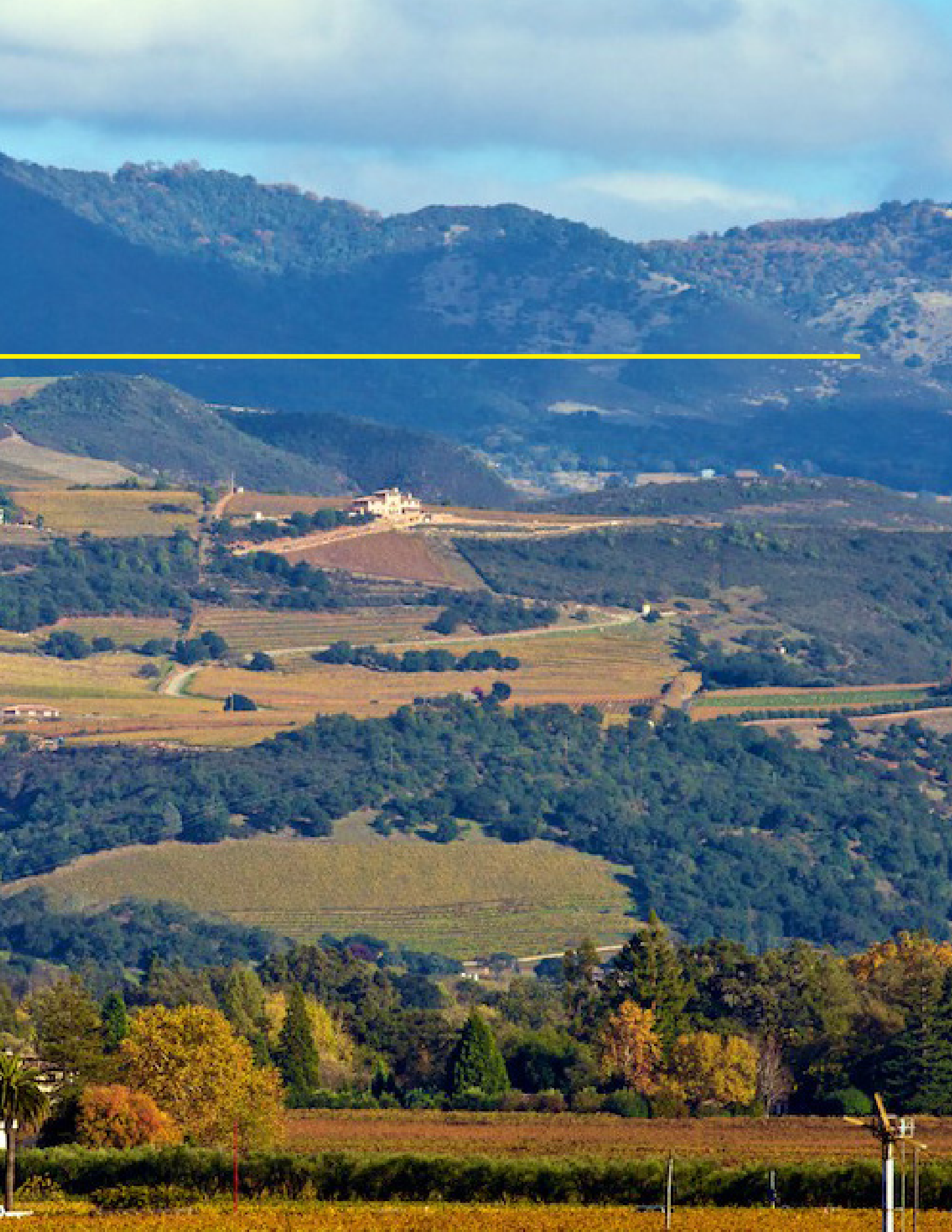
THE NATURAL ENVIRONMENT



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8. OPEN SPACE + CONSERVATION

8.1 PURPOSE OF THE CHAPTER

This chapter presents a framework for governing future decisions about how Yountville will sustain open space and natural resources for today's residents, as well as future generations. Natural resources are the lands, habitat, wildlife, plants and trees, air, water, and other resources that occur naturally in the environment, undisturbed by humanity. These natural resources and open space lands can provide biodiversity, recreation, agricultural and managed natural resources production, flood risk reduction, protection from hazardous conditions, and climate change mitigation and adaptation. The Town recognizes that development of open space lands can degrade its natural resources and impact the many benefits provided by these areas, and therefore seeks to discourage the conversion of open space land to urban uses. The chapter focuses on the protection, maintenance and enhancement of Yountville's natural resources and open spaces, while conserving resources and reducing greenhouse gas emissions. This chapter addresses the State requirements for the open space and conservation elements of the general plan. Together with the Town's Zoning Ordinance regulations related to open space, this chapter constitutes the Town's open space plan.

The Open Space + Conservation chapter includes the following sections.

8.2 Open Space, Parks, and Scenic Resources. Describes parks and open spaces in Yountville and the scenic resources, including viewsheds and vineyards, that define the Town.

8.3 Agricultural Land. Discusses agricultural production in Napa Valley and identifies agricultural land in Yountville.

8.4 Natural Communities and Ecological Resources. Describes the diverse array of natural habitats in the area, including woodlands, chaparral, grasslands, and developed lands, and the wildlife and plants that occur in the Yountville vicinity.

8.5 Watersheds, Waterways, and Groundwater. Provides an overview of the Napa River watershed and the Napa Valley groundwater basin.

8.6 Water Resources. Discusses water supply resources available to Yountville and historical water demand.

8.7 Water Quality. Describes pollutants impacting creeks, the Napa River, wetlands, and the San Francisco Bay and measures to protect water quality.

8.8 Air Quality. Describes air pollutants and air quality in the Yountville area.

8.9 Greenhouse Gas Emissions. Identifies sources of greenhouse gas emissions in Yountville and summarizes actions to reduce emissions through energy conservation, renewable energy, alternative transportation, zero-emission vehicles, waste reduction and recycling, water conservation and reuse, and carbon sequestration.

8.10 Goals, Policies, and Programs. Identifies goals, policies, and programs to conserve, protect and improve natural resources and open space lands and to reduce greenhouse gas emissions.

8.2 PARKS, OPEN SPACE, AND SCENIC RESOURCES

The Town owns and operates several parks and recreation facilities totaling over eleven acres. Table OS-1 provides a summary of the existing parks and open space areas, including the acreage and features. Figure OS-1 shows the Town-owned parks and open space areas.

The Town's parkland inventory does not include the Veterans Home property, which provides its residents with a baseball field and stadium, picnic grounds, bocce ball courts, walking paths, and hiking trails in the upland portion of the 614-acre property. Excluding the Veterans Home property and group quarters, population results in a park standard of 5.7 acres per 1,000 residents, based on 2010 Census data.

The Town's open space inventory includes the Town-owned parks and open space areas listed in Table OS-1, Hopper Creek, Villagio Vineyard (a 2.7-acre, privately-owned parcel preserved as open space and zoned for agriculture use at the corner of Washington Street and California Drive), the dedicated open space area of the Oak Circle condominium development, and approximately 280 acres of open space in the upland area of the Veterans Home. The Veterans Home open space consists of steep hillsides, oak woodlands, riparian land, recreational resources, and water resources, including Hinman Reservoir. This area is a critical part of the Napa River watershed and provides important habitat for plants and animals.

The Town's parks and open space areas are shown in Figure OS-1, which constitutes the Town's open space inventory and map. The open space inventory includes any parcel or area of land or water within the Yountville town limits and sphere of influence that is essentially unimproved and devoted to open space use for natural resources, the managed production of resources, outdoor recreation, public health and safety, and tribal resources, as required by California Government Code §65560. The policies and programs contained in Section 8.10 are aimed at the continued preservation and conservation of these lands.

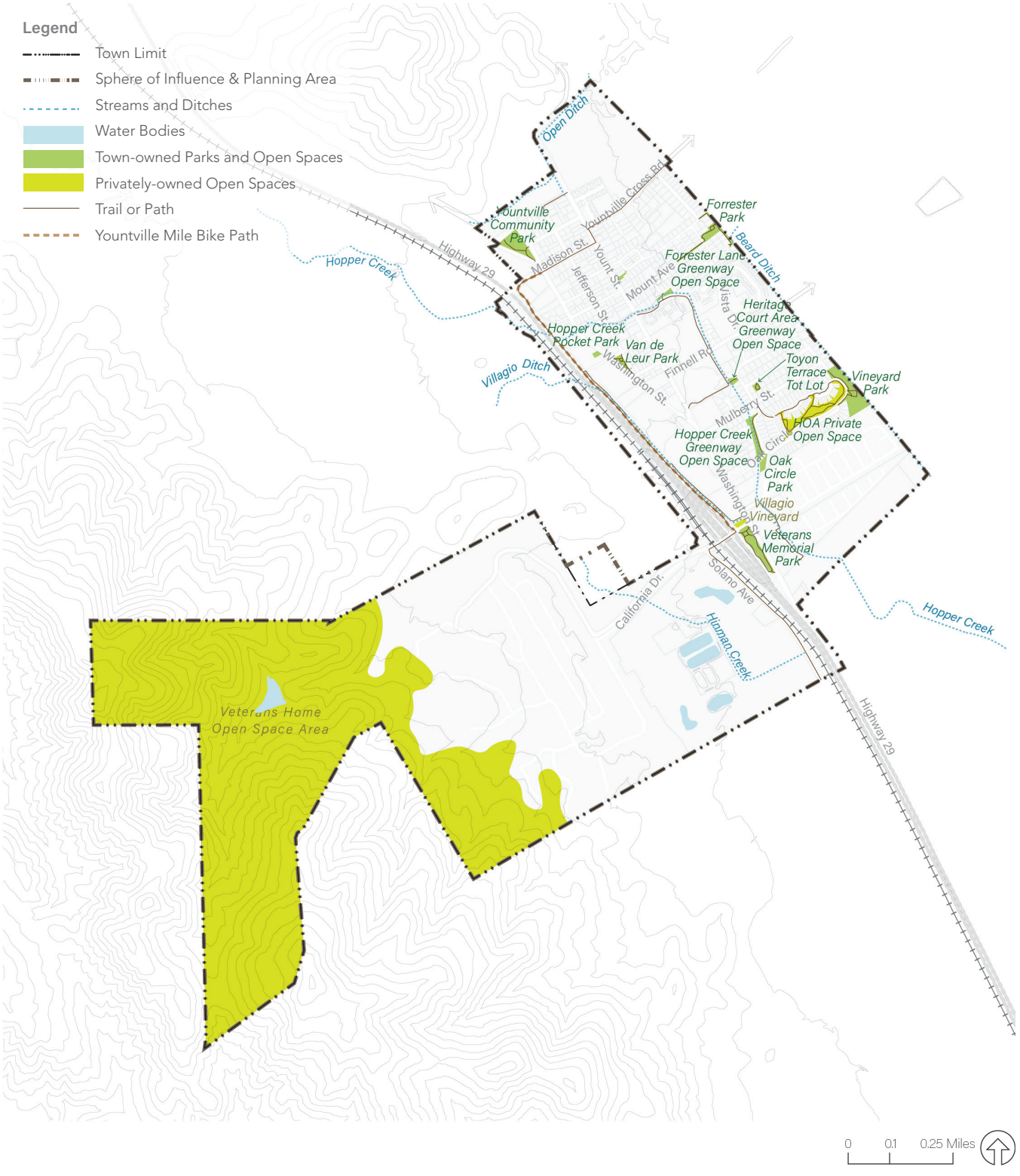
Table OS-1
TOWN-OWNED PARKS AND OPEN SPACE AREAS

PARK NAME	TYPE	ACREAGE	FEATURES
Yountville Community Park	Community Park	2.03	Playground, 2 restroom facilities, 4 picnic areas, large group meeting space, public art
Veterans Memorial Park	Community Park	3.65	1 picnic area, 4 bocce courts, 1 restroom facility, 1 sand volleyball court, walking path, amphitheater, public art
Vineyard Park	Neighborhood Park	2.50	1 tennis court, 1 restroom facility, 1 half-court basketball court, walking path, pickle ball courts, outdoor exercise equipment
Toyon Terrace Tot Lot	Neighborhood Park	0.16	Toddler playground
Hopper Creek Pocket Park	Linear/Greenway	0.10	Native plantings, outdoor art, picnic area
Van de Leur Park	Neighborhood Park	0.28	Path, fountain, picnic tables, outdoor art
Oak Circle Park	Neighborhood Park	0.23	Passive park with gardens, benches, path
Forrester Park	Neighborhood Park	0.86	Playground, path, picnic table
Hopper Creek	Greenway/Open Space	0.77	None
Heritage Court Area	Greenway/Open Space	0.17	None
Forrester Lane	Greenway/Open Space	0.17	Bench
Paths	--	0.11	None
TOTAL		11.03	

Yountville owns and operates parks and recreation facilities totaling over eleven acres, including Forrester Park (top left), Yountville Community Park (top right), Vineyard Park (bottom left), and paths connecting neighborhoods (bottom right).

