

MEMORANDUM

DATE October 7, 2020

TO Whitney Wilkinson, County of Santa Barbara, Senior Planner

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SUBJECT Climate Change Vulnerability Assessment – Population and Asset Profiles

Introduction

The Santa Barbara County Project Team reviewed and confirmed the proposed list of populations and assets in July 2020. This memo provides the profiles for each asset, including background, limitations, and relations among assets, as well as an overview of current populations and assets within the county. The Project Team will use these profiles during each step of the vulnerability assessment.

Selected Populations and Assets

Populations and assets are the people, buildings and infrastructure, economic assets, ecosystems and natural resources, and key community services in the County of Santa Barbara that can be affected by climate change hazards. PlaceWorks provided the Project Team and Core Team with a draft list of populations and assets based on the general list provided in the California Adaptation Planning Guide (APG). The Project Team and Core Team revised and refined this list to be more appropriate to the County and to ensure that the vulnerability assessment looks at all populations and assets that are important to the community. In total, there are 22 populations and 66 assets that will be evaluated in the Climate Change Vulnerability Assessment (CCVA). These populations and assets fall into the following six categories:

- » **Populations:** Persons who are likely to be disproportionately harmed by climate change.
- » **Infrastructure:** Public infrastructure and other structures that provide important services to the community.
- » **Buildings:** Essential buildings that provide key services to the community.
- » **Economic Drivers:** Facilities and activities that contribute significantly to the Santa Barbara County economy.
- » **Ecosystems and Natural Resources:** A range of natural environments and associated resources throughout Santa Barbara County.
- » **Key Community Services:** Critical functions carried out by both public and private agencies throughout the community.

Population and Asset Considerations

In selecting and assessing various populations and assets to include in the CCVA, it is important to keep a few considerations in mind, including: (1) differences in the population universes between datasets, (2) the limitations of the data sources for Santa Barbara County that PlaceWorks will use to prepare this assessment, and (3) how some population and asset categories may appear to refer to the same thing.

POPULATION SAMPLE POOL

Statistics, especially statistics related to population, use the concept of a sample pool. In this context, the sample pool is the overall group of people that the individuals being measured or studied are drawn from. For example, in a political poll that is conducted among registered voters, the sample pool is registered voters, since people who are not registered voters are not counted.

This concept is important for the Santa Barbara County CCVA because some of the demographics used in the CCVA have different sample pools. Most of the demographic data come from the US Census Bureau's American Community Survey (ACS), and most of this data have a sample pool of either all residents or all households in the county. However, a few that are different include:

- » Data on persons with limited English proficiency only counts people who are at least 14 years old, since young children generally are not proficient in any language.
- » Statistics that only count the noninstitutionalized population (e.g., people not in prisons or long-term care homes).

This does not affect the outcome of the vulnerability assessment, but it can create slight differences in the number of people counted as part of each population.

DATA LIMITATIONS

The CCVA will pull in data from a wide array of sources. PlaceWorks will use only reliable, credible sources with the best available information. In some cases, the CCVA will be constrained by the lack of available high-quality information or spatial information about the geographic distribution of particular populations or assets. For example, there is no accurate information about the distribution of undocumented persons in Santa Barbara County, and even information about the total number of undocumented persons county-wide is an educated estimate. Because of this, the vulnerability assessment considers undocumented persons but cannot identify specific areas where they may face an elevated risk from certain hazards.

RELATED ASSETS

Throughout the 88 populations and assets in the CCVA, there are a few that may appear redundant. For example, the CCVA will look at both public safety buildings (as a Buildings asset) and at public safety response (as a Community Service asset). To be as comprehensive as possible, the CCVA will look at physical structures separately from the services or benefits they provide. In the same way, CCVA will look at frontline or underserved populations separately from the homes they live in or the industries where they are employed.

