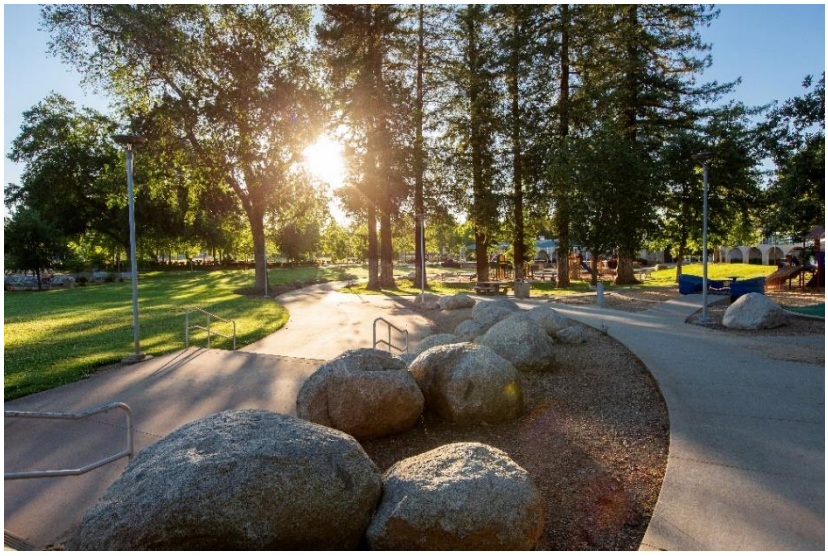
# 10
# Conservation & Open Space Element

This Environmental Conservation Chapter of the General Plan provides direction regarding the conservation, development, and use of open space and natural resources. Topics addressed include open space, agriculture, cultural resources, biological resources, and air quality. Water supply is addressed in Chapter 7.

Yuba City's setting – a city within an agricultural county and on the banks of the Feather River—includes natural resources that are important, not only for aesthetic value, but also for environmental quality, habitat protection, recreation, water resources, and agriculture. These many functions of open space underscore the importance of careful land use planning.



*Morning view of park entrance.*

This chapter also encourages rural conservation within the County through compatible development that preserves natural features, sensitive habitats, and agricultural resources. A goal of the General Plan is to preserve the viability of agriculture production in surrounding unincorporated areas, while accommodating projected growth within the urban growth area. Air quality is a key component of conservation and the quality of life in Yuba City. As such, this element includes policies to preserve and enhance air quality in the planning area by working closely with responsible regional agencies and by incorporating these considerations into land use planning decisions.. Finally, the preservation of archaeological, paleontological, and historic resources is also a goal of this General Plan, and relevant policies are included in this element.

## 10.1 OPEN SPACE

Open space is any parcel or area of land or water that is essentially unimproved and developed to open-space use; although it can contain facilities related to the open-space use. Such lands may provide value related to, among other things, recreation, health, habitat, biodiversity, wildlife conservation, aesthetics, economy, flood risk reduction, managed natural resources production, agricultural production, protection from hazardous conditions, etc.

Open space areas within and around Yuba City are valuable resources. In addition to providing natural scenic qualities that contribute to the overall perception of the community, open space preserves wildlife habitats and natural resources. According to Government Code Section 65910, four types of open space must be considered in the General Plan:

- Open space for the preservation of natural resources, which includes soil conservation, open space conservation, biological resources habitat; and rivers, streams, and watersheds;
- Open space for the managed production of resources, which, in the case of Yuba City, is focused on farmland resources, but could also include areas required for ground water recharge and areas with mineral deposits, though there are no groundwater recharge or mineral deposit resources within the planning area;
- Open space for outdoor recreation, such as parks and outdoor recreational facilities (addressed in Chapter 6), and areas of outstanding scenic, historic, and cultural value; and
- Open space for public health and safety, including flood hazard areas, fault zones, and other hazardous areas (addressed in Chapter 8).
- Open space in support of the mission of military installations. (As there are no such installations nearby or within the planning area, no additional examination of this category will occur.)
- Open space for the protection of places, features, and objects as described in Public Resources Code section 5097.9 (Native American religious sites) and 5097.997 (California Indian Heritage Center/Task Force).

The policies contained in this section focus on the first two categories of open space, as they relate to environmental conservation, and on scenic and cultural resource open space. Agriculture is addressed separately in Section 8.2 of this chapter. As the City grows within the Planning Area, open space protection around the City becomes more important.

## EXISTING OPEN SPACE AND PLANNED OPEN SPACE AREAS

With the exception of Marysville to the east, Yuba City is surrounded primarily by agricultural open space and undeveloped lands in the unincorporated areas. Open space areas currently exist within the Planning Area along the northern and western edges of the City, and a substantial amount of open space lies within the southwest section of the Planning Area. There are no regional or State open space areas in the planning area. The city lacks large public open space areas. Although the Feather River provides an open space feature that forms the eastern boundary of the City and separates it from Marysville, this area is overgrown and underutilized. The City adopted the Feather River Parkway Strategic Plan in 2002, which is a comprehensive strategic plan that was developed to establish a framework for improvements for lands on the western bank of the Feather River. See Chapter 6 for additional information on the proposed Feather River Parkway Plan.

The Land Use Element (Chapter 3) identifies several open space areas (mainly parkland) within the City, which are summarized in Table 6-1 in Chapter 6. Chapter 3 of this General Plan emphasizes the planning principles of utilizing land within the Planning Area for urban purposes to ensure a compact urban form, minimize sprawl, and preserve agriculture in outlying areas. The majority of lands within the Sphere of Influence (SOI) are needed to accommodate future

growth projections. Therefore, the focus of open space land protection is on the perimeter of the City and in rural unincorporated lands.

## CITY BUFFERS/GREEN BELTS

To delineate the urban/rural edge, the Land Use Element calls for an open space or greenway buffer around the perimeter of the urban growth area. This greenway would provide the interface between urban and rural land uses. In addition to providing a transition between urban and rural land uses, the greenway will provide visual relief from the internal urban landscape.