Figure OS-1

PARKS AND OPEN SPACE AREAS



SCENIC RESOURCES

The Town of Yountville and the surrounding areas possess numerous scenic resources, many of which are found in the natural areas within the unincorporated areas of Napa County. These resources enhance the quality of life for Yountville residents, and provide for outdoor recreational, agricultural, and tourist-generating uses.

The Napa Valley retains a rural, agricultural character. Orderly rows of vineyards are prevalent on the valley floor and appear as a patchwork within grasslands and oak woodlands on the surrounding hillsides. Vineyards and other agricultural uses occupy more than half of the land on the valley floor. Combined with the naturally-occurring vegetation, this gives the entire valley a natural, yet managed, appearance. The Napa River flows through Napa Valley, and other smaller streams drain the mountainous areas and flow into the Napa River.

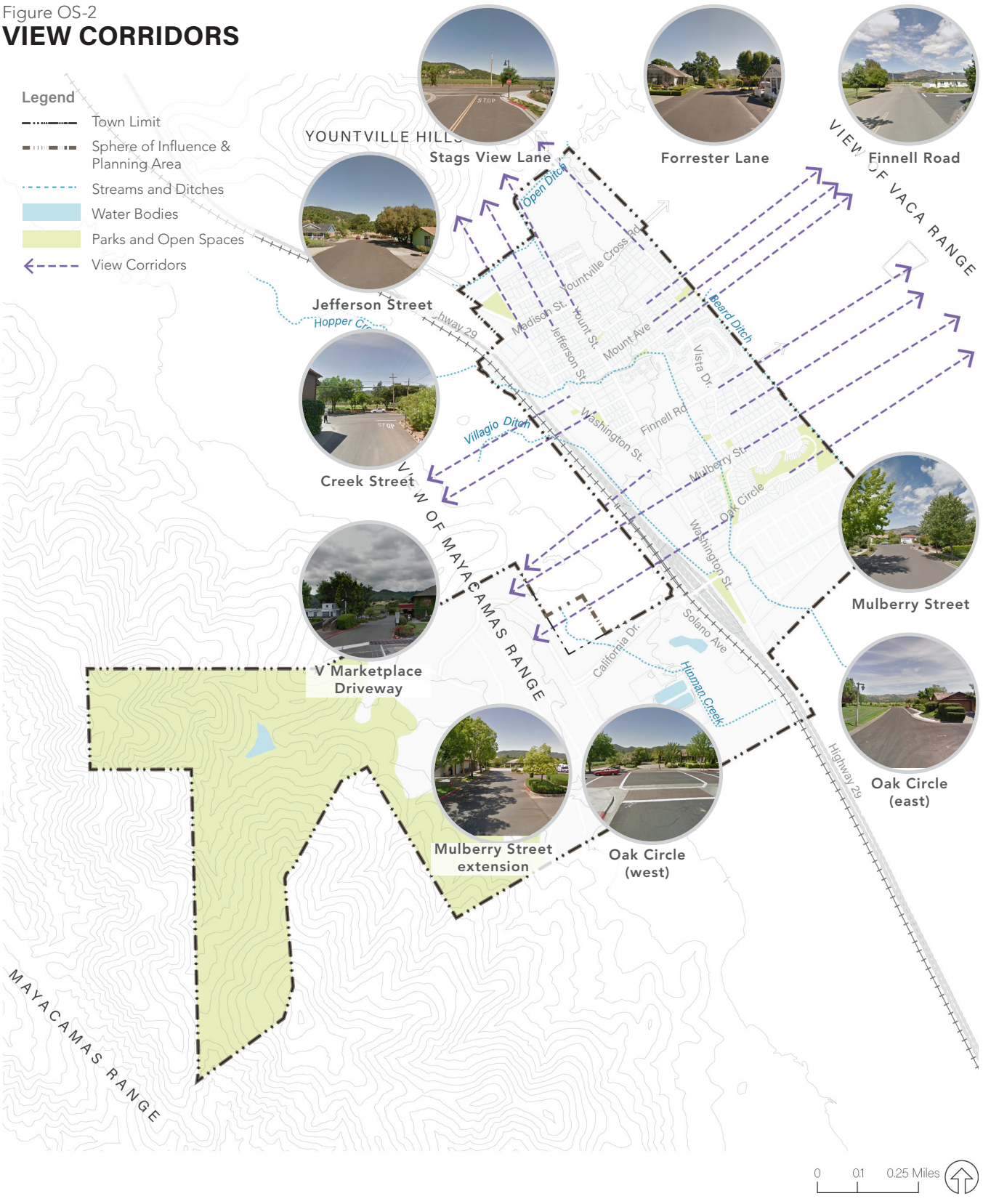
Urban development is concentrated in the cities of Napa, American Canyon, St. Helena, and Calistoga and the Town of Yountville. The edges of these communities are softened by rural residences, which exist all around the area, resulting in very few abrupt delineations between city and agricultural land.

Structures associated with agriculture, including wineries and wine tasting rooms, are also scattered among the vineyards. As a consequence, the built landscape is an important component of the valley floor, yielding only to vineyards and other large agricultural lands, and woven into the visual fabric elsewhere. The natural environment – stands of mature valley oak, and streams and their riparian surroundings – serve as buffers between residences and agricultural uses in many locations, further softening edges in the area.

Recognizing the extraordinary beauty and value of Yountville's scenic resources, the Town preserves specific view corridors, as shown in Figure OS-2, that provide a visual connection from places within the Town to the surrounding landscape. View corridors protect the view that exists when looking down a specified street, in the direction shown in Figure OS-2; they are not intended to protect views from particular properties. In effect, the view corridor prevents a home or building from being built directly across the terminus of a street. The Town's Zoning Ordinance contains design standards to apply to these view corridors. The width of a view corridor is at least 35 feet clear of any obstruction by buildings or structures and 20 feet clear of obstruction by trees and landscaping.

Yountville preserves specific view corridors that provide visual connections to the surrounding landscape including Yountville Hill (left) and the Mayacamas (right).

Figure OS-2
VIEW CORRIDORS



8.3 AGRICULTURAL LAND

NAPA COUNTY AGRICULTURAL LAND

Napa Valley is what it is today largely because of its success in preserving agricultural land in the face of development pressure. Napa County has used land use regulations to ensure that agricultural land does not get subdivided or converted to residential sprawl. The "Agricultural Preserve" and "Agricultural Watershed" designations that apply to agricultural land and open space all around Yountville ensure that agriculture and undeveloped hillsides will continue to frame the town.

The County established the Agricultural Preserve, the first of its kind in the United States, in 1968. The Agricultural Preserve originally protected nearly 26,000 acres of the valley floor and foothills and currently protects more than 31,000 acres. Lands within the Agricultural Preserve, designated in the Napa County General Plan as "Agricultural Resource," require a minimum parcel size of 40 acres and generally allow one single-family dwelling per parcel.

Beyond the protection of the valley floor, the County designates a much larger area as "Agriculture, Watershed, and Open Space," commonly referred to as "Agricultural Watershed." This area generally encompasses the Valley's mountainous areas, rangelands, and forests and protects reservoirs, floodplain tributaries, and woodlands. The Agricultural Watershed requires 160 acres per parcel and generally limits development to one single-family dwelling per parcel.

Together, Agricultural Preserve and Agricultural Watershed lands represent more than 90 percent of the County's unincorporated land. In 2017, about 43,500 acres were in wine grape production, creating more than $750 million in production value. All other agricultural production in Napa County created less than $6 million in value.

As shown in Figure OS-3, Agricultural Preserve land surrounds the developed areas of Yountville, while Agricultural Watershed land abuts the undeveloped area of the Veterans Home property.

Napa County voters have taken further steps to preserve agricultural lands. Measure J, enacted in 1990, requires a vote of the people to convert lands designated Agriculture Resource and Agriculture, Watershed, and Open Space in the Napa County General Plan to non-agricultural uses with a few exceptions. Measure P, approved by voters in 2008, extended the provisions of Measure J through the year 2058, but also allows state-mandated affordable housing to be built on agricultural land if there are no other available sites. Measure P does not apply to agricultural land within the Town of Yountville.

FARMLAND CLASSIFICATION

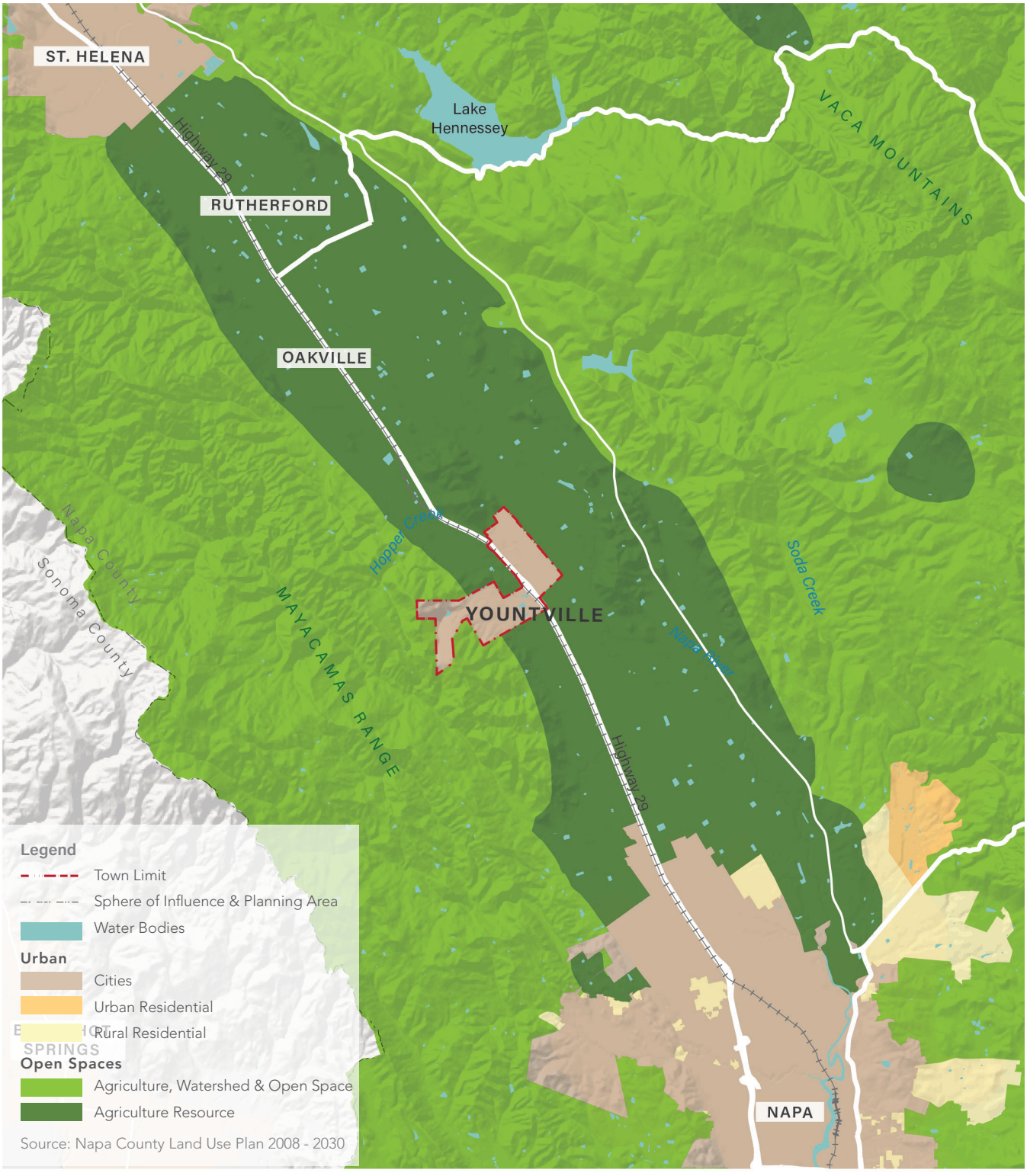
The California Department of Conservation, as part of its Farmland Mapping and Monitoring Program (FMMP), prepares Important Farmland Maps used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status, and the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