This is because the effects of climate change on one type of population or asset can be different from the effects on related populations and assets. For example, if a flood damaged or destroyed a single access road, such as State Route 166 (SR-166), it would have a significant

impact on public safety services in and around the community of Cuyama, particularly if staff and resources were needed from elsewhere in Santa Barbara County. However, the loss of SR-166 would do no damage to police or fire stations. Similarly, a drought can have a major effect on water and wastewater services by reducing the amount of water available in the county, but droughts have little or no physical effect on water and wastewater pipelines, pumps, or treatment facilities.

Population and Asset Profiles

POPULATIONS

The vulnerability assessment will evaluate the following 22 populations that may be disproportionately harmed by climate change hazards. PlaceWorks gathered the data for many of the populations listed from the ACS 2013 to 2017 5-year estimates at the block level. Other sources for population data include CalEnviroScreen 3.0, the Healthy Places Index, and the 2019 Santa Barbara Point-in-Time Count & Survey.

Children: Children are those that 10 ten years of age or younger. There are approximately 12,285 children in the unincorporated county, or 9 percent of the total population.¹

Communities with high pollution burden: Persons living in areas with high levels of soil, water, and/or atmospheric pollution, as measured by the number of permitted facilities and measurements of key pollutants. These areas include Casmalia, Garey, Sisquoc, Los Alamos, New Cuyama, Cuyama, Vandenberg Village, and Mission Hills.²

Cost-burdened households: Households paying over 30 percent of their income towards housing-related expenses, including mortgage and rental payments, real estate taxes, homeowner's insurance, and utilities. There are approximately 17,548 cost-burdened households in the unincorporated county, or 39 percent of all households.³

Households in mobile homes: Households living in prefabricated structures, built in a factory before being transported to the site. There are approximately 2,712 households in mobile homes in the unincorporated county, or 6 percent of households.⁴

Households in poverty: Households with an income below the 2020 federal poverty level, which is \$26,200 for a household of four.⁵ There are approximately 6,839 households in poverty in the unincorporated county, or 15 percent of all households.⁶

Isolated and rural communities: Communities located in rural, low-density areas away from large developed areas, often with limited access routes, such as Casmalia, Cuyama, and New Cuyama.

Low-income households: Households with an income below \$95,300 (the threshold for low-income levels for a household of four in Santa Barbara County, according to state income limits from the California Department of Housing and Community Development). There are approximately 26,303 low-income households in the unincorporated county, or 59 percent of all households.⁷

Low-resourced ethnic minorities: Persons identifying as a member of a racial and/or ethnic minority and facing limited access to resources, such as financial, social, healthcare, or educational assistance.^{8,9}

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Outdoor workers: Persons in industries that require them to be outdoors, such as agriculture, outdoor recreation, construction, and landscaping. Approximately 12 percent of people older than 16 and employed work outdoors in the unincorporated County.¹⁰ This percentage includes undocumented workers; however, undocumented workers may be underrepresented in Census data and other datasets.

Overcrowded households: Persons living in households with more than 1.0 persons per room (including all rooms except bathrooms) are considered overcrowded. Persons living in households with more than 1.5 persons per room are considered severely overcrowded. There are approximately 2,195 overcrowded households in the unincorporated county, or 5 percent of all households.¹¹

Persons experiencing homelessness: Persons experiencing homelessness are individuals with a primary nighttime residence that is in a public or private space not designed for use as a regular sleeping accommodation for human beings. There are approximately 59 persons experiencing homelessness in the unincorporated county, or 0.04 percent of the population.¹²

Persons living on single access roads: Persons living on roadways with only one access point in or out of the neighborhood or community.¹³

Persons with chronic health problems: Persons with a persistent or long-lasting illness or disease, including those with compromised immune systems.¹⁴

Persons with disabilities and access and functional needs: Persons with a physical condition that limits their movements, senses, or activities, including those with access and functional needs; and persons with psychological conditions, including mental, behavioral, cognitive, and developmental disabilities. There are approximately 12,985 persons with disabilities in the unincorporated county, or 9 percent of the population, although this may not include all persons with access and functional needs.¹⁵

Persons with limited English proficiency: A person 14 years of age or older who speaks a language other than English at home and does not speak English very well. There are approximately 1,416 limited English-speaking households in the unincorporated county, or 3 percent of all households.¹⁶

Persons without a high school degree: Adults (at least 25 years of age) who did not complete high school or receive their GED. There are approximately 8,770 persons without a high school degree in the unincorporated county, or 20 percent of the population.¹⁷

Persons without access to transportation or telecommunications: Persons without access to a car, transit, or communication systems (internet and phone services). There are approximately 1,643 households without access to a vehicle in the unincorporated county, or 4 percent of all households.¹⁸ Approximately 20,048 households do not have internet access in the county, or 18 percent of all households.