## GOALS, POLICIES, AND IMPLEMENTATION

The policies of this section reflect general open space provisions to ensure continued preservation of open space lands in the Planning Area. Specific policies related to agriculture, biological habitats, and cultural resources are in subsequent sections of this chapter.

**Goal EC 1-1. Preserve and enhance the visual, scenic, and cultural resources of the Planning Area.**

Policy EC 1-1: Use open space in new development at the edge of the urban growth area to help create greenbelts that delineate the edge of urban areas. (See also community design policies in Chapter 6.)

Policy EC 1-2: Work with public and private entities to implement open space features of the Feather River Parkway Plan.

Policy EC 1-3: Where feasible, encourage restoration of degraded open space areas along the Feather River, including in the Feather River Parkway planning area, to an environmentally valuable and sustainable condition.

*The Feather River Parkway Plan provides for the maintenance and restoration of natural areas within the floodplain areas next to the River.*

Policy EC 1-4: Continue to implement the 168-foot-wide agricultural buffer at the sphere of influence boundary as agreed with Sutter County for purposes of resource and view protection and establish design standards that protect views of these lands, including orchards and other rural areas.

Policy EC 1-5: Support efforts by government agencies and non-profit organizations to acquire and permanently protect open space areas of scenic or ecological value and areas that would connect other protected lands to form a cohesive system of open space.

Policy EC 1-6: Consider the effect of development within the city on natural resources located on public lands.

## 10.2 AGRICULTURE

Agriculture is the most prominent open space use in the Yuba City Planning Area. Agriculture also is an important contributor to the City's economy. California State Law requires that a general plan address agricultural resources from both a soil conservation and open space perspective.

### AGRICULTURAL PRODUCTION

Agriculture continues to be a significant component of the Sutter County economy. In the year 2020, the County's gross agricultural production topped $568 million.[1] Yuba City's location on the Feather and Sacramento River plains means that soils in the Planning Area are highly productive for agricultural use. The valley floor area between the Feather and Sacramento Rivers provides rich, course soils with abundant water that is ideal for the production of orchard crops; the areas further from the rivers have more clayey soils that are well suited to the production of rice.[2] The leading crops in the County by value include:

- Rice
- Walnuts
- Cling Peaches
- Tomatoes
- Nursery Products
- Almonds
- Prunes

Orchards are the primary agricultural uses occupying most of the undeveloped land in the western and northern parts of the City's Planning Area. Very little agricultural land exists within the current City limits.

### FARMLAND BY TYPE IN PLANNING AREA

About 70 percent of the total area of Sutter County is comprised of prime lands or lands of statewide significance. In 2002, agricultural lands accounted for approximately 50 percent of the land area within the Yuba City Planning Area.

This farmland, along with farmland across the state, has been classified by the California Department of Conservation with respect to its potential for agricultural productivity. The State applies seven farmland categories:

- *Prime Farmland:* Land with the best combination of physical and chemical features for production of agricultural crops.
- *Farmland of Statewide Importance:* Land with a good combination of physical and chemical features for the production of agricultural crops.
- *Unique Farmland:* Land of lesser quality soils used for the production of the state's leading agricultural cash crops.
- *Farmland of Local Importance:* Non-irrigated land with prime and statewide soil mapping units.

- *Grazing Land:* Land on which the existing vegetation is suited to the grazing of livestock.
- *Urban and Built-up Land:* Land occupied by structures or infrastructure to accommodate a building density of at least one unit to one and one-half acres, or approximately 6 structures to 10 acres.
- *Other Land:* Land which does not meet the criteria of any other category.

As shown in Table 10-1 below, about 75 percent of farmland in Yuba City is classified as farmland of statewide importance, and another 15 percent is classified as prime farmland. The remaining farmland area is classified as unique farmland and grazing land; none of the land within the planning area is classified as farmland of local importance. **Figure 10-1** illustrates the distribution of farmland type within the Planning Area. It should be noted that these classifications do not reflect actual agricultural use, or agricultural viability due to parcel size.

Table 10-1 Distribution of Farmland in the Yuba City Planning Area, 2002

| *Type of Farmland* | *Acreage* | *Percent of Total* |
|---|---|---|
| Prime Farmland | 913 | 15.5 |
| Farmland of Statewide Importance | 4,432 | 75.4 |
| Unique Farmland | 273 | 4.6 |
| Farmland of Local Importance | 0 | 0 |
| Grazing Land | 264 | 4.5 |
| Total | 5,882 | 100.0 |

*Source: California Department of Conservation Farmlands Mapping and Monitoring Program.*

