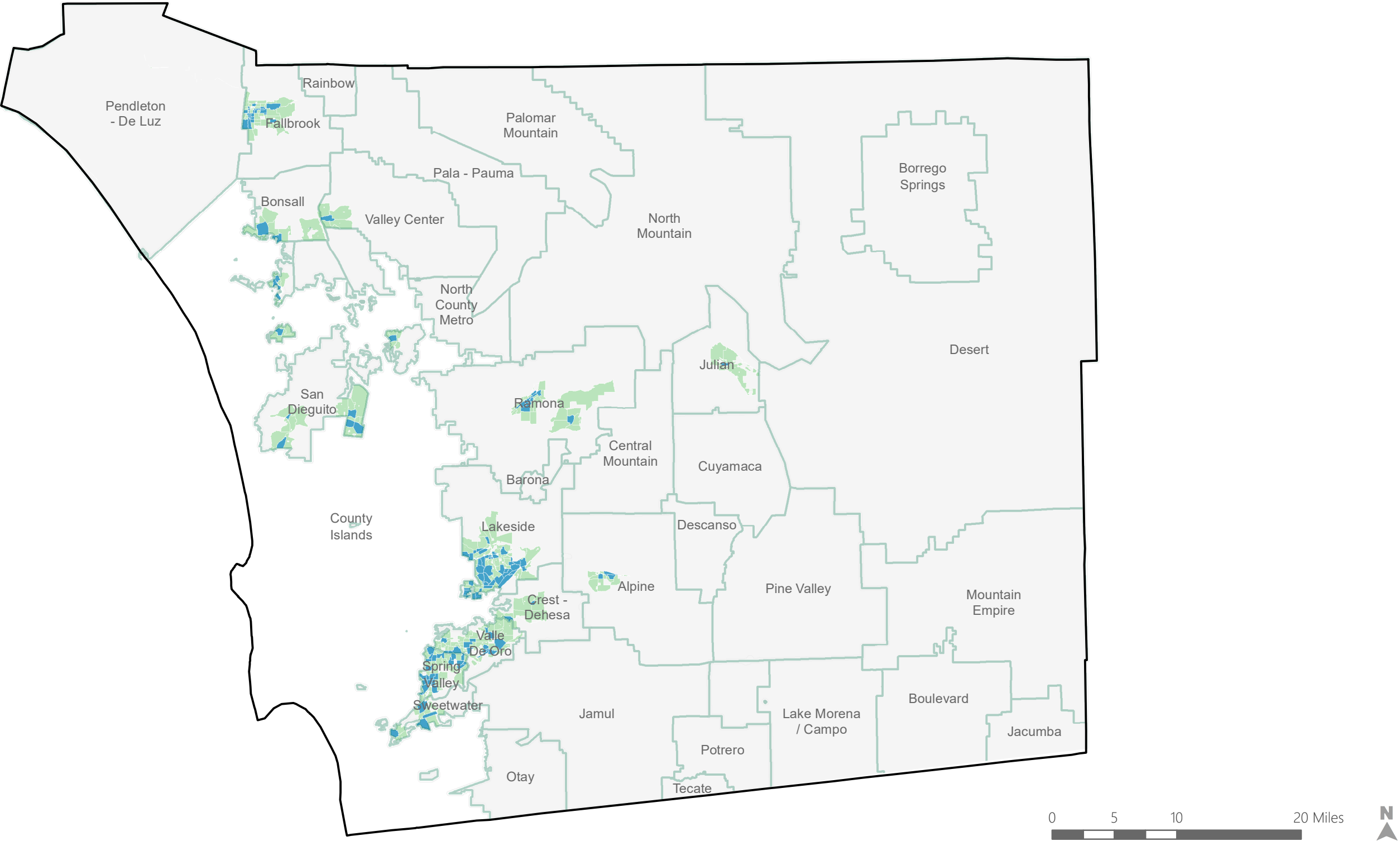
- SANDAG Region
- Unincorporated County TAZs which meet infill definition
- County Village Areas that Overlap Infill Areas
- Community Plan Area



Figure 14: County Village Areas that Overlap Infill Areas

*Based on the SANDAG Series 13 Base Year Model

\\psd03.fpincl.local\data\Projects\2018_Projects\0291_County of San Diego SB 743\GIS\MXD\All County\7 October 2021 Place Types Analysis.mxd



Legend





-  SANDAG Region
-  Community Plan Area
-  Unincorporated County TAZs which meet infill definition
-  TAZs Adjacent to Infill Areas



Figure 15: Areas of Unincorporated County Which Meet Infill Definition and Adjacent TAZs

*Based on the SANDAG Series 13 Base Year Model