Renters: Persons who do not own the household in which they reside. There are approximately 15,721 households that rent in the unincorporated county, or 35 percent of all households.¹⁹

Senior citizens: Individuals 65 years or older. There are approximately 21,923 senior citizens in the county, or 16 percent of the population.²⁰

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Senior citizens living alone: Individuals 65 years or older living alone. There are approximately 4,927 senior citizens living alone in the unincorporated county, or 3 percent of the population.²¹

Unemployed persons: Persons who are actively searching for employment but are unable to find work. There are approximately 7,840 unemployed persons in the unincorporated county, or approximately 7 percent of the working population.²²

Undocumented persons: Persons residing in the country and the county without legal documentation.

INFRASTRUCTURE

There are 22 types of infrastructure in the CCVA. Some infrastructure is publicly owned by Santa Barbara County or other government agencies, and others are private property.

Airports: Airports and the associated facilities serving or within Santa Barbara County. These airports include Vandenberg Air Force Base, Lompoc Airport, Santa Barbara Airport, Santa Maria Public Airport, and Santa Ynez Airport.²³

Beaches: Local beaches, including, but not limited to, Goleta Beach, Arroyo Burro Beach, Santa Claus Lane Beach, Butterfly Beach, Jalama Beach, Rincon County Beach/Park, Rancho Guadalupe Dunes County Park, Point Sal State Beach, and Ocean Beach Park, as well as state beaches at Carpinteria, El Capitan, Refugio, and Gaviota.²⁴

Bicycle routes: Paved or unpaved trails that are mostly intended for bicycling activities. Santa Barbara County has over 400 miles of bicycle routes.²⁵

Bridges: Bridges may carry roads, rails, or trails. In Santa Barbara County, these range from the large, state-owned bridges that carry Highway 101, to locally owned bridges that carry hiking trails over small creeks. There are approximately 198 local bridges, 233 state highway bridges, and 105 rail bridges in the county.^{26,27,28}

Bus routes: Bus transit routes that serve the unincorporated areas of Santa Barbara County. These routes are operated by Santa Barbara Metropolitan Transit District, Santa Ynez Valley Transit, The Breeze Bus, Chumash Casino Bus, Clean Air Express, Coastal Express by VCTC, City of Lompoc Transit, Cuyama Transit, Greyhound, San Luis Obispo Regional Transit Authority, and Wine Country Express.²⁹

Communication facilities: These facilities include public radio and television transmitters, cell phone towers, emergency communication antennae, and a wide range of other public and private communication infrastructure systems. There are 23 known cell towers located within the county, as well as smaller towers and additional communication facilities (e.g., radio, TV, etc.).³⁰

Dams: A barrier to hold back water and raise its level, resulting in a reservoir. Public and private dams in Santa Barbara County include Alisal Creek, Bradbury, Dos Pueblos, Edwards Reservoir, Gibraltar, Glen Annie, Juncal, Los Carneros Lake, Ortega, Dennis Reservoir, and Twitchell.³¹

Electric vehicle charging stations: As of 2017, there were approximately 71 electric vehicle charging stations available in the county for both public and private use.³²

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Electrical substations: Electrical substations are facilities that convert electricity from one voltage to another, making it suitable for long-distance transmission or for use by homes, businesses, and other electrical customers. There are 34 substations within the county, owned and operated by Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and other owners.³³

Electrical transmission and distribution lines: Electrical transmission lines are power lines that carry high-voltage electricity long distances between power plants and electrical customers. There are transmission lines, owned and operated by SCE, PG&E, and other owners within the county.³⁴

Evacuation routes: Major roadways or access roads that act as emergency evacuation routes during disasters.