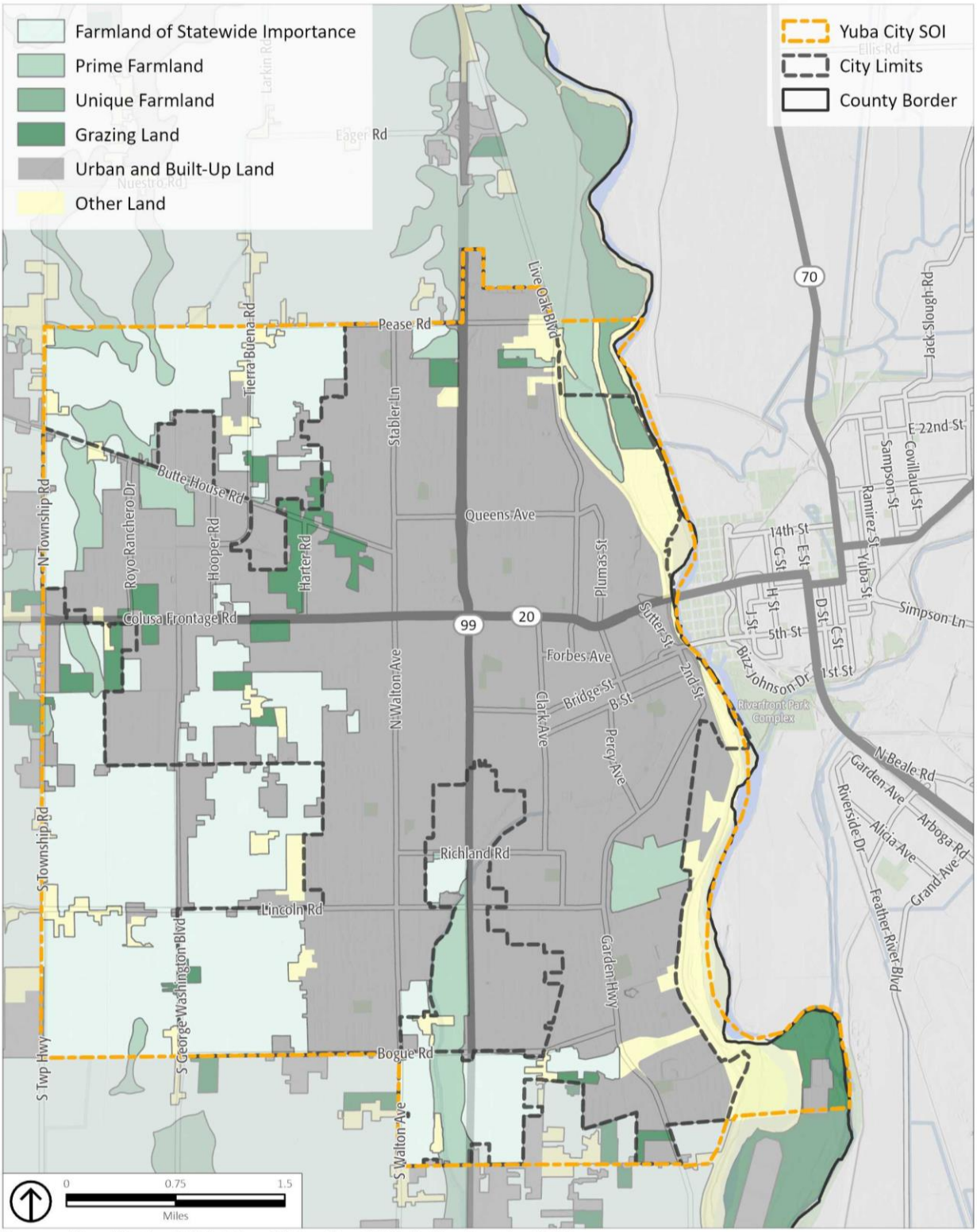
Sutter County has a Williamson Act program, which helps to preserve lands not slated for urban development. The Williamson Act lands allows landowners to limit the use of their land to agricultural uses for at least 10 years in exchange for a reduced tax assessment of the land based on agricultural production rather than market value. In addition, the conversion of these lands to urban uses is not permitted until 10 years following notice of non-renewal given by the owner. Due to the State not funding subvention payments to jurisdictions participating in the Williamson Act to backfill reduced property taxes due to participating in the program, Sutter County is not accepting new Williamson Act applications.

## AGRICULTURE PROTECTION ISSUES

As noted in Chapter 3: Land Use, significant agricultural land area within the Planning Area is likely to be converted to urban uses over the next 20 years, in order to accommodate the growth projected for the area. Continued conversion of agricultural lands to urban uses and rural residential uses could erode the County's agricultural economic base. For that reason, the land use element of the Yuba City General Plan establishes a fairly compact urban growth area, encouraging infill development and new growth adjacent to or near existing urban uses, thus minimizing sprawl and unnecessary conversion of agricultural lands.

As more lands within the SOI are developed with urban uses, conflicts between existing agricultural uses and new development may occur.

**Figure 10-1: Farmlands**




Source: PlaceWorks, 2024; City of Yuba City, 2024; Sutter County, 2018.

## GOALS, POLICIES, AND IMPLEMENTATION

**Goal EC 2-1. Promote preservation of agriculture outside of the adopted Yuba City Sphere of Influence.**

*Policy EC 2-1:* Coordinate with Sutter County to preserve agricultural uses in areas outside the adopted Yuba City sphere of influence and within greenbelts established around the exterior of the SOI.

Policy EC 2-2: Support the interim continuation of agricultural activities within the City's adopted sphere of influence until the land is needed to accommodate population and employment growth. During this interim period, work to minimize conflicts between agricultural uses and urban/suburban uses through site design techniques (not necessarily structural barriers or setback buffers).

Policy EC 2-3: Require property developers adjacent to sites where agricultural uses are being conducted to inform subsequent buyers of potential continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers. Consider requiring a right to farm covenant to protect agricultural uses in the City consistent with Sutter County's adopted Right-to-Farm ordinance.

Policy EC 2-4: Require anti-vandalism designs (appropriate fencing or other landscape features) to ensure that new development has conditions that minimize increased vandalism of adjacent agricultural activities.

Policy EC 2-5: Coordinate and encourage interested parties in continued and new agricultural processing uses in industrial areas to support agricultural activities in the County.

Policy EC 2-6: Support soil and natural resource conservation and restoration programs and encourage agricultural landowners to work with agencies such as the USDA Natural Resources Conservation Service and County to reduce erosion and soil loss.

Policy EC 2-7: Work with government agencies and non-profit land trusts to assist owners of undeveloped lands (sufficient in size to allow continued agricultural uses) to remain in agricultural open space on the perimeter of the City's adopted sphere of influence.

## 10.3 HISTORIC, CULTURAL, TRIBAL CULTURAL, AND ARCHAEOLOGICAL RESOURCES

The Yuba City SOI includes lands that were likely inhabited by various Native American tribes. Also, there are sites that have historic value.