FMMP maps identify five agriculture-related categories and three non-agricultural categories as follows:

Prime Farmland: Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Figure OS-3

NAPA COUNTY LAND USE DESIGNATIONS



Farmland of Statewide Importance: Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee. In Napa County, these farmlands include areas that meet all the characteristics of Prime Farmland or Farmland of Statewide Importance with the exception of irrigation, including dryland grass, haylands, and dryland pasture.

Grazing Land: Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suitable for the grazing or browsing of livestock.

Urban and Built-up Land: Urban and Built-up Land is occupied by structures with a buildable density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

Other Land: Other Land is land not included in any other mapping category. Common examples include brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.

Water: Perennial water bodies with an extent of at least 40 acres.

TOWN OF YOUNTVILLE AGRICULTURAL LAND

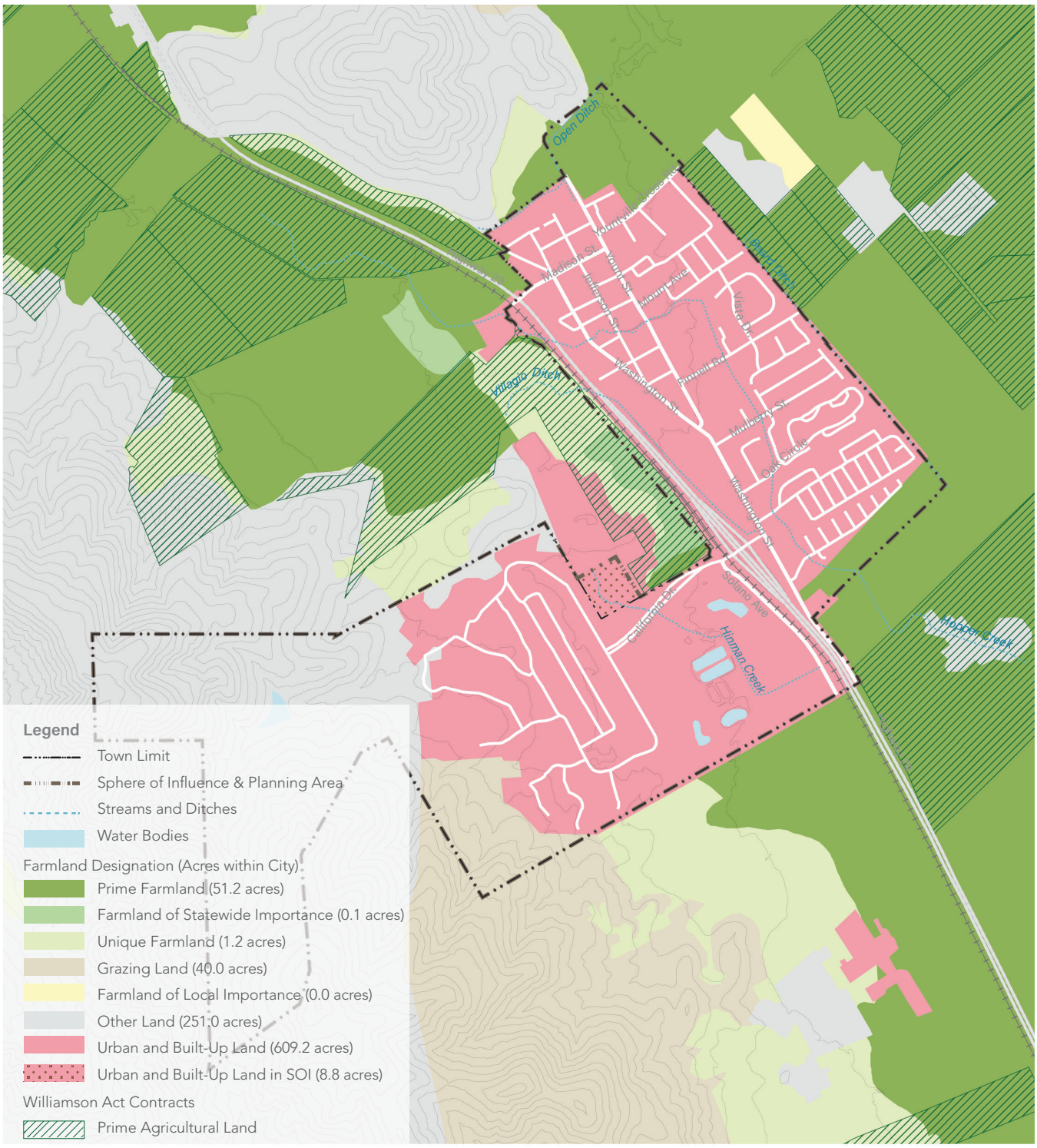
As shown in Figure OS-4, there are two properties within the Yountville planning area, totaling approximately 48.5 acres, that are designated Prime Farmland, the highest-quality agricultural soil. North of Yountville Cross Road, there is a 32.5-acre parcel planted with grape vines and zoned for agricultural use. General Plan policies currently retain this parcel for agricultural use.

At the southern edge of Town is a 16-acre area designated Prime Farmland, also planted with grape vines, that is designated by the Town of Yountville for mixed residential use. This land is identified as a housing opportunity site in the Housing Element with a realistic development capacity of 18 units, and the site used to demonstrate how the Town could meet its 2014-2022 regional housing need allocation for lower-income housing. Therefore, it is reasonable to conclude that the property may be developed within the next eight years.

Figure OS-4 also shows an area, approximately 45 acres, designated as Grazing Land in the southern corner of the Veterans Home property. This land is included in the Town's open space inventory, as shown in Figure OS-1. The California Department of Veterans Affairs has responsibility for the preservation of agricultural land within its property.

All other land within the Town limits is identified as urban or other land. With the exception of the

Figure OS-4
FARMLANDS



Source: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program and De Novo Planning Group, 2017.

Veterans Home, the Town is the only public agency that has responsibility for the preservation of agricultural land within its jurisdiction.

In addition to the land identified in the Farmland Mapping and Monitoring Program, there is Villagio Vineyard, a 2.7-acre, privately-owned parcel preserved as open space and zoned for agricultural use at the corner of Washington Street and California Drive. This property is planted with grape vines.

No lands within the Town are under a Williamson Act contract, which is an agreement that allows private landowners to voluntarily restrict the use of their land to agriculture in exchange for property tax relief.

California has determined that preservation of farmland is a State planning priority. Between 1984 and 2012, more than 1.4 million acres of agricultural land were converted to nonagricultural purposes, at a rate of nearly one square mile every four days. Most of this land was converted to urban uses (1.1 million acres), but other major causes for farmland loss include low density rural residences, mining, and ecological restoration projects.

In Napa County, there has been an increase of important farmland between 1984 and 2016 of about 5,900 acres and a decrease in grazing land of nearly 12,500 acres, for a net loss of agricultural land of 6,500 acres, according to the Farmland Mapping and Monitoring Program. That represents a loss of 2.6% of agricultural land. The loss is approximately equal to the increase in urban and built-up land. In Yountville, approximately 45 acres of agricultural land have been converted to urban uses since 1984.

The State uses incentives, such as the Williamson Act, and its environmental laws to discourage the conversion of important farmlands. The California Environmental Quality Act requires special analysis whenever a development project proposes to convert Prime Farmland, as well as Unique Farmland and Farmland of Local Importance, to non-agricultural uses. In certain circumstances, a local government may find that there are overriding circumstances, such as the need for land for affordable housing, that justifies conversion of important farmland. In addition, the County's adoption of the Agricultural Preserve essentially means that the cities and town of the Napa Valley are obligated to provide for future growth and development, most notably housing, within their borders. The County's General Plan contains goals and policies to concentrate urban uses within the existing cities, town, and urbanized areas of the unincorporated County in order to preserve agriculture and open space, encourage transit-oriented development, conserve energy, and provide for healthy, walkable communities.

8.4 NATURAL COMMUNITIES AND ECOLOGICAL RESOURCES

Yountville is located in the San Francisco Bay bioregion, one of ten bioregions in California. The bioregion is one of the most populous areas of the state, stretching from Point Arena to the Santa Cruz Mountains and extending from the continental shelf to the delta of the Sacramento and San Joaquin Rivers. The habitats and vegetation of the bioregion are as varied as the geography. San Francisco Bay is the largest estuary on the Pacific coast and includes marshlands and mudflats that provide food and shelter for over 1,000 species of animals, including threatened and endangered species. The water that flows through the Delta sustains fish and wildlife, irrigates farmland, and provides fresh water to two-thirds of the state's population.

Population growth and urban development have resulted in habitat loss and fragmentation and the loss of biological diversity in the estuary. Reduced flows of freshwater from the Sierra and water diversions for agriculture have affected fish and waterfowl habitat. Pollution from wastewater treatment plants, oil refineries, and agriculture also impacts biological resources. Urban development continues to threaten the remaining wildlands and habitat of the bioregion and exacerbate air and water quality problems.