Flood control infrastructure: This infrastructure includes levees, dikes, drainage channels, and other infrastructure meant to help prevent the creeks and other water bodies in Santa Barbara County from overflowing their banks and causing floods. There are 24.5 miles of levees along Santa Maria River, 42 miles of closed conduits, 22 miles of lined channel, 200 miles improved and unimproved earth channels, 38 recharge basins, 25 debris basins, and 10 sediment trapping basins within the county.³⁵

Hiking trails: These trails are mostly intended for hiking, although some are suitable for equestrian activity and off-road vehicles. These trails may be paved or unpaved. Major trails in the unincorporated areas of Santa Barbara County include the California Coastal Trail, Los Padres National Forest, state parks and beaches, County trails, and private and nonprofit trails such as Arroyo Hondo.

Landfills and transfer stations: Sites that are used for the disposal of or transfer of waste materials. There are 21 landfills or transfer stations within the county.³⁶

Major roads and highways: Santa Barbara County's major roads and highways connect individual communities to others in the region and to points beyond. Major highways include US 101, CA 1, CA 154, CA 166, CA 246, CA 135, CA 192, CA 217, CA 150, Lompoc-Casmalia Road, Ocean Avenue, Aliso Canyon Road, Foxen Canyon Road, Zaca Station Road, Tepusquet Road, Harris Grade Road, Santa Rosa Road, Camino Cielo, and additional city roads that provide critical access.³⁷

Military bases: The Vandenberg Air Force Base along the northwestern edge of Santa Barbara County.³⁸

Parks and open space: County open space and preserves, Santa Barbara County Land Trust properties, University of California Natural Reserve System land, and others.^{39,40,41}

Power plants: Power plants generate large amounts of electricity that is distributed through the state and regional electrical grid. There are 15 power plants in the unincorporated areas (not including small-scale facilities, such as rooftop solar panels), including the large Cuyama Solar Project and Lompoc Strauss Wind Energy Project power plants.⁴²

Public electric vehicle (EV) charging stations: EV charging stations accessible to members of the public, including those in public places and at private commercial centers. The County of Santa Barbara has approximately 82 publicly accessible EV charging stations.⁴³

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Railroads: There are three railroads, including the Union Pacific Railroad, which carries both freight and passengers along the coastal areas of the county, as well as the Santa Maria Valley and Lompoc Industrial Lead that carry primarily freight.⁴⁴

Oil and gas infrastructure: This infrastructure includes oil and gas wells, pipelines (including natural gas), oil fields, refineries, and other facilities that extract, process, and transfer oil and gas products in the county.⁴⁵

Single access roads: Roadways that only have one access point in or out of a neighborhood or region. The single or limited number of entry and exit points does not make the road itself more vulnerable than other roads, but loss of these roadways can effectively cut off large numbers of people from the rest of Santa Barbara County.

Water and wastewater infrastructure: These facilities provide and/or treat water for public use and treat wastewater so it can be safely discharged into the environment. These facilities include surface storage reservoirs, distribution systems, State Water Project facilities, distribution, and availability of supply, desalination plants, water treatment facilities, and wastewater treatment facilities.⁴⁶ Water purveyors and community service districts that serve the unincorporated areas are listed under “water and wastewater” in the Key Community Services section.

BUILDINGS

Buildings include different types of public and private structures. There are 12 different types of building assets to be included in the CCVA.

Colleges and universities: Higher education buildings and greater campus areas. Santa Barbara County has seven colleges and universities, including Allen Hancock College, Santa Barbara City College, University of California Santa Barbara, Westmont College, Antioch University, Pacifica Graduate Institute, and San Joaquin Valley College’s Santa Maria campus.

Commercial buildings: Buildings that support economic activities such as retail and tourism.

Community centers: Community centers are public properties that provide gathering and activities spaces, such as youth centers, senior centers, veterans’ centers, and other community centers. They are owned by the County government or by special government districts and include Oasis Center, Los Olivos Grange Hall, Isla Vista Community Center, Los Alamos Senior Center, Earl Warren Showgrounds, Cuyama Family Resource Center, and Cachuma Clubhouse.