Historic resources include sites, structures, districts, landmarks, or other physical evidence of past human activity generally greater than 45 years old. Historical resources may be archaeological resources, part of the existing built environment, other important historic resources, or a tribal cultural resource, such as a sacred place. Cultural resources are buildings, objects, features, structures, or locations with historic or cultural value. Cultural resources typically include buildings or structures that are associated with an event or person that have contributed to the shaping or development of the city; objects; or an archaeological, geological, or paleontological artifact, such as fossils. Tribal cultural resources are generally defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Several State laws, most notably the California Environmental Quality Act (CEQA) Guidelines §15064.5(f), and Public Resources Code §§5020-5029 and §21083.2, protect archaeological, tribal, and historical resources. To protect historic resources, the State has formed the State Historical Resources Committee that conducts the State Historic Resource Inventory and maintains the California Register of Historic Resources, which identifies historic landmarks and points of interest. The Committee also provides recommendations for the National Register of Historic Resources.

### POTENTIAL RESOURCES

The region within which Yuba City lies is part of a valley that was formerly composed of extensive wetlands and broad, shallow lakes. Because of this location and availability of resources, it is believed that different tribes occupied the area on a year-round basis, for about ten thousand years. However, due to the siltation of the area over the years, prehistoric sites have been buried at such depths that very little, if any, evidence remains at the surface. Original land clearing and a hundred years of farming have further diminished any likely indigenous or archaeological sites.

As new development occurs within the Planning Area, there is the potential to uncover indigenous or archaeological sites. CEQA requires assessment of the impacts on unique archaeological resources or tribal culturally significant sites. If a development project is found to cause damage to the resource, reasonable efforts may be required to preserve the resources or leave them in an undisturbed state or undertake additional mitigation measures if avoidance is not possible.

The City of Yuba City contacted the California Native American Heritage Commission (NAHC) and a representative of the California Native American Tribe who may have knowledge of cultural resources within or near the Planning Area to formally notify them of this General Plan update and request consultation under both the Senate Bill 18 (SB 18) process, as described in California Government Code Section§ 65352.3; and the Assembly Bill 52 (AB 52) process, as described under the California Public Resources Code Section§ 21080.3.1 and Chapter 532 Statutes of 2014.

### GOALS, POLICIES, AND IMPLEMENTATION

**Goal EC 3-1.** **Preserve the archaeological, paleontological, cultural, tribal cultural, and historic resources that are found within the Yuba City Planning Area.**

Policy EC 3-1: Encourage the preservation of historic sites, buildings, and structures.

Policy EC 3-2: Promote the registration of historic sites, buildings, and structures in the National Register of Historic Places, and inclusion in the California Inventory of Historic Resources.

Policy EC 3-3: Establish or continue collaborative relationships with local Native American tribal representatives to facilitate consultation in the review of future projects that have the potential to impact tribal cultural resources.

Policy EC 3-4: Continue to consult with tribes as required by California Government Code Section 65352.3. In doing so, use appropriate procedures to accommodate tribal concerns when a tribe has a religious prohibition against revealing precise information about the location or previous practice at a particular sacred site.

Policy EC 3-5: Require that new development analyze and avoid any potential impacts to archaeological, paleontological, cultural, tribal cultural, and historic resources by:

- Requiring a records review for development proposed in areas that are considered archaeologically sensitive;
- Studying the potential effects of development and construction (as required by CEQA);
- Requiring pre-construction surveys and monitoring during any ground disturbance for all development in areas of historical, cultural, tribal cultural, or archaeological sensitivity; and
- Implementing appropriate measures to avoid the identified impacts.

## 10.4 BIOLOGICAL RESOURCES

Yuba City remains committed to the protection of the wildlife and habitat within its planning area. Preservation of these resources is crucial to the sustainability and longevity of the City's natural environment. Parts of the City's Planning Area contain significant biological resources, which are outlined below and illustrated in Figures 8-1 and 8-2. A particularly important resource is the Feather River, forming the eastern boundary of the Yuba City Planning Area. The Feather River serves as natural habitat for local wildlife species. Additional detailed information is included in the *Existing Conditions and Future Prospects Working Paper,* on file at City offices and in the Sutter County Library.