BIOLOGIC COMMUNITIES

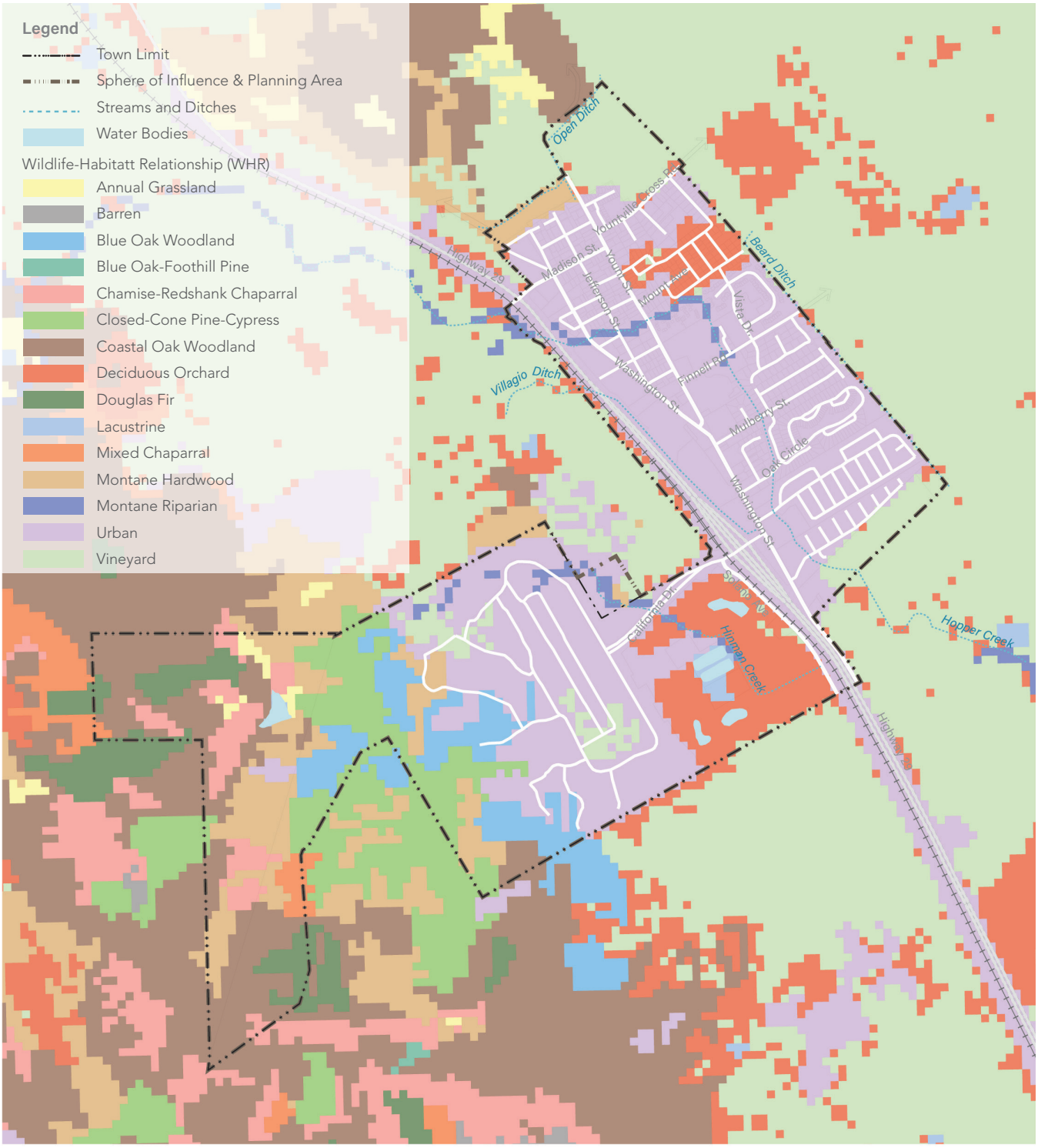
The majority of the land within Yountville's town limits is developed with urban land uses, as shown in Figure OS-5. Vineyards and deciduous trees surround much of the Town, while a variety of oak woodlands, mixed hardwood/conifer forests, chaparral, and grasslands are found to the north and west of Town. Woodlands in the Yountville area include habitat for blue oak, coast live oak, tanoak, pine, cypress, Douglas fir, and madrone. The mature woodlands provide denning, nesting, and foraging opportunities for numerous species of small mammals, reptiles, and birds. Larger mammals such as black-tailed deer and predatory species such as grey fox, mountain lion, and coyote most likely forage throughout the woodlands and open grasslands. Woodlands within the Town limits are found in the western area of the Veterans Home property. Montane hardwood, which is vegetative cover composed of hardwood trees with few shrubs and plants, is found at the cemetery in the northern part of Town.

The Town seeks to foster a vibrant and healthy mixed-species, urban forest. The Town's Municipal Code contains regulations to protect trees and establishes standards for removal, maintenance, replacement, and planting of trees on public and private land. Protected trees include heritage trees, native oak trees of a certain size, and other large trees. In addition, the Town is a Tree City USA community. A nationwide program of the Arbor Day Foundation, Tree City USA recognizes communities that meet four core standards of sound urban forestry management: having a tree board or department, having a community tree ordinance, spending at least $2 per capita on urban forestry, and celebrating Arbor Day.

SPECIAL STATUS SPECIES

Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies. Some of these species receive specific protection that is defined by federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise. The California Natural Diversity Database identifies approximately 55 plant and 45 animal special status species within a nine-quadrangle area surrounding Yountville, an area that includes Napa, Rutherford, St. Helena, Calistoga, Kenwood, Glen Ellen, Sonoma, Chiles Valley, Lake Berryessa, Capell Valley, and Mt. George.

Figure OS-5
LAND COVER TYPES



Source: California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP), a compilation of the "best available" land cover data available for California. The data span from approximately 1990 to 2014.

Plant and animal species identified as endangered under the Federal Endangered Species Act are in danger of extinction within the foreseeable future throughout all or a significant portion of its range. Threatened species are likely to become endangered species in the foreseeable future throughout all or a significant portion of its range. Both endangered and threatened species are fully protected from a "take" unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting of a wildlife species or any attempt to engage in such conduct, including modification of its habitat. Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register. Federal laws also protect migratory birds, including their nests and eggs, and bald and golden eagles.

The California Endangered Species Act protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. There are three listing categories for species under the Act: endangered, threatened, and rare. The rare classification is provided to native plant species when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Table OS-2 identifies special status species known or suspected in the Yountville nine-quadrangle area that are listed as either endangered, threatened, or rare. A full list of all special status species, including plants documented by the California Native Plant Survey, is available in the General Plan Existing Conditions Report.

Table OS-2

SPECIAL-STATUS ANIMAL AND PLANT SPECIES KNOWN OR SUSPECTED IN THE YOUNTVILLE VICINITY

SPECIES		STATUS	
COMMON NAME	SCIENTIFIC NAME	FEDERAL LISTING CATEGORY (USFWS)	STATE LISTING CATEGORY (CDFW)
AMPHIBIANS AND REPTILES			
California red-legged frog	Rana draytonii	T	--
California tiger salamander	Ambystoma californiense	T	T
Foothill yellow-legged frog	Rana boylii	--	CT
BIRDS			
Bank swallow	Riparia riparia	--	T
Bald eagle	Haliaeetus leucocephalus	--	E
Swainson's hawk	Buteo swainsoni	–	T
Tricolored blackbird	Agelaius tricolor	--	CE
Western yellow-billed cuckoo	Coccyzus americanus occidentalis	T	E

Table OS-2

SPECIAL-STATUS ANIMAL AND PLANT SPECIES KNOWN OR SUSPECTED IN THE YOUNTVILLE VICINITY

SPECIES		STATUS	
COMMON NAME	SCIENTIFIC NAME	FEDERAL LISTING CATEGORY (USFWS)	STATE LISTING CATEGORY (CDFW)
FISH AND CRUSTACEANS			
California freshwater shrimp	Syncaris pacifica	E	E
Longfin smelt	Spirinchus thaleichthys	C	T
Steelhead – California coast DPS	Oncorhynchus mykiss irideus	T	–
INSECTS			
Valley elderberry longhorn beetles	Desmocerus californicus dimorphus	T	--
PLANTS			
Burke's goldfields	Lasthenia burkei	E	E
Calistoga popcornflower	Plagiobothrys strictus	E	T
Clara Hunt's milk-vetch	Astragalus claranus	E	T
Contra Costa goldfields	Lasthenia conjugens	E	--
Few-flowered navarretia	Navarretia leucocephala ssp. pauciflora	E	T
Keck's checkerbloom	Sidalcea keckii	E	--
Kenwood Marsh checkerbloom	Sidalcea oregana ssp. valida	E	E
Loch Lomond button-celery	Eryngium constancei	E	E
Mason's lilaeopsis	Lilaeopsis masonii	--	Rare
Napa blue grass	Poa napensis	E	E
Sebastopol meadowfoam	Limnanthes vinculans	E	E
Sonoma alopecurus	Alopecurus aequalis var. sonomensis	E	--
Sonoma sunshine	Blennosperma bakeri	E	E
Two-fork clover	Trifolium amoenum	E	--

Listed species are reported by the California Natural Diversity Database (CNDDB) species to occur or suspected to occur within a 9-quadrangle area surrounding Yountville, 2018.

USFWS = U.S Fish and Wildlife Service; CDFW = California Department of Fish and Wildlife

Status Designations

E = Listed as "endangered" under the federal Endangered Species Act.

T = Listed as "threatened" under the federal Endangered Species Act.

C = A species that has been studied by the USFWS, and the Service has concluded that it should be proposed for addition to the federal endangered or threatened species list.

CE = Proposed for State listing as "endangered".

CT = Proposed for State listing as "threatened".

The Napa River watershed provides a range of habitat types for fish, from the steep, cold, fast-moving waters in the mountain streams, to the flat, warm, salty, and tidal waters of the estuary. The watershed supports thirty native fish species, including several threatened or endangered species. Non-native fish species also reside in the watershed.

Salmon and steelhead trout are anadromous fish species that are present in many of the waters of the Napa Valley. Anadromous fish are born in freshwater rivers and streams, and then migrate to the Pacific Ocean to grow and mature before returning to their place of origin to spawn.

Human development and the introduction of non-native fish have impacted the Napa River and its fish. Flood control projects, mining, sedimentation, and bank degradation have led to fish habitat destruction. The Napa River system has changed from one characterized by pools and riffles to one dominated by large, deep pools with increased water temperatures and slow-moving water. Much of the Napa River and its tributaries now provide the preferred habitat of predatory fish species, many of which are non-native. As a result, the most sensitive species, like steelhead trout, coho salmon, and Chinook salmon, have undergone significant declines in population size and are now protected species under the Federal Endangered Species Act.

The foothill yellow-legged frog may be found in the Yountville area and is a candidate for threatened species status in California.

Photo credit: Amy Lind, U.S. Forest Service

Sebastopol meadowfoam is an endangered plant that is known to occur in the Yountville area.

Photo credit: Jeb Bjerke, California Department of Fish and Wildlife

8.5 WATERSHEDS, WATERWAYS, AND GROUNDWATER

A watershed is a region that is bounded by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, often supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds also provide fresh water for domestic and agricultural use and enjoyment of natural resources.

Yountville is located in the Napa River watershed, as shown in Figure OS-6. The watershed drains a 426-square mile area that discharges to the San Pablo Bay. Relative to other watersheds in the San Francisco Bay Area, the Napa River watershed remains predominately rural, with only 34 square miles developed for urban uses. The remainder of the watershed consists of agricultural production (mostly vineyards) and undeveloped open space.