Evacuation and homeless shelters: Facilities that provide housing and shelter for persons experiencing homelessness for evacuees that do not have other housing options, such as the Earl Warren Showgrounds and other shelter facilities.⁴⁷

Government buildings and maintenance yards: Buildings owned and/or operated by Santa Barbara County that provide administrative and other services. These buildings include, but are not limited to, the Santa Barbara County Engineering Building, which houses Planning and Development and Public Works Administration and Transportation Divisions, Naomi Schwartz County Office Building, which houses Public Works, Santa Barbara County Emergency Operations Center, County Education Office, County Fire Headquarters, Santa Barbara County Public Health Department, Santa Barbara County Offices Lompoc, Santa Barbara County Planning & Development North County Office, Department of Public Works North County Office,

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Department of Social Services, Department of Behavioral Wellness, County Elections Office, County Administration Building, and County Courthouse, which serves the courts, and County Clerk-Recorder Office.

Hazardous material facilities: Commercial, industrial, and manufacturing facilities that use, produce, sell, or transport hazardous materials. According to the County's list of Hazardous Business Plan Level 5 sites, Resource Conservation and Recovery Act (RCRA) Large Quantity Generators, non-RCRA Large Quantity Generators, APST 3: 10,000-100,000g sites, and CalARP Program 1 sites, there are approximately 351 hazardous materials facilities in the County.

Historic buildings and facilities: Buildings, facilities, and sites on the County of Santa Barbara's List of Historic Landmarks. There are approximately 51 historic buildings and facilities in the county.⁴⁸

Homes, residential structures, and residential opportunity sites: Homes and residential structures within the unincorporated areas of the County, including older buildings that may have greater heating/cooling needs or be more susceptible to damage. Undeveloped key sites or opportunity areas for potential future housing sites.⁴⁹

Libraries: Facilities containing collections of books, periodicals, and other resources for public or institutional use. Libraries serving the unincorporated areas of the county include Guadalupe Branch Library, Goleta Library, Santa Barbara Main Library, Santa Barbara County Law Library, Orcutt Branch Library, Village Library, Los Alamos Branch Library, Los Olivos Branch Library, Eastside Branch Library, and Montecito Library.

Medical and care facilities: In Santa Barbara County, the primary medical facilities include, but are not limited to, Marian Medical Center, Lompoc Healthcare District, Santa Ynez Valley Cottage Hospital, Goleta Valley Cottage Hospital, Santa Barbara Cottage Hospital, Rehabilitation Institute at Santa Barbara, Santa Barbara County Psychiatric Health Facility, Sansum Clinic, and the Santa Barbara County Crisis Stabilization Unit.⁵⁰

Public safety buildings: Public safety buildings include police and sheriff buildings, fire stations, California Highway Patrol facilities, and related structures such as dispatch centers, correction facilities, animal shelters, and emergency operation centers. There are 18 County fire stations,⁵¹ seven sheriff offices, a Sheriff's Dispatch and other Public Safety Answering Points, the North County Jail, the South County Jail, Montecito Fire Protection District stations, and Carpinteria-Summerland Fire Protection District stations within the unincorporated areas of Santa Barbara County.

Schools: Schools in the unincorporated areas of Santa Barbara County include elementary schools, middle schools, and high schools, and continuing education and special education facilities owned and managed by the school districts. There are 21 school districts in the County, including the Carpinteria Unified Schools District, Cuyama Joint Unified School District, Lompoc Unified School District, Santa Barbara Unified Secondary School District, Cold Spring School District, Goleta Union School District, Hope School District, Montecito School District, Santa Barbara Elementary School District, Santa Maria Joint Union High School District, Blochman Union School District, Guadalupe Union School District, Orcutt Union School District, Santa Maria-Bonita School District, Santa Ynez Valley Union High School District, Ballard School District, Buellton Union School District, College School District, Los Olivos School District, Solvang School District, and Vista Del Mar Union School District.^{52,53}

ECONOMIC DRIVERS

Economic drivers are the primary contributors to the Santa Barbara County economy. This category of the CCVA covers 11 primary economic drivers.