## VEGETATION AND WILDLIFE HABITATS

### *Flora*

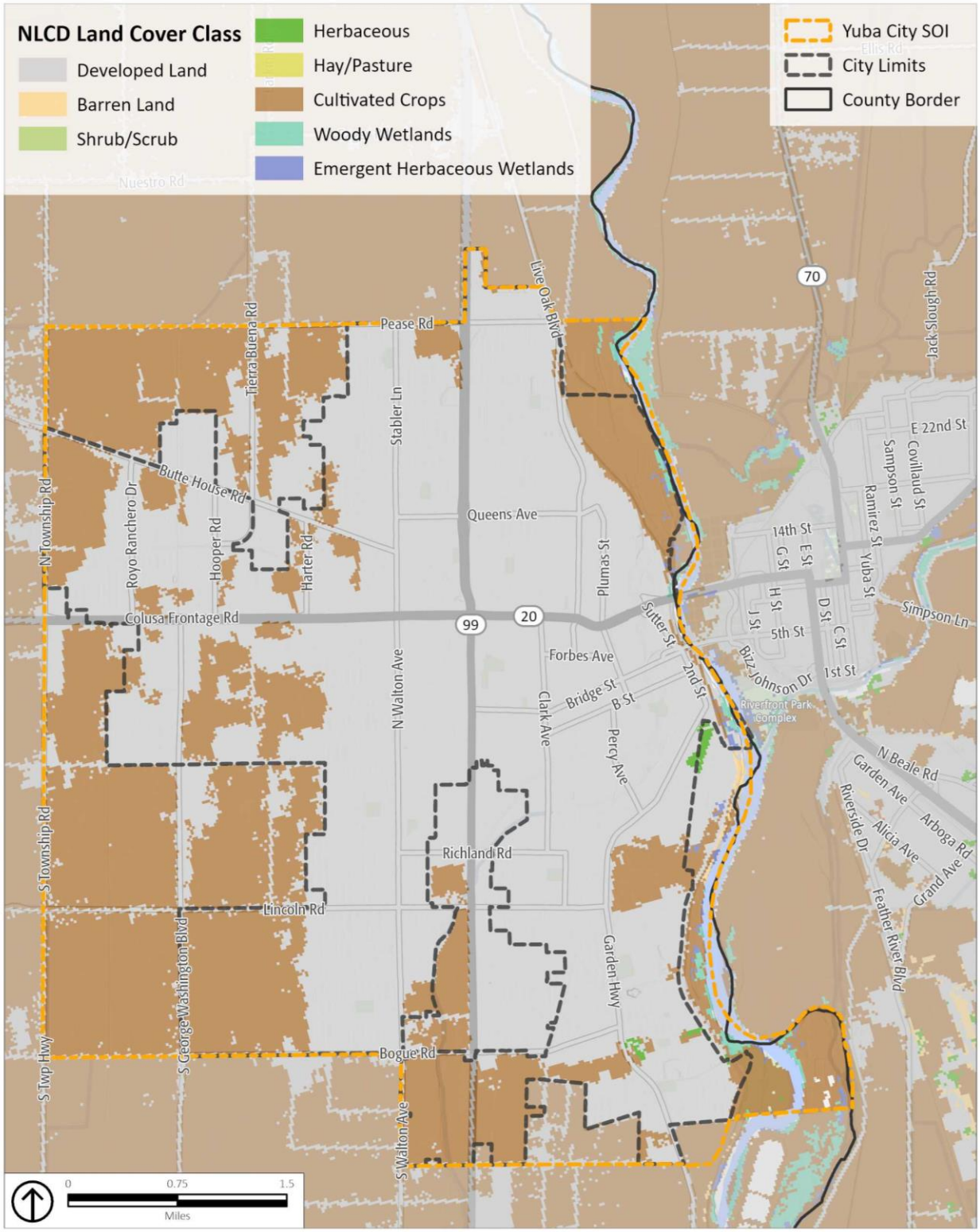
As shown in **Figure 10-2**, almost all of the non-urban land area in the Yuba City Planning Area is covered by orchards. Although agricultural land uses provide limited habitat for wildlife, nevertheless these areas provide important habitat, forage, and travel opportunities for some wildlife species. Natural vegetation communities such as riparian corridors and wetlands provide important habitat for most native California special status species. When a habitat becomes altered, dependent species that are unable to move elsewhere or adapt to the alterations decline in number. Such dependent species are designated by the California Department of Fish and Wildlife (CDFW) as "special status" species, meaning that, should a decline in number continue, these species would require listing as threatened or endangered.[3] Such species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) for the purposes of conserving, protecting, restoring, and enhancing endangered species and their habitats. The California Natural Diversity Data Base (CNDDB) is then used to track the locations and condition of the state's rarest species and natural communities. Listed species are generally given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

### *Fauna*

Only about two percent of the non-urban land area in the Planning Area is not under agricultural production. In general, agricultural lands do not benefit wildlife species as much as natural communities; however, these lands can provide suitable substitute habitat for some species. Most row crops and orchards provide low habitat values, and generally such areas are much more useful to bird species than to mammal, reptile, and amphibian species. Food diversity is also low.

Rivers in Sutter County are the most important habitat for wildlife species. The Feather River, which forms the eastern boundary of the Yuba City Planning Area, provides habitat for several special status bird species, including the bank swallow (*Riparia riparia*), least Bell's vireo (*Vireo bellii pusillus*), Swainson's hawk (*Buteo swainsoni*), song sparrow (*Melospiza melodia*), tricolored blackbird (*Agelaius tricolor*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and white-tailed kite (*Elanus leucurus*). The only designated special status species that may occur within the SOI are the bank swallow, western yellow-billed cuckoo, least Bell's vireo, and the tricolored blackbird. None of the other species appear to exist within the urban growth area according to the CDFW CNDDB. The quality of aquatic habitats is influenced by several factors, including the presence and duration of standing or flowing water, water quality, bank stability, invasive non-native vegetation, and the proximity of aquatic habitats to open, undisturbed, adjacent habitats.

**Figure 10-2: Vegetation**




Source: PlaceWorks, 2024; City of Yuba City, 2024; USGS NLCD, 2019.

## Special Status Species & Habitats

A very small portion of the land area in the Planning Area is considered natural, and therefore provides little suitable habitat for special status species. The only designated special-status vegetation species in the SOI is the Hartweg's Golden Sunburst, a flowering plant that occurs primarily in nonnative grasslands and is threatened mostly by the conversion of habitat to urban uses.[4]

One other special-status habitat exists in the immediate vicinity of the Yuba City Planning Area: Great Valley Cottonwood Riparian Forest. Located just across the Feather River from the northeast corner of the UGB, this habitat includes such tree species as the Goodding's black willow, box elder, sycamore, walnut, and Fremont's cottonwood.[5] This habitat supports a lush understory of tree saplings, shrubs, and vines, and provides a sheltered area for wildlife with an abundant food and water supply. Although no special status wildlife species exist within the Planning Area, the nearby Cottonwood Riparian Forest provides habitat for the special status Bank swallow and the Western yellow-billed cuckoo. About 90 percent of the Western yellow-billed cuckoo's riparian habitat throughout the west has been modified.[6] Several other special-status wildlife species are known to occur or have the potential to occur in such habitats, including the Cooper's hawk, tricolored blackbird, great blue heron, great egret, bald eagle, double-crested cormorant, among others.

### FEATHER RIVER RIPARIAN HABITAT

Although the CNDDB does not list any riparian-related special status vegetation species in the Yuba City Planning Area, the Feather River provides important fish and riparian habitat areas.[7] As such, the City recently began the preparation of a strategic master plan for the 750 acre Feather River corridor, the purpose of which is to create a vision for the River, one that would make the most of the River as a recreational resource, while providing habitat for a variety of wildlife.

The Feather River study area can be divided into three distinct divisions. The northern portion is typified by orchards and riparian habitat that has overtaken the City's abandoned sewage lagoons previously used for wastewater treatment. The central portion extends through the downtown area to the "Mosquito Beach" boat launch area. The southern portion includes riparian woodlands and "Shanghai Bend", which is a large sandbar and offers a beach-like atmosphere.