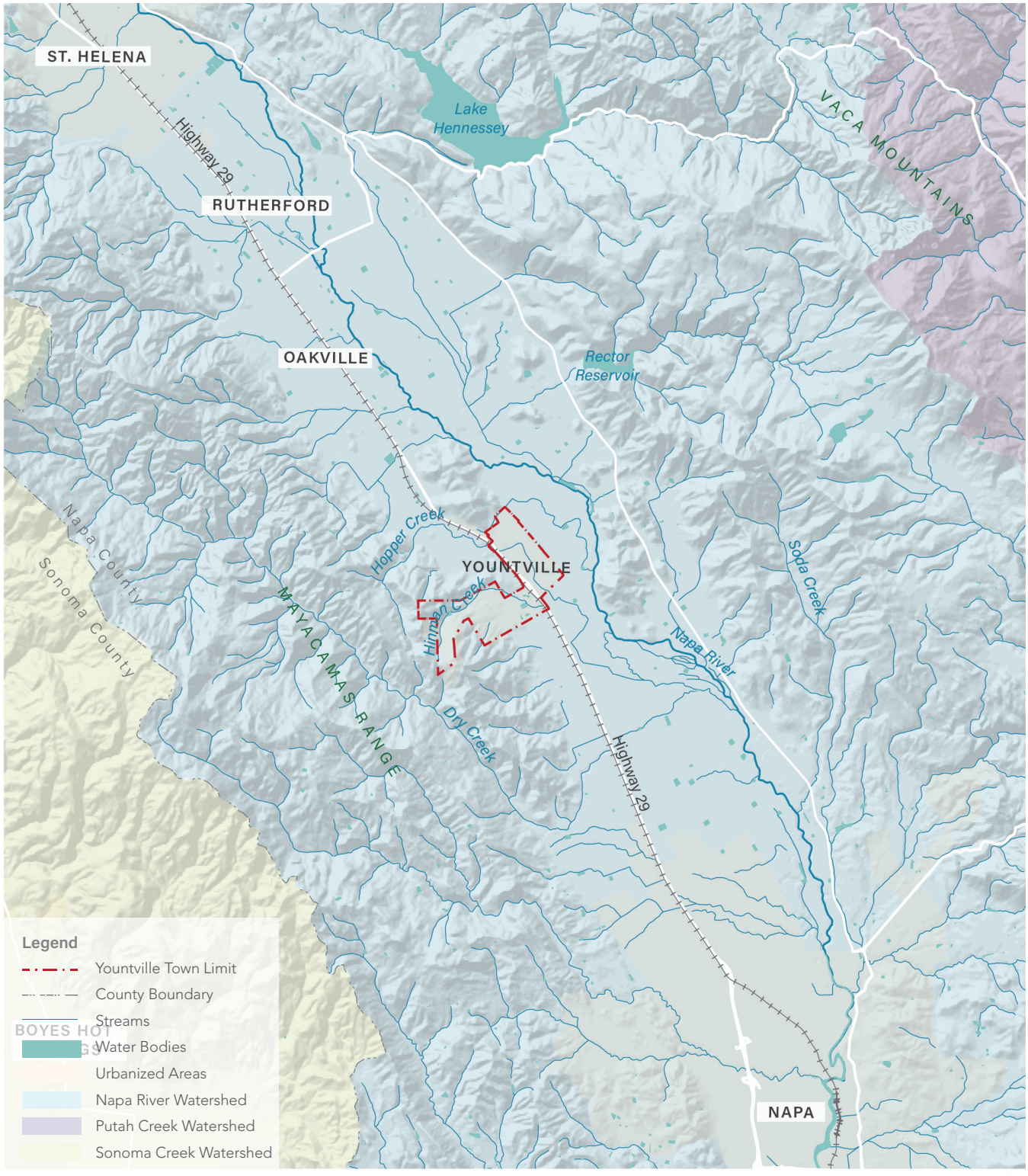
The Napa River, the watershed's major watercourse, travels 55 miles from the headwaters of Mt. St. Helena to the delta feeding San Pablo Bay through varied landscapes of forested mountain slopes, vineyards, urban areas, open pasture, grasslands, and marshes. The Napa River is fed by numerous perennial and ephemeral streams that move water and sediment from the Mayacamas Mountains on the west and the Vaca Mountains on the east. In Yountville, the Napa River passes the town about 0.4 to 1.0 miles to the east through vineyards. Hopper Creek, a tributary of Dry Creek and, in turn, the Napa River, travels from north to south through Town for approximately 1.3 miles, passing primarily through residential areas. Hinman Creek drains an area of about 2.5 square miles on the west side of Highway 29 and is a tributary to Hopper Creek.

The Napa River watershed has changed dramatically over the past two hundred years. A series of major land uses beginning with Euro-American settlement caused the river to erode its bed, abandon its floodplains, and become laden with fine sediment. Some reaches were artificially straightened and other were armored or revetted to prevent bank erosion. As a result, the river system has become greatly simplified and unable to support healthy communities of aquatic and riparian plants and animals.

Napa County is working to restore, enhance, and protect water quality, plant and animal habitat, and natural stream processes throughout the watershed. The County incorporates "Living River Principles" in its flood protection projects, which include reconnecting the river to its historic flood plain, maintaining the natural slope and width of the river, retaining natural channel features such as mud flats, shallows, and sand bars, and supporting a continuous fish and riparian corridor along the river.

Yountville has worked over the years to restore the natural channel and riparian habitat of Hopper Creek and has removed portions of the concrete channel formerly lining the creek. As Hopper Creek flows through Town, the gradient and width of the channel rapidly diminish and the stream deposits cobbles, gravel, and coarse sand in the channel. Sediment deposition in Hopper Creek reduces the flow capacity of the channel, exacerbating flooding and creating the need for continuous maintenance activities. The Town periodically removes sedimentation from the creek and has constructed public works projects to control the transport of sediment.

Figure OS-6
WATERSHEDS



GROUNDWATER

Yountville overlies the largest groundwater basin in Napa County, the Napa Valley Subbasin. As shown in Figure OS-7, the subbasin extends from the City of Napa to just north of the City of Calistoga and covers approximately 60 square miles. The aquifer has an estimated storage volume of 30,000 acre-feet. Recharge to the aquifer occurs primarily by precipitation and, to a lesser extent, from irrigation and infiltration through stream and lake beds. When there is ample rainfall, there is sufficient water supply for all users.

Groundwater is primarily used for irrigation, followed by rural domestic use in the unincorporated area of the County. Approximately 99% of the volume pumped is used for these purposes. Groundwater is not a significant source of water for municipal use, but it is sometimes used for drought and emergency supplies. A study completed in 2005 determined that the basin did not appear to be in an overdraft condition. Overdraft occurs when the annual extractions exceed the annual recharge, leading to long-term declines in groundwater levels.

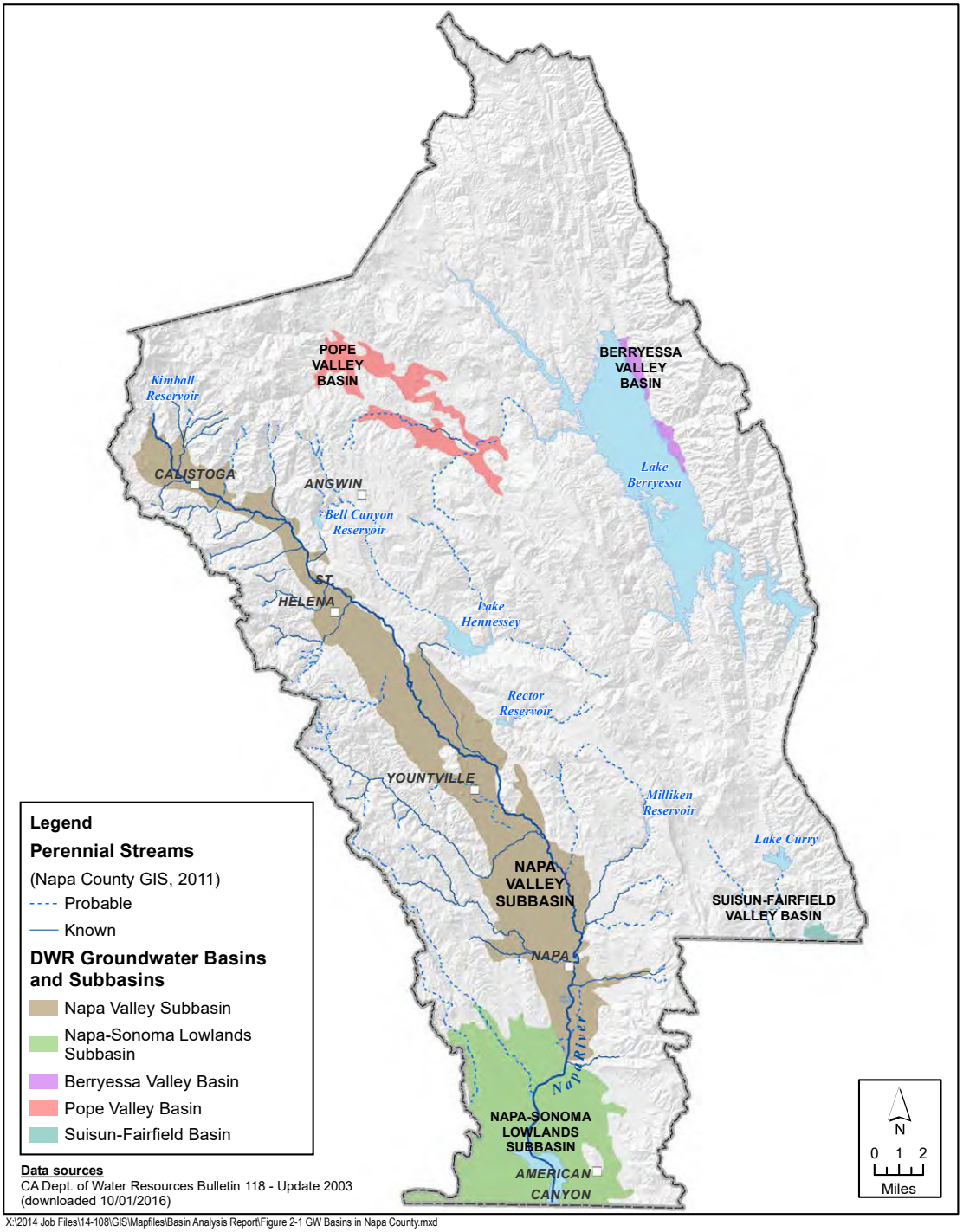
More recently, the 2017 Basin Analysis Report, prepared in response to the Sustainable Groundwater Management Act, found that groundwater levels are stable in a majority of wells with long-term groundwater level records. While several wells have shown some degree of response to recent drought conditions, levels are generally higher than they were in the same wells during the 1976 to 1977 drought.

The Basin Analysis Report estimates that the sustainable yield of the Napa Valley Subbasin is between 17,000 acre-feet to 20,000 acre-feet per year. Sustainable yield is the maximum amount of water that can be withdrawn annually without causing undesirable results such as significant and unreasonable chronic lowering of groundwater, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletion of interconnected surface waters. The report determined that the subbasin has operated within its sustainable yield for a period of more than 20 years. As a point of reference, groundwater pumping averaged 18,000 acre-feet per year during the 2012 to 2015 drought, which is within the subbasin's sustainable yield.

The 2005 study recommended that municipalities pursue diversified approaches to ensure adequate water supply for existing and future needs, including the use of recycled water to meet non-potable water demands. Yountville treats all of its wastewater so that it can be used for irrigation and provides recycled water to the Vintner's Golf Course and six wineries on the east side of the Napa River. In 2015, the wastewater treatment plant delivered 89 percent of its treated wastewater to these entities. The Town owns one groundwater well, built in 2006, for use in emergency or drought situations. The well's capacity is 300 acre-feet per year, but there has not yet been an emergency that has required the well to be used. Monitoring sites have been established in the vicinity of the municipal well to monitor water quality and the groundwater level. If groundwater levels drop substantially, then adjustments will be made to well production.

Figure OS-7

GROUNDWATER BASINS AND SUBBASINS IN NAPA COUNTY



LUHDORFF & SCALMANINI CONSULTING ENGINEERS

FIGURE 1-1
Groundwater Basins and Subbasins in Napa County, CA

8.6 WATER RESOURCES

The Town has the following drinking water supply sources:

- California Department of Veterans Affairs (CDVA) – Long term purchase agreement for 500 acre-feet annually of treated surface water supplied from the Rector Reservoir and treated at the Rector Water Treatment Plant. Rector Reservoir is located on Rector Creek, a tributary to the Napa River. The Reservoir has a capacity of about 4,500 acre-feet.
- City of Napa – Agreement for purchase of emergency supply up to 25 acre-feet per year of treated surface water.
- Emergency Well – The Town owns one groundwater well for use in an emergency or drought situation. The well capacity is 300 acre-feet per year and is treated for iron and manganese.
- State Water Project (SWP) spot purchases – Agreement with the Napa County Flood Control and Water Conservation District, which administers the SWP for Napa County jurisdictions, to be included in the District's dry-year water bank negotiations for an amount up to 200 acre-feet per year.
- Domaine Chandon – Agreement for the purchase of excess water from two Domaine Chandon wells as an emergency water supply.