Agriculture: This category includes the production of strawberries, wine grapes, nursery products, cut flowers and foliage, broccoli, cauliflower, lettuce, avocados, and other crops. These agricultural operations are scattered throughout northern and southern Santa Barbara County. In 2018, agriculture produced approximately \$1.5 billion in agricultural products (excluding livestock, poultry, dairy, and bee products).⁵⁴

Agritourism: The economic activities provided by wineries, festivals, U-pick operations, and other agriculture-based tourism activities. There are over 16 different agritourism sites within the unincorporated county.⁵⁵

Chumash Casino: Chumash Casino, located in the Santa Ynez Valley, is the primary economic driver for the Chumash tribal nation. The casino provides a source of tourism that employs approximately 1,700 people.⁵⁶

Coastal and marine recreation and tourism: This category includes economic activities provided by beaches, historic landmarks, parks and open space, hiking trails, bicycling routes, and shorelines along the coast of Santa Barbara County. It also includes sailing, boating, whale-watching, and other ocean-oriented tourism.

Commercial fishing: This category includes catching fish and other seafood for commercial profit from wild fisheries. In 2017, commercial fishing from Santa Barbara Harbor, Goleta Beach, and Surf Beach included over 127 species of fish and totaled approximately \$13 million in profits.⁵⁷

Cultural and historic sites: Santa Barbara County has over 51 cultural and historic sites located in different sub-regions of the county.⁵⁸ These sites include schoolhouses, cemeteries, adobes, cottages and homes, hotels, and wineries scattered throughout the County's landscape.

Livestock: This category includes livestock, poultry, dairy, and bee products. These livestock operations are primarily located in north county. In 2018, livestock produced approximately \$59 million in revenue.⁵⁹

Major employers: This category includes economic activities provided by major employers, outside of agriculture and livestock, that support residents or are located in the unincorporated areas of the county. These include University of California, Santa Barbara; the County of Santa Barbara; Santa Barbara Cottage Hospital; Santa Barbara City College; and Santa Barbara Unified School District.⁶⁰

Oil and gas industry: The oil and gas industry includes economic activities provided by the extraction, processing, or transporting of oil and gas products. There are approximately 23 different companies that have oil and gas operations in the county.⁶¹

State and federal land recreation and tourism: This category includes economic activities provided by state and federal land in the county, including state parks and beaches, Los Padres National Forest, and Channel Islands National Park.

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Vandenberg Air Force Base: Vandenberg Air Force Base is located along the northern coast of Santa Barbara County. The air force base supports approximately 6,800 military, family members, contractors, and civilian employees.⁶² Vandenberg Air Force Base also has a growing space operations that will contribute to job and tourism growth in the area.

ECOSYSTEMS AND NATURAL RESOURCES

There are 10 primary ecosystems and two unique natural resources in Santa Barbara County, excluding barren, agricultural, and developed land. The ecosystems are based, in part, on the ecological units presented in the Conservation Element of the County of Santa Barbara Comprehensive Plan.

Aquatic: Aquatic habitat includes plants and wildlife in the streams, creeks, rivers, and lakes within the County. The County has only one natural lake (Zaca Lake) and several reservoirs. Many of the streams and creeks in the County are intermittent, but the few that flow continuously include Rattlesnake Creek, Mission Creek, San Roque Creek, San Jose Creek, Dos Pueblos Creek, Tajiguas Creek, Arroyo Hondo Creek, Refugio Creek, and Jalama Creek. Rivers within the County include Santa Ynez River, Santa Maria River, New River, Cuyama River, and Sisquoc River.⁶³

Chaparral and scrub habitat: This category includes 10 different sub-habitats, including coastal sage scrub, Great Basin sagebrush, alkali sink, chamise chaparral, mixed chaparral, deciduous oak chaparral, serpentine chaparral associations, semi-desert chaparral, montane chaparral, and Channel Islands chaparral. This ecosystem is abundant in the county, occurring in both high and low elevations, and is made up of several types of evergreen shrubs, such as manzanita, ceanothus, and scrub oak.⁶⁴