While the study is in the very early stages, it is assumed that the study area will remain, for the most part, as natural as possible so that environmental impacts are very limited. The Strategic Plan calls for preservation and restoration of natural areas and wildlife habitat, as part of the overall plan to develop the corridor as a public parkway. Passive recreational uses, such as trails for pedestrians and cyclists, fishing piers, picnic areas, and open space, are likely to be least intrusive on habitats. However, there is also the potential for commercial uses along the levee in some locations and potential for a golf course in the northern portion.

The City is working with the CDFW and Sutter County to determine ways to protect the Feather River bottom while possibly incorporating passive recreational uses. Not only would such area provide much needed parkland for City residents—see Chapter 6: Parks, Schools and Community

Facilities, for further information—but also it would help to preserve and enhance the most important natural feature in the Planning Area.

## GOALS, POLICIES, AND IMPLEMENTATION

**Goal EC 4-1.** **Protect and enhance the natural habitat features and fisheries of the Feather River and new open space corridors within and around the urban growth area.**

Policy EC 4-1: Require measures, as part of the Feather River Parkway Plan, to protect and enhance riparian zones, natural areas and wildlife habitat qualities; and establish and maintain a protection zone along the river where development shall not occur, except as part of the parkway enhancement (e.g., trails and bikeways). For park improvements, require a buffer zone along the river in which no grading or construction activities will occur, except as needed for shoreline uses such as boat docks.

Policy EC 4-2: Establish and protect wildlife corridors in conjunction with implementation of the Feather River Parkway Plan to minimize wildlife-urban conflicts.

Policy EC 4-3: Work with California Department of Fish and Wildlife and other agencies to enhance and preserve fisheries in the Feather River.

**Goal EC 5-1.** **Where appropriate, incorporate natural, wildlife habitat features into public landscapes, parks, and other public facilities.**

Policy EC 5-1: Require protection of sensitive habitat areas and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.

Policy EC 5-2: Consider a tree preservation ordinance for oak trees and other native trees that are of a significant size, that requires site designs to incorporate these trees into the design, or plant replacement trees.

Policy EC 5-3: Require, to the extent feasible, use of drought tolerant plants in landscaping for new development, including private and public projects.

## 10.5 WATER QUALITY

This section addresses surface and groundwater quality. Water supply and conservation are addressed in Chapter 7: Public Utilities.

### SURFACE HYDROLOGY

Sutter County is generally located between the Sacramento River in the west and the Feather River in east and lies entirely within the Sacramento River watershed.[8] The Feather River is the primary hydrological feature in Yuba City and forms the eastern boundary of the Planning Area (see **Figure 10-2**). The river provides recreational activities, agricultural irrigation, and wildlife habitat; it also provides a significant component of the Yuba City drinking water supply, as discussed in more detail in Chapter 7: Public Utilities. The Gilsizer and Live Oak Sloughs, which were constructed for flood control purposes, are the only other hydrological features in the Planning Area. Drainage and flooding hazards in Yuba City are addressed in Chapter 9: Noise and Safety.

### GROUNDWATER

Sutter County lies within the Sacramento Valley groundwater basin. The major sources of groundwater in Yuba City include rainfall, infiltration from nearby rivers and streams including Feather and Yuba Rivers and small streams outside the City limits, and the percolation of applied irrigation water in agricultural areas. On average, rainfall in Yuba City ranges between 17 and 21 inches annually; however, there is no estimate of what percentage of rainfall reaches the groundwater supply. Groundwater in the Planning Area flows from north to south at a relatively flat gradient, a situation that has not changed significantly since the mid-1940s when groundwater in the area was first studied in detail.[9] It is likely that, according to early studies, the majority of groundwater recharge in Yuba City is the result of rainfall and infiltration from the Feather River.[10] Yuba City maintains one water well that could supplement the existing supply, particularly in periods of drought, as well as several wells supplying residents who were served by the former Hillcrest Water company. A second well is in the process of being developed. A discussion regarding drinking water supply is included in Chapter 6: Public Facilities and Utilities.

#### *Groundwater Quality*

Groundwater quality in Sutter County ranges from poor to very good and includes contaminants in some areas resulting from both natural conditions and human influence. Countywide mapping of groundwater quality has been completed for several natural and manmade chemical contaminants. The maximum contaminant levels (MCL) for potable water mapped are established by the U.S. EPA and by the California Department of Health Services.[11] Primary MCL reflects a health standard, while secondary MCL reflects aesthetic and taste standards. The majority of tested wells in the Yuba City Planning Area reflect a primary MCL for arsenic of between 10 and 50 micrograms per liter (μg/liter), and two small areas reflect a primary MCL greater than 50 μg/liter.[12] Arsenic occurs naturally in some rocks and soil. The majority of tested wells in the Planning Area also reflect a primary MCL greater than 50 μg/liter for manganese[13] and a secondary MCL greater than 200 μg/liter for iron.[14] Manganese and iron, like arsenic, occur naturally in some rocks and soil.[15] Finally, the majority of tested wells in the Yuba City Planning

Area reflect a primary MCL greater than 45 μg/liter for nitrate, which is applied as a fertilizer and is also produced from on-site sewage disposal.[16]

### *Regulations Protecting Groundwater Quality*

The protection of groundwater quality in the Planning Area and countywide is the responsibility of the Central Valley Regional Water Quality Control Board (CVRWQCB), which has prepared a Basin Plan that includes regulations to ensure the highest possible groundwater quality. The CVRWQCB also enforces the criteria for dischargeable allowances into groundwater in the County as set by the State Water Quality Control Board.[17]

## NONPOINT POLLUTION SOURCES

The quality of groundwater and water flowing into the Feather River is most likely to be affected by nonpoint pollution sources in the City, simply because they are not as rigorously regulated as point sources. Development can pose a threat to surface and groundwater quality through construction sediment, materials used on site, and related increases in automobile use.

## GOALS, POLICIES, AND IMPLEMENTATION

**Goal EC 6-1. Enhance the quality of surface water and groundwater resources and prevent their contamination.**

Policy EC 6-1: Establish conservation programs and measures for Yuba City employers, residents, and service providers.