From Fiscal Years 2006-07 through 2017-18, the Town's annual water demand ranged from 472 to 612 acre-feet, with an average of approximately 475 acre-feet per year over the last three years. Although annual water demand has exceeded the Town's contractual allocation from the CDVA at times, the Town has been able to purchase additional water from the CDVA. Given the willingness of CDVA to sell surplus water to the Town and given the Town's designated emergency water supplies, Yountville has sufficient water to meet its current needs.

Additionally, the Town treats its wastewater to an advanced level which allows the reclaimed water to be used for irrigation of crops and landscaping. The Town provides recycled water to the Vintner's Golf Course and six vineyards in the unincorporated County comprising approximately 4,000 acres. In the calendar year 2015, the Town recycled 89 percent of its wastewater, or 396 acre-feet of wastewater. Together with its conservation programs, the water recycling program helps the Town to reduce overall demand on potable water supplies.

Yountville provides recycled water to the Vintner's Golf Course and six nearby vineyards. In 2015, the Town recycled 89 percent of its wastewater.

8.7 WATER QUALITY

Water is an environmental resource because of its importance to wildlife as well as humans. Protecting and improving water quality is critical to maintaining and enhancing habitat and recharging aquifers.

Two general types of pollutant discharges affect the quality of surface water and groundwater in the Yountville area:

- Point source discharge, which consists of discharge from a pipe or other device directly into the receiving waters. Discharge of treated wastewater from a sewer plant or an industrial building are common examples. Point sources can be managed through periodic monitoring and treatment methods.
- Nonpoint source discharge, which consists of stormwater runoff that has drained from streets, parking lots, roofed structures, farms, and minor watercourses before it reaches a major creek, river, or other water body. This runoff can contain debris, litter, soil, and other natural and man-made pollutants. Typical pollutants include organic materials that contribute to biochemical oxygen demand, suspended solids, pathogens, sediment from construction and erosion, air pollution fall-out, gasoline additives, oil and grease, nitrogen and phosphorus from chemical fertilizers, animal waste, leached acids from leaves, and pesticides. These pollutants come from a variety of sources, including agricultural production, residential landscapes, cars, construction sites, and illegal dumping and spills. Once pollutants from surface runoff reach the receiving waters, they can cause water quality problems similar to those found in municipal and industrial point source discharges.

When water bodies are contaminated by pollutants, they are considered impaired. Water bodies that exceed protective water quality standards are placed on the state's Clean Water Act section 303(d) list of impaired waters. The 36-mile, non-tidal portion of the Napa River is listed as an impaired water body for pathogens, sediment, and nutrients. The river was originally listed in 1976 for excessive nutrients (nitrogen and phosphorus) which created nuisance algae growth. Nuisance algae creates unsightly conditions that detract from the river's recreational value. Algae also blocks sunlight and, when it decomposes, can deplete the river's supply of dissolved oxygen, which is essential to aquatic life. Landowners, local watershed organizations, and federal, State and local government agencies collaborated to implement non-point and point source control measures to reduce nutrient loading to the river. Due to these efforts, nutrient levels have decreased, and the non-tidal portion of the river has been recommended for removal from the list of impaired waters for nutrients.

The Town's stormwater system directs rainwater and runoff directly to creeks, ditches, and rivers. Stormwater, unlike wastewater, is not treated before entering creeks and ditches. Hopper Creek is the primary collector for stormwater. Beard Ditch, which begins near Yountville Cross Road, is a secondary stormwater collector. There are three other minor channels, including Hinman Creek, which provide drainage for a small portion of the total stormwater runoff.

When rain falls on paved surfaces, a much greater amount of runoff is generated compared to runoff from the same storm falling over a vegetated area. These large volumes of water are swiftly carried to local streams and wetlands, can cause flooding and erosion, and can wash away important habitat for wildlife that live in the stream.

To counteract impacts of stormwater runoff, Yountville has adopted regulations that require management of stormwater for all new development. Stormwater management is the use of specific practices, constructed or natural, to reduce, slow down and/or remove pollutants from stormwater runoff. Stormwater management practices are essentially designed

to restore or mimic some of the natural processes provided by the vegetative cover that existed prior to land disturbance. Replacing impervious surfaces with vegetation allows the soil to naturally filter and biodegrade contaminants that would otherwise flow into creeks, rivers, wetlands, and bays.

State and federal regulations work to protect watershed and recharge areas. The National Pollutant Discharge Elimination System (NPDES) program and the State Regional Water Quality Control Board mandate control of urban runoff to eliminate the percolation of pollutants from surface runoff into underground water supplies and open bodies of water. The NPDES program requires the Town to inspect, identify, and prevent illicit discharges such as silt, road debris, oil, and discharges from any residential, commercial or construction area into drains, waterways, and wetlands. Discharges of materials must be processed or eliminated where practical.

The Town of Yountville participates in the Napa County Stormwater Pollution Prevention Program (NCSPPP), which is a joint effort with the other municipalities in Napa County to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways, and comply with State and federal regulations. The NCSPPP is funded by the member agencies and is administered by the Napa County Flood Control and Water Conservation District's Stormwater Program Manager.

Stormwater management can be incorporated into site design, as at Van de Leur Park, allowing the soil to naturally filter and biodegrade contaminants (top). Hopper Creek is the primary collector for stormwater (bottom).

8.8 AIR QUALITY

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The Napa Valley is bordered by relatively high mountains, which are effective barriers to prevailing northwesterly winds. During the day, the prevailing winds flow upvalley from the south about half of the time. A strong upvalley wind frequently develops during warm summer afternoons, drawing air in from San Pablo Bay.

The air pollution potential in the Napa Valley could be high if there were sufficient sources of air contaminants nearby. Summer and fall prevailing winds can transport ozone precursors northward from the Carquinez Strait Region to the Napa Valley, effectively trapping and concentrating the pollutants when stable conditions are present. The local upslope and downslope flows created by the surrounding mountains may also recirculate pollutants already present, contributing to buildup of air pollution. High ozone concentrations are a potential problem to sensitive crops such as wine grapes, as well as to human health. The high frequency of light winds and stable conditions during the late fall and winter contribute to the buildup of particulate matter from motor vehicles, agriculture, and wood burning in fireplaces and stoves.

Yountville is located within the Bay Area Air Quality Management District (BAAQMD), which is primarily responsible for assuring that national and State standards for air pollutants are attained in the San Francisco Bay Area. BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, and monitoring ambient air quality.

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet the State or national standard for ozone, or California standards for particulate matter. BAAQMD 's Bay Area 2017 Clean Air Plan, Spare the Air, Cool the Climate, contains districtwide control measures to reduce ozone, particulate matter, toxic air contaminants, and greenhouse gasses. The Plan notes that Bay Area air quality has improved significantly in recent decades, greatly reducing health effects related to air pollution. Nonetheless, exposure to fine particulate matter (PM2.5) continues to be a major health concern. Fine particulate matter poses an increased health risk because the particles can deposit deep in the lungs and can cause a wide range of respiratory and cardiovascular health effects, including strokes, heart attacks, and premature death. Motor vehicles are currently responsible for about half of particulates in the Bay Area. Wood burning in fireplaces and stoves is another large source of fine particulates.

The closest monitoring station to Yountville is located at Jefferson Avenue in the City of Napa, approximately six miles to the southeast. Pollutant monitoring results for the years 2013-2016 in Napa indicate that air quality in Napa County has generally been good under normal conditions. The federal air quality standard for fine particulate matter was exceeded 1.1 days in 2013 and 1.0 days in 2015, and the federal and State eight-hour standard for ozone was exceeded two days in 2013. Otherwise, all ozone and particulate matter standards were met during those four years.

Air quality was greatly compromised in 2017 by the North Bay fires. Air quality levels were historically bad in October, reaching "very unhealthy" levels during some one-hour periods on eight days before the Atlas and Nuns fires were fully contained on October 27th. At very unhealthy levels, active children and adults, and people with respiratory disease such as asthma, are advised to avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion. The federal standard for fine particulate matter, which

is based on 24-hour concentrations, was exceeded 13.3 days in 2017, the one-hour ozone standard was exceeded one day, and the eight-hour ozone standard was exceeded two days.

Air quality in Yountville can also be compromised by vineyard burning in Napa County. The Bay Area Air Quality Management District (BAAQMD) regulates open burning. Vineyard burns are limited to the months between October and April and are only allowed on designated burn days when BAAQMD determines that open burning will not adversely affect ambient air quality or downwind population. The Napa Valley Grapegrowers have compiled best practices to reduce the amount of smoke produced by agricultural burning. Guidelines include effective vine-pulling procedures, proper vine drying times, removal of excess dirt, and tarping to keep the center of piles dry during rain events. Alternatives to open burning include converting agricultural waste to compost, mulch or biochar and using vineyard debris as biomass at waste-to-energy facilities.

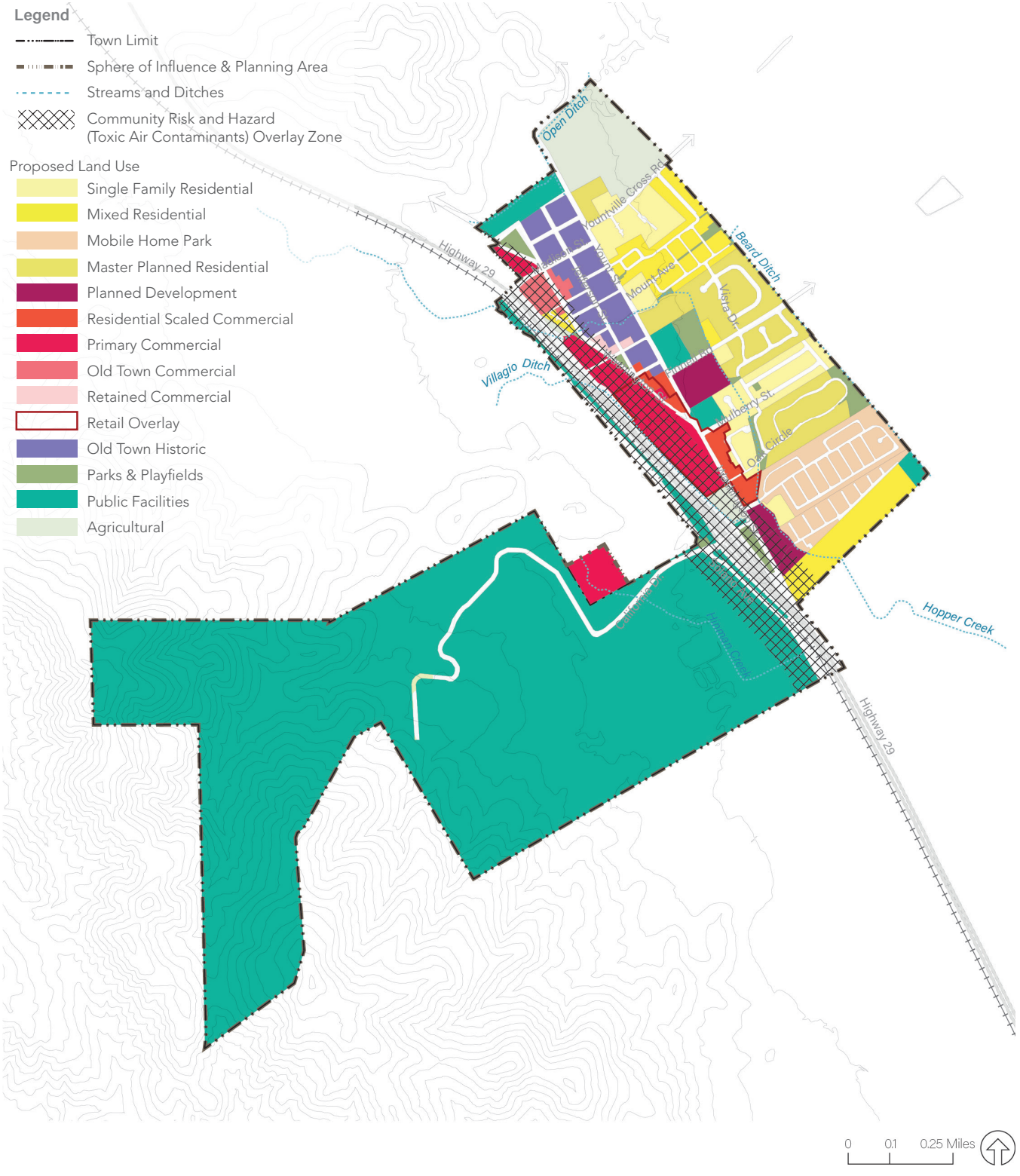
Certain air pollutants have been classified as toxic air contaminants (TACs) because they are known to increase the risk of cancer and/or other serious health effects, ranging from eye irritation to neurological damage. The California Air Resources Board has identified roughly 200 TACs, including diesel particulate matter and environmental tobacco smoke. Major toxic air contaminant sources include oil refineries, power plants, landfills, dry cleaners, on-road vehicles, off-road vehicles and equipment, ships, and trains. In the Bay Area, diesel particulate matter dominates the cancer risk from TACs.