Coastal bluffs: This ecosystem is located along coastal strands of the County, specifically from the northernmost point of Carpinteria State Beach to eastern Montecito, western Montecito to Sycamore Creek, west of the Santa Barbara Harbor to the mouth of Atascadero Creek, the University of California at Santa Barbara campus to the dunes along Vandenberg Air Force Base, and north of the Vandenberg Air Force Base to the Guadalupe Dune Preserve.⁶⁵

Forest: This category includes 10 different sub-habitats, consisting of Canyon Oak-Bigcone Spruce, Coast Live Oak, Interior Cypress, Torrey Pine forest (Santa Rosa Island), Mixed Evergreen, Coastal Pine, Douglas Fir, Mixed Conifer, Jeffrey Pine, and Coulter Pine forest or woodland. These forests are primarily located in the coastal mountains in south county and the inland mountains in northeast county, including Los Padres National Forest. Animal species that can be found in this ecosystem include mountain lion (*Puma concolor*), ring-tailed cat (*Bassariscus astutus*), California mountain kingsnake (*Lampropeltis zonata*), and California lyre snake (*Trimorphodon biscutatus*).⁶⁶

Grassland: This ecosystem consists of native grasslands, introduced grassland, high-altitude grassland, and Portrero. Grasslands may be made up of annuals (species that grow and die each year) or perennials (species that survive multiple years). Grasslands are found in both coastal and inland areas of the county, and support animal species such as white-tailed kite (*Elanus leucurus*), California meadow mouse (*Microtus californicus*), and western spadefoot toad (*Spea hammondi*).⁶⁷

Groundwater basins: There are nine groundwater basins that partially or completely lie within Santa Barbara County. These include Carpinteria, Cuyama Valley, Foothill, Goleta, Montecito, San Antonio Creek Valley, Santa Barbara, Santa Maria River Valley, and Santa Ynez River

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Valley basins.⁶⁸ Groundwater basins provide drinking water and agricultural water supplies for most of the county.

Marine Protected Areas: Marine Protected Areas are marine sanctuaries, estuarine research reserves, ocean parks, and marine wildlife refuges established to protect ecosystems, preserve cultural resources such as shipwrecks and archaeological sites, or sustain fisheries production.⁶⁹

Riparian forests and woodland: This ecosystem includes lowland riparian woodland, which primarily occurs along streams and creeks throughout the county. Several oak species grow within these communities, as well as liverworts, maidenhair ferns (*Adiantum* spp.), California bay (*Umbellularia californica*), and the spotted owl (*Strix occidentalis*).⁷⁰

Sandy beaches and coastal dunes: This category includes coastal dunes, supratidal splash zone, intertidal, and subtidal zones along the coastal areas of the county. This ecosystem supports very distinctive plant life and is located north of Point Sal, between Point Sal and Purisima Point, south of Purisima Point, around Surf, Devereux Dunes, Vandenberg Dunes, and Oso Flaco Dunes.⁷¹

Sloughs and coastal marshes: This ecosystem includes estuaries and supratidal, intertidal, and subtidal zones along the coast of the county. Wildlife supported by this ecosystem includes the peregrine falcon (*Falco peregrinus*); Ridgway's rail (*Rallus obsoletus*), formerly known as the clapper rail; Savannah sparrow (*Passerculus sandwichensis*), California black rail (*Laterallus jamaicensis coturniculus*), and grey foxes (*Urocyon cinereoargenteus*).⁷² Significant sloughs include Goleta Slough, Devereux Slough, and Carpinteria Salt Marsh.