Policy EC 6-2: Comply with the Central Valley Regional Water Quality Control Board's regulations and standards to maintain and improve the quality of both surface water and groundwater resources.

Policy EC 6-3: Continue to control stormwater pollution and protect the quality of the City's waterways, by preventing oil and sediment from entering the river.

Policy EC 6-4: Continue to regularly monitor water quality to maintain high levels of water quality for human consumption and ecosystem health.

Policy EC 6-5: Protect waterways by prohibiting the dumping of debris and refuse in and near waterways and storm drains.

Policy EC 6-6: Require new construction to utilize best management practices such as site preparation, grading, and foundation designs for erosion control to prevent sediment runoff into waterways, specifically the Feather River.

Policy EC 6-7: If areas of groundwater contamination are identified, the City shall work with the appropriate agencies to limit further contamination and to protect public health.

Policy EC 6-8: Support the application of reclaimed water to reduce the demand on municipal water supplies, if economically feasible.

## 10.6 AIR QUALITY

This chapter addresses air quality as it relates to Yuba City, which is located in the Sacramento Valley Air Basin. While air quality is largely a regional issue, the protection of air quality is vital to the overall health of the environment and to the attractiveness of the community.

### CLIMATE

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. In general, the climate of central California is characterized by hot, dry summers and cool, moist winters. Summer temperatures average approximately 90 degrees Fahrenheit during the day and 50 degrees Fahrenheit at night. Winter daytime temperatures average in the low 50s and nighttime temperatures are mainly in the upper 30s. Rainfall occurs generally from late October to early May, averaging 17.2 inches a year, but varying widely from year to year.

Winds control the rate and dispersion of local pollutant emissions. During the summer, prevailing winds are from the south. Winds from the south remain predominate during the winter, but atmospheric conditions cause north winds to be more frequent than during the summer.

In addition to wind direction, Sutter County experiences two kinds of inversions that affect the vertical depth of the atmosphere through which pollutants can be mixed. In summer, sinking air forms a 'lid' over the region leading to photochemical smog problems by confining pollution to a shallow layer near the ground. Inversions occur on over 90 percent of summer days; they persist throughout the day and tend to intensify in the afternoon. The second inversion occurs mostly during winter nights when air cools near the ground while the air higher in the atmosphere remains warm. This can lead to localized pollution 'hot spots' near emission sources due to poor dispersion. Winter inversions occur on 70 percent of winter nights and generally are dispersed by daytime heating. Although these two inversions are present throughout much of the year, they are much less dominant during spring and fall.[18] In the fall both types occur together to produce the heaviest pollution potential.

### REGULATORY CONTEXT

#### *Criteria Air Pollutants*

The State of California and the Federal government have established ambient air quality standards for a number of pollutants, which are referred to as Criteria Pollutants. These standards are categorized as primary standards, designed to safeguard public health, or as secondary standards, intended to protect crops and to mitigate such effects as visibility reduction, soiling, nuisance and other forms of damage. Air quality is also regulated through emissions limits for individual sources of criteria air pollutants. The State standards are generally more stringent than the federal standards, particularly for ozone and PM-10 (particulate matter, less than 10 microns in diameter).

The Federal Clean Air Act requires the U.S. Environmental Protection Agency (U.S. EPA) to identify National Ambient Air Quality Standards. Currently, U.S. EPA has established national standards for the following pollutants, which together form the criteria air pollutants:

- Ozone ($O_3$);
- Carbon monoxide (CO);
- Nitrogen dioxide ($NO_2$);
- Sulfur dioxide ($SO_2$);
- Suspended particulate matter (PM-10 and PM-2.5); and
- Lead (Pb).

Pursuant to the California Clean Air Act of 1988, California has adopted stricter ambient air quality standards for the criteria air pollutants and has adopted ambient air quality standards for some pollutants for which there are no corresponding national standards.

Under the California Clean Air Act and amendments to the Federal Clean Air Act, U.S. EPA and the State Air Resources Board are required to classify Air Basins, or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the national and state standards have been met. Yuba City is located in the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of the northern half of the Central Valley. Air Quality monitoring has been conducted in the NSVAB for the last fifteen years and the monitoring results have shown that the principal pollutants of the NSVAB, including Yuba City, are ozone and particulate matter. The Feather River Air Quality Management District (FRAQMD) was established in 1991 to administer local, state, and federal air quality management programs for Yuba and Sutter Counties.

### *Toxic Air Contaminants*

Regulation of toxic air contaminants is achieved through federal and state controls on individual sources.[19] Toxic air contaminants are air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects, for which no ambient air quality standards have been established. The 1990 Federal Clean Air Act Amendments offer a comprehensive plan for achieving significant reductions in both mobile and stationary source emissions of certain designated toxic air contaminants.

The Feather River Air Quality Management District (FRAQMD) administers the state-mandated Air Toxics "Hot Spots" Program for Yuba and Sutter Counties. This program is intended to reduce public exposure to toxic air contaminants from stationary sources. FRAQMD is currently working to control toxic air contaminant impacts from local "hot spots" and to reduce toxic air contaminant background concentrations. The control strategy involves reviewing new stationary sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing stationary sources of toxic air contaminants, and developing new rules and regulations to reduce toxic air contaminant emissions. The FRAQMD works closely with sources to reduce their toxic emission inventory.

Regulation of toxic air contaminants from mobile sources has traditionally been implemented through emissions standards for on-road motor vehicles and through specifications for gasoline and diesel fuel sold in California, rather than through land use decisions, air quality permits or regulations addressing how motor vehicles are used by the general public. In 1998, Diesel exhaust particulate matter from internal combustion engines was designated a toxic air contaminant (TAC) for cancer. Now land use decisions must include mitigation efforts for heavy duty diesel equipment operated during construction phases.