Unlike criteria pollutants which are subject to ambient air quality standards, TACs are primarily regulated at the individual emissions source level based on risk assessment. In Yountville, a 500-foot area on either side of State Route 29, as shown in Figure OS-8, is a community risk and hazard zone for TACs. Any development proposed in this area needs to assess impacts associated with exposure to TACs.

Pollutant monitoring results for recent years indicate that air quality in Napa County has generally been good under normal conditions. Air quality was greatly compromised in 2017 by the North Bay fires.

Figure OS-8

COMMUNITY RISK AND HAZARD (TOXIC AIR CONTAMINANTS)



8.9 GREENHOUSE GAS EMISSIONS

The earth's atmosphere contains a group of naturally occurring gases that maintain a habitable climate. These gases allow sunlight to enter the earth's atmosphere freely and prevent some of the sun's heat from exiting the atmosphere. Because of their ability to contain heat, the gases are known as greenhouse gases, or GHGs. Natural levels of GHGs exist in balanced proportion, resulting in steady maintenance of the temperature within earth's atmosphere. However, emissions of GHGs from human activities, such as electrical production and motor vehicle use, continue to elevate the concentrations of GHGs, upsetting their natural balance. When GHG concentrations exceed natural concentrations in the atmosphere, the "greenhouse effect" of trapped heat is enhanced, and the phenomenon known as global warming occurs.

Climate change poses an ever-growing threat to the well-being, public health, natural resources, economy, and environment of California. Impacts from climate change, which are already occurring in California, include loss of snowpack, drought, sea level rise, more frequent and intense wildfires, heat waves, more severe smog, and harm to natural and working lands. The California Climate Change Center notes the following findings and potential risks to California:

- Precipitation is the most important hydrologic variable and most difficult to forecast.
- Warming raises the elevation of snow levels with reduced spring snowmelt and more winter runoff.
- Less snowmelt runoff means lower early summer storage at major foothill reservoirs with less hydroelectric power production.
- Higher temperatures and reduced snowmelt compounds the problem of providing suitable cold-water habitat for salmon species.
- Higher temperatures increase the demand for water by plants.
- Rising sea levels would adversely affect many coastal marshes and wildlife reserves, in addition to coastal development.
- Climate change in California will result in a higher frequency of large damaging fires.
- Regional climates that are hotter and drier will result in increased pest and insect epidemics within California's forests.

Since 2005, the State of California has responded to growing concerns over the effects of climate change by adopting a comprehensive approach to addressing greenhouse gas (GHG) emissions in the public and private sectors. Executive Order S-3-05, signed by Governor Arnold Schwarzenegger in 2005, established long-term targets to reduce GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The 2020 GHG reduction target was subsequently codified with the passage of the Global Warming Solutions Act of 2006, more commonly known as AB 32. In 2016, California adopted SB 32, which requires the State to reduce emissions 40 percent below 1990 levels by 2030. This is in line with the level the Intergovernmental Panel on Climate Change has identified in order limit global warming to 2 degrees Celsius – the threshold at which scientists say will most likely result in potentially catastrophic climate change impacts.

The Town of Yountville recognizes its vital role in the mitigation of greenhouse gas emissions and adapting to climate change. In 2016, the Town adopted a Climate Action Plan that establishes actions that the Town's government and community can take to reduce emissions 20 percent below 2010 levels by the year 2020, a goal that is consistent with the State's target.

The Town has conducted an inventory of community-wide greenhouse gas emissions for the baseline year of 2010. The inventory estimates the amount of carbon dioxide, methane and nitrous oxide that are generated by activities within the Yountville town limits. These greenhouse gas emissions are weighted according to their global warming potential and totaled as "carbon dioxide equivalents" or CO_2e.

Community emissions are categorized in eight sectors:

- **Residential.** The Residential sector includes emissions generated by the use of electricity and natural gas in homes. Emissions from wood burning and the use of diesel are also included, although they play a very small role (less than one percent) in residential emissions in Yountville.
- **Commercial.** This sector includes emissions generated by the use of electricity and natural gas in commercial buildings. Emissions generated by schools, governments, and public agencies are included in this sector.
- **Transportation**. The Transportation sector includes emissions from on-road vehicles travelling on local roads within the Town limits, excluding the Veterans Home and Highway 29.
- **Off-Road Vehicles & Equipment.** This sector includes emissions from vehicles and equipment used for construction, landscaping, and other off-road activities (excluding agricultural vehicles and equipment).
- **Waste.** This sector includes emissions generated by the decomposition of solid waste deposited in landfills located outside the Town's borders.
- **Water.** The Water sector inventories emissions generated by the use of electricity and fuel in treating, conveying, and distributing water from the water source to water users in the community.
- **Wastewater.** This sector includes emissions generated by the treatment of wastewater as well as fuel used by the wastewater treatment plant.
- **Agriculture.** The Agriculture sector includes emissions generated from the application of nitrogen fertilizer on agricultural fields and the use of off-road agricultural vehicles and equipment.

As described in Yountville's 2010 Inventory of Community Greenhouse Gas Emissions, the Town elected to report community emissions under the "significantly influenced" framework, which focuses on emissions the Town has significant influence over. As a result, the Town excluded emissions generated at the Veterans Home and from motor vehicles travelling on Highway 29. Community greenhouse gas emissions under this framework totaled 13,065 metric tons CO_2e in 2010, as shown in Table OS-3.

Table OS-3
COMMUNITY-WIDE GHG EMISSIONS BY SECTOR, 2010

SECTOR	GHG EMISSIONS (METRIC TONS CO_2e)
Residential	3,922
Commercial	5,222
Transportation	1,961
Off-Road	848
Agriculture	24
Wastewater	608
Waste	430
Water	51
Total	13,065

Source: Town of Yountville Climate Action Plan.

According to the Town's Climate Action Plan, emissions are projected to increase 8 percent between the baseline year of 2010 and 2020, and another 3 percent between 2020 and 2030, to a total of 14,464 metric tons CO_2e in the absence of any policies or actions that would occur to reduce emissions. The forecast was derived by "growing" baseline emissions by forecasted changes in population, number of households, jobs and vehicle miles traveled according to projections developed by the Association of Bay Area Governments and the Metropolitan Transportation Commission.

The Town's Climate Action Plan includes:

- Energy efficiency and renewable energy actions to reduce fossil fuel energy use in the operation of buildings and facilities.
- Transportation actions to encourage walking, bicycling, and the use of public transportation and electric vehicles.
- Waste reduction, reuse, and recycling actions to divert or eliminate materials from landfill.
- Water and wastewater actions to conserve potable water and improve the methane recapture program at the Town's wastewater treatment plant.
- Actions to sequester greenhouse gas emissions in trees and natural systems.

Emission reductions estimated from the full implementation of these local measures total approximately 2,700 $MTCO_2e$ by year 2020 and 4,300 $MTCO_2e$ by 2030. State actions, which represent reduction strategies that have been approved, programmed and/or adopted, are projected to reduce emissions about 2,900 MTCO2e by year 2020 and 3,600 $MTCO_2e$ by 2030. Together, these actions would reduce emissions 36% below the 2010 baseline by 2020 and 50% by 2030.

In 2016, the Town adopted a Climate Action Plan that establishes actions that the Town's government and community can take to reduce greenhouse gas emissions, including encouraging walking and biking (top), waste recycling (bottom left), and energy-efficient lighting (bottom right).

8.10 GOALS, POLICIES, AND PROGRAMS

Goal OS-1 Provide parks, playfields and recreation facilities for all age groups throughout the community.

OS-1.1 **Community and Neighborhood Parks**. Provide a network of community and neighborhood parks within walking distance of all neighborhoods to the maximum extent feasible. As appropriate, identify and evaluate potential new recreational and programming uses within existing parks that are not detrimental to existing developed park uses and locations for additional neighborhood parks and recreational uses.

OS-1.1a **Maintain Parks and Playfields**. *Provide funds to maintain existing Town parks and playfields shown in Figure OS-1 Parks and Open Space Areas.*

OS-1.1b **Joint Use Agreements**. *Maintain existing and evaluate entering additional joint use agreements with the school district, the Veterans Home, and other community partners for community access to recreation and park facilities, where appropriate.*

OS-1.1c **Water Play**. *Investigate adding a water splash or spray feature to a Town park.*

OS-1.2 **New Development**. Evaluate proposals for new development to maximize on-site recreational space or access to recreational opportunities in the area, including trails. New residential development shall contribute towards communitywide park facilities. Maintain or exceed a recreation standard of 5 acres of park and recreation facilities per 1,000 residents.

OS-1.2a **New Neighborhood Parks**. *Provide new neighborhood parks within new residential subdivisions, as feasible.*

OS-1.2b **Park Land Dedication Ordinance**. *Administer and update as appropriate the Town's Park Land Dedication Ordinance to assure that new development contributes to addressing community park needs.*

Goal OS-2 Provide and preserve open space to protect habitat, watercourses, riparian corridors, native vegetation, and areas of scenic beauty.

OS-2.1 **Open Space**. Establish open space within unbuilt parcels where needed to reinforce or extend the existing network of open space throughout the town.

OS-2.2 **Existing Open Space**. Preserve and protect existing open space areas, including parks, trails, greenways and Hopper Creek, shown in Figure OS-1 Parks and Open Space Areas.

OS-2.2a **Hopper Creek Path**. *Implement steps to complete the gaps in the Hopper Creek path system, as feasible.*

OS-2.2b **Trails and Pathways**. *Improve trail connections within and beyond the Town limits, as feasible.*

OS-2.3 **Natural Watercourses**. Protect and maintain existing natural watercourses.

OS-2.3a **Hopper Creek**. *Maintain the existing watercourse of Hopper Creek and native vegetation within its bank and along its frontage.*

OS-2.3b **Hinman Creek**. *Maintain the existing watercourse of Hinman Creek and native vegetation within its bank and along its frontage.*

OS-2.3c **Hopper Creek Concrete Channel**. *Consider evaluating the appropriateness of maintaining the concrete channel portion of Hopper Creek, taking into consideration findings from a hydrological study and impacts on adjacent properties.*

OS-2.4 **Inter-Agency Cooperation**. Work with county and State agencies to provide and protect open space.