Wetlands: Wetlands can include freshwater and saltwater features, and primarily consist of freshwater marsh and vernal pools, which are non-tidal marshes that contain freshwater and are continuously or frequently flooded. Vernal pools specifically are seasonal wetlands that occur along the west coast of the United States. Vernal pools are located near Mescalitin Island, adjacent to the Santa Barbara Airport, at the western edge of Isla Vista, and northwest of the Devereux Slough.⁷³

Woodland and savannah: This category consists of Central Oak woodland, Southern Oak woodland, Pinyon Juniper woodland, Channel Islands woodlands, and Foothill woodland habitats. This ecosystem is primarily located in the Santa Ynez Valley, along the south coast, and the northwestern edge of Los Padres National Forest.⁷⁴

KEY COMMUNITY SERVICES

There are nine key community services that will be evaluated as part of the CCVA.

Communication services: Communication services include radio, television, cellular and landline phone, and internet. These services can be delivered via wires or wirelessly, and most are delivered by private companies. Communication services are often used for entertainment but are also vital for information sharing and remaining connected.

Emergency medical response: Emergency medical response services are usually ambulances but may also be fire or police respondents if ambulances are not available. In remote areas away from roads, emergency medical response may arrive by helicopter. These services are critical in providing rapid and urgent medical care. Agencies that provide emergency medical response in Santa Barbara County include Santa Barbara County

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Emergency Medical Services Agency, Santa Barbara County Fire Department, Montecito Fire Protection District, and Carpinteria-Summerland Fire Protection District.⁷⁵

Energy delivery: Energy delivery in Santa Barbara County is delivered through high-capacity utility lines and pipelines, connected to small local lines. Electricity and natural gas are needed for vital functions such as space heating and telecommunications, as well as many other forms of entertainment and comfort. Electricity is provided by PG&E, SCE, Central Coast Community Energy (Monterey Bay Community Power),⁷⁶ and SoCal Gas.

Government administration: Government administration and community services include the programs, permitting centers, County assessor's office, and other services provided to the public by the County. These services could also include emergency services and emergency public works projects during disasters.

Public health: Public health services include, but not limited to, programming provided by Santa Barbara County Public Health Department, public and private healthcare providers, including mental and behavioral healthcare providers. These services include healthcare and immunization clinics, women's and children's services, senior nutrition, and many others. Some public health services are administered by private medical facilities.⁷⁷

Public safety response: Public safety services are provided by law enforcement, fire, and emergency management agencies. These agencies include the Santa Barbara County Sheriff's Office, Santa Barbara County Fire Department, Santa Barbara County Office of Emergency Management (County Executive Office), Montecito Fire Protection District, Carpinteria-Summerland Fire Protection District, incorporated police and fire departments, and university police and fire departments.^{78, 79}

Public transit access: Public transit within Santa Barbara County is provided by the Santa Barbara Metropolitan Transit District, Santa Ynez Valley Transit, The Breeze Bus, Chumash Casino Bus, Clean Air Express, Coastal Express by VCTC, City of Lompoc Transit, Cuyama Transit, Greyhound, San Luis Obispo Regional Transit Authority, and Wine Country Express.⁸⁰ Additional public transit that provides access to other regional locations includes Amtrak.

Solid waste collection: Solid waste collection services involve the collection, recycling, and disposal of solid waste created by homes and businesses within Santa Barbara County. Solid waste removal services are provided by two waste haulers through franchise agreements in three unincorporated collection areas: South Coast (from the Ventura County line to the Gaviota Pass), the Lompoc unincorporated area (from the Gaviota Pass north to the crest of Drum Canyon and Harris Grade Roads), and the Santa Ynez and Santa Maria Valley unincorporated areas.⁸¹

Water and wastewater: These services involve treating and transporting water to be used by customers and treating and transporting wastewater so it can be safely released into the environment. Several agencies, special districts, and small private organizations provide water and wastewater services to residents and businesses in the unincorporated county. These services are critical to ensuring public and environmental health. Water and wastewater providers include Casmalia Community Services District, Cuyama Community Services District, Los Alamos Community Services District, Los Olivos Community Services District, Mission Hills Community Services District, Santa Ynez Community Services District, Vandenberg Village Community Services District, incorporated community water and wastewater service providers,

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water and wastewater wholesalers and state/regional agencies, and small-scale community water and wastewater systems.⁸²

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