### *Regulatory Agencies*

The U.S. EPA sets national ambient air quality standards and oversees implementation of Federal requirements by State air quality agencies. California's air quality management agency, the California Air Resources Board (CARB), regulates most types of mobile emissions sources and oversees the activities of regional/County air districts. CARB is responsible for establishing emissions standards for on-road motor vehicles sold in California. Emissions standards for on-road motor vehicles were developed primarily as a means to reduce emissions of carbon monoxide and ozone precursors (such as reactive organic gases, ROG), but by reducing such emissions, such standards also serve to reduce toxic air contaminants.

The FRAQMD is the agency empowered to regulate stationary sources of air pollutant emissions in Yuba and Sutter Counties. FRAQMD is responsible for implementing emissions standards and other requirements of federal and state laws; it controls stationary source emissions by issuing air quality permits that require the implementation of Best Available Control Technology (BACT) if specified trigger levels are exceeded. Also, for stationary sources, FRAQMD requires Toxics-BACT (T-BACT) if screening thresholds for toxic air contaminants are exceeded.

The FRAQMD has combined with districts from Shasta, Tehama, Glenn, Butte, and Colusa counties to form the Northern Sacramento Valley Air Basin (NSVAB) and jointly prepare and adopt a uniform air quality attainment plan. The most recent version of this plan was published in 2000.

The Sacramento Area Council of Governments (SACOG) also has a role in regulating air quality through review of federally-funded transportation plans, programs and individual transportation projects for air quality effects. SACOG regulates Sacramento-area transportation projects through its approval, funding and environmental clearance processes.

The California Environmental Quality Act (CEQA) requires that City planners review applicable projects to determine their environmental impact. The Feather River Air Quality Management District (FRAQMD) has established thresholds of significance for which the estimated emissions of any project can be compared to determine the potential impacts on air quality impact. With impacts identified, it is then possible to incorporate feasible mitigation measures. The FRAQMD is a local resource for air quality mitigation measures in the Planning Area.

## CONDITIONS AND TRENDS

The California Air Resources Board (CARB) operates a regional network of air pollution monitoring stations that provide information on ambient concentrations of criteria air pollutants and toxic air contaminants. In Sutter County, CARB measures certain air pollutants, such as carbon monoxide (CO), ozone ($O_3$), nitrogen dioxide ($NO_2$), and particulate matter less than ten

microns in diameter (PM-10). Data is collected at three air quality stations, one of which is located in Yuba City.[20] Data from the monitoring stations indicate that the air quality in Yuba City is fair, meeting federal standards, although both ozone and suspended solids continue to exceed State ozone and particulate standards.

**Goal EC 7-1. Make air quality a priority in land use planning by introducing concepts that reduce vehicle trips.**

Policy EC 7-1: Work with the Feather River Air Quality Management District to implement the regional Air Quality Management Plan, participate in emission and exposure reduction, and facilitate public education, engagement, and outreach programs that promote air quality, focusing on disadvantaged communities.

Policy EC 7-2: Require the use of trees and plants in urban and street designs to reduce air pollutant levels.

Policy EC 7-3: Support protection, restoration, and enhancement of natural landscapes in and near disadvantaged communities for their role in improving air quality and community health.

Policy EC 7-4: Support the development of high-quality, local jobs within and near disadvantaged communities to reduce long commutes and resultant vehicle emissions and provide information to encourage the use of transportation modes that minimize motor vehicle use and resulting contaminant emissions.

Policy EC 7-5: Evaluate new commercial and industrial development for potential handling, storage, and transport of hazardous materials to minimize public exposure to toxic air contaminants.

*The City can establish proper buffer zones between stationary sources of TACs and sensitive receptors such as residential areas.*

Policy EC 7-6: Require applicants whose development would result in construction-related fugitive dust emissions to control such emissions through the implementation of best practices as recommended by the Feather River Air Quality Management District.

Policy EC 7-7: Require applicants whose development would result in construction-related exhaust emissions to minimize such emissions by maintaining equipment engines in good condition and in proper tune according to manufacturer's specifications and during smog season (May through October) by not allowing construction equipment to be left idling for long periods as recommended by the Feather River Air Quality Management District.

Policy EC 7-8: Require that any mitigation of air quality impacts relying on offsets obtains the offsets from sources as near to the project site as possible.

Policy EC 7-9: Require applicants whose development would result in potential carbon monoxide (CO) "hot spot" impacts to consult with the City to ensure that schools, hospitals, or day care facilities are not located near such "hot spots".

Policy EC 7-10: Require all new wood-burning stoves and fireplaces to comply with EPA standards and Feather River Air Quality Management District requirements.

[1] Sutter County. ***Sutter County Crop Report***. Office of the Agricultural Commissioner Sealer of Weights and Measures, July 2000.

[2] Sutter County. ***County of Sutter General Plan 2015: Draft Environmental Impact Report, May 1996.*** Pg. 4.2-1.

[3] Ibid., pg. 9-51.

[4] U.S. Fish and Wildlife Service Website: http://endangered.fws.gov/wildlife.html.

[5] Sutter County, pg. 9-51.

[6] USFWS, Website: http://endangered.fws.gov/wildlife.html.

[7] There may be suitable habitat (elderberry with stems on inch or larger in diameter) along the Feather River to support the Valley Elderberry Longhorn Beatle (VELB) which is a federally listed threatened species.

[8] Sutter County. County of Sutter General Plan 2015: Background Report, November 1996. Pg. 9-31.

[9] Sutter County, pg. 9-33.
[10] Ibid., pg. 4.4-7.
[11] Ibid., pg. 5-10.
[12] Ibid., Figure 5.3-3.
[13] Ibid., Figure 5.3-6.
[14] Ibid., Figure 5.3-7.
[15] Ibid., Pg. 5-10.
[16] Ibid., Figure 5.3-5.
[17] Ibid., pg. 9-35.
[18] Sutter County General Plan 2015 Background Report, 1996.

[19] Federal environmental laws refer to "hazardous air pollutants" and California environmental laws refer to "toxic air contaminants." The two terms generally encompass the same constituent toxic compounds.

[20] 733 Almond St, Yuba City: CO, NO2, O3, PM10, TEOM, PM2.5, Outdoor Temperature, Wind Speed, Wind Direction