Goal OS-3: Preserve and enhance the Town's natural beauty and scenic views.

OS-3.1 **Scenic Views**. Maintain the scenic beauty of Yountville and protect view corridors from the Town towards the surrounding vineyards and mountains.

OS-3.1a **Existing View Corridors**. *Require all new development to maintain existing view corridors shown in Figure OS-2 View Corridors. These include:*

- *North view corridors, including Washington, Jefferson, and Yount Streets and Stags View Lane; and*
- *East view corridors, including Lande Way, Mount Avenue extension, Forrester Lane, Finnell Road, Heritage Way, Mulberry Street, and Oak Circle; and*
- *West view corridors, including Creek Street extension, Webber Street, driveway south of V Marketplace, Mulberry Street extension, and Oak Circle extension.*

OS-3.1b **New View Corridors**. *Require all new development that includes new streets to establish appropriate view corridors and consider establishing other view corridors as needed.*

OS-3.1c **Development within View Corridors**. *Protect view corridors from regulating signs, buildings, utilities, accessory facilities, or similar structures as established in the Design Standards Ordinance.*

Goal OS-4: Support the preservation and protection of agricultural land.

OS-4.1 **Agricultural Lands in Unincorporated Areas**. Support the preservation of agricultural land uses in the unincorporated areas of Napa County as outlined in Measure "P."

OS-4.1a **Agricultural Land Boundary**. *Maintain the existing relationship and boundary between the Town and Napa County for prime farmland (prime agricultural land) and land planted with existing vineyards with the exception of the commercial component of the Domaine Chandon property since it neither contains prime farmland nor is planted as vineyard.*

OS-4.1b **Annexation of Agricultural Land**. *Do not annex established agricultural lands or revise the sphere of influence boundary as a precursor to annexation of agricultural land.*

OS-4.2 **Agricultural Land within Town Limits**. Retain agriculturally zoned land in Town for agricultural uses.

Goal OS-5: Protect and preserve trees, native vegetation, riparian habitat, and sensitive natural communities that provide ecological, economic, and aesthetic benefit.

OS-5.1 **Tree Planting**. Encourage the planting and preservation of trees to provide shade, promote wildlife habitat, and benefit the air quality and beauty of Yountville.

OS-5.1a **Tree Management**. *Continue to regulate the removal, cutting, and other activities detrimental to trees, and require the replanting of replacement trees as feasible.*

OS-5.1b **Heritage Trees**. *Continue to identify and protect heritage trees that warrant additional tree protection measures to best manage and maintain a healthy urban forest.*

OS-5.1c **Trees on Public Land.** *Protect native woodlands and significant trees on public lands to best manage and maintain a healthy urban forest.*

OS-5.2 **Preservation of Native Vegetation**. Encourage preservation of native vegetation during the development review process.

OS-5.3 **Native Riparian Vegetation**. Protect and preserve native vegetation adjacent to Hopper Creek and Beard Ditch during construction.

OS-5.4 **Species Diversity and Habitat**. Protect biological resources, including migratory birds, threatened and endangered species, sensitive and riparian habitat, wildlife movement corridors, nursery sites, and open space, that are necessary to maintain a diversity of plant and animal species.

OS-5.4a **Agency Cooperation**. *Cooperate with State and federal agencies to ensure that development and infrastructure projects do not substantially adversely affect sensitive habitats or special status species appearing on the State or federal list for any rare, endangered, or threatened species.*

OS-5.4b **Species and Sensitive Habitat Analysis**. *Require development and infrastructure projects to address potential impacts to special-status species and sensitive habitats, including sensitive natural communities, wetlands, vernal pools, waters of the U.S, and wildlife migration corridors. Prior to approval, a Biological Resources Assessment shall be completed for the project site that evaluates the potential for biological resources (including any plant or animal species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service) and sensitive habitats to be found on the subject site or affected by the project. The Biological Resources Assessment shall include mitigation measures, if necessary, to reduce impacts to the associated species and/or habitats.*

Goal OS-6: Provide an adequate water supply and protect water quality.

OS-6.1 **Adequate Water Supply**. Ensure there is adequate water supply and associated infrastructure to meet the needs of existing and future development.

OS-6.1a **Rector Reservoir.** *Maintain agreement with the California Department of Veterans Affairs for the long-term use of Rector Reservoir water.*

OS-6.1b **City of Napa Agreement**. *Maintain the Town's agreement with the City of Napa for the purchase of an emergency supply of treated water.*

OS-6.1c **Emergency Well.** *Maintain the Town's groundwater well for use in an emergency or drought situation.*

OS-6.2 **Groundwater Recharge**. Preserve and protect open space and, where appropriate, other natural areas that assist in the recharge of groundwater basins.

OS-6.2a **Napa Valley Groundwater Subbasin**. *Work with Napa County to assess and monitor groundwater levels and quality, develop a regional groundwater sustainability plan as appropriate or necessary, and maintain groundwater sustainability.*

OS-6.3 **Management of Water Supply**. Properly manage and conserve the Town's water supply.

OS-6.3a **Water Conservation**. *Continue to implement the Town's Water Conservation Ordinance and update the ordinance as necessary.*

OS-6.3b **Water-Efficient Landscapes**. *Continue to encourage the use of native, drought-resistant plants and water-efficient landscapes in accordance with State requirements.*

OS-6.3c **Reclaimed Water**. *Continue to provide reclaimed water for irrigation purposes, where possible.*

OS-6.3d **Water Conservation in Public Facilities**. *Implement and maintain practices that conserve water in public facilities.*

OS-6.3e **Water Conservation in New Development**. *Support new building and development standards that reduce the use of water and promote groundwater recharge in development projects.*

OS-6.3f **Public Education**. *Educate the public on indoor and outdoor water conservation practices, water-efficient fixtures and irrigation systems, and graywater and rainwater catchment systems.*

OS-6.4 **Water Quality.** Protect water resources from pollution and sedimentation.

OS-6.4a **Best Management Practices**. *Require new development, redevelopment, and infrastructure projects to implement best management practices as feasible, including low-impact development techniques, the minimal use of non-pervious surfaces in landscape design, and the integration of natural features into the project design, to naturally filter and biodegrade contaminants and to minimize surface runoff into drainage systems and creeks.*

OS-6.4b **NPDES Compliance**. *Ensure that new development, redevelopment, and infrastructure projects comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the applicable Stormwater Discharge System Ordinance and do not substantially degrade water quality.*

OS-6.4c **Permeable Surfaces**. *Encourage use of pervious materials to aid in stormwater treatment and infiltration.*

OS-6.4d **Integrated Pest Management**. *Continue to utilize integrated pest management techniques to reduce the use of potentially toxic chemicals in Town operations.*

OS-6.4e **Fertilizer Use**. *Continue to encourage the use of organic soil amendments to replace chemical fertilizers as practicable on public and private property.*

OS-6.4f **Public Outreach**. *Encourage residents and businesses to use organic and non-toxic alternatives to chemical fertilizers and toxic herbicides, pesticides, and rodenticides and consider restricting the use of toxic chemicals as practicable.*

OS-6.4g **Public Education**. *Publicize the impacts on water quality caused by discarding toxins and waste into domestic stormwater and waste systems.*

Goal OS-7: Protect and improve air quality.

OS-7.1 **Regional Planning**. Participate in regional planning efforts to improve air quality.

OS-7.1a **Congestion Management Plan**. *Work with Napa Valley Transportation Authority, the Town's Congestion Management Agency, to establish a Congestion Management Plan.*

OS-7.1b **Air Quality Management District**. *Support the Bay Area Air Quality Management District's plans and programs to improve air quality.*

OS-7.1c **Vineyard Burning**. *Support the Bay Area Air Quality Management District in reducing smoke impacts from burning vineyard clippings and vines and finding alternatives to open burning, including the conversion of agricultural waste to compost, mulch, biochar, and biomass.*

OS-7.1d **Air Quality Impact of New Development**. *Review development projects to ensure compliance with the current regional air quality plan and to ensure that appropriate measures are implemented to address both short-term (e.g., construction) and long-term (e.g., operational) air quality impacts.*

OS-7.1e **Public Education**. *Educate the community about the impact of wood burning and vehicle exhaust on air quality and assist the Bay Area Air Quality Management District in promoting Spare the Air Alerts.*

OS-7.2 **Air Quality Impacts to Sensitive Receptors**. Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

OS-7.2a **Project Review**. *Review all development projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors, including impacts associated with exposure to toxic air contaminants for proposed development located within the Community Risk and Hazard (Toxic Air Contaminants) Overlay Zone associated with State Route 29 (see Figure OS-8). Staff shall ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.*

Goal OS-8 Engage in environmental stewardship that promotes utilization of resources in a sustainable way.

OS-8.1 **Conserve Energy and Use Renewable Energy**. Increase energy efficiency and conservation and encourage the use of renewable energy.

OS-8.1a **Design of Buildings**. *Encourage the design of new buildings and remodel of existing buildings with consideration of reducing the environmental impacts and costs of heating, cooling, and lighting through the use of efficient mechanical equipment, solar orientation, natural light and airflow, and shade trees.*

OS-8.1b **Green Building Regulations**. *Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.*

OS-8.1c **Public Outreach**. *Promote residential and commercial energy efficiency and conservation programs to residents and businesses.*

OS-8.2 **Solid Waste Reduction**. Encourage solid waste reduction, recycling, food waste recovery, composting of organic waste, and reuse of materials.

OS-8.2a **Waste Diversion Programs**. *Work with Upper Valley Disposal and Waste Management Authority to develop and implement programs to increase recycling of materials and composting of food waste.*

OS-8.2b **Environmentally Preferable Purchasing**. *For Town purchases, continue to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.*

OS-8.2c **Provide Information**. *Provide information regarding collection and recycling schedules and disposal of household hazardous waste.*

OS-8.2d **Public Education**. *Work with Upper Valley Disposal and Waste Management Authority to conduct outreach and educational campaigns for composting, recycling, and other waste reduction initiatives.*

OS-8.3 **Wastewater Treatment**. Provide adequate wastewater treatment and transmission to meet the needs of existing and future development.

OS-8.3a **Maintenance of Facilities**. *Provide for regular maintenance of the wastewater facilities and transmission lines.*

OS-8.3b **Demand for Service**. *Regulate the development of new businesses or other uses which are sewage intensive.*

OS-8.3c **Building Standards**. *Encourage building standards which reduce the amount of wastewater and reuse graywater.*

OS-8.3d **Agreements for Recycled Water**. *Maintain long term agreements for the distribution of the treated effluent for agriculture and irrigation uses and develop new agreements as opportunities arise.*

OS-8.4 **Emission Reduction Goals and Strategies**. Establish reduction targets for greenhouse gas emissions and actively implement local strategies to reduce the effects of climate change.

OS-8.4a **Emission Reduction Targets.** *Implement strategies to achieve reductions in greenhouse gas emissions consistent with a 20% reduction below 2010 emission levels by 2020 and an additional 40% reduction by 2030.*

OS-8.4b **Climate Action Plan.** *Implement the Town's Climate Action Plan and periodically update the plan to incorporate updated emission levels and new emission reduction targets.*

OS-8.4c **Monitoring Emissions**. *Periodically update the greenhouse gas emissions inventory for both community and municipal emissions and quantify success in meeting reduction measures to monitor achievement of emission reduction targets.*

OS-8.4d **Public Education.** *Educate the community on the impacts of climate change and measures individuals and businesses can take to reduce greenhouse gas emissions and adapt to climate change.*