

3.0 ENVIRONMENTAL SETTING

This section describes the current environmental conditions in and around Tuolumne County. More detailed setting information is included within the impact analysis for each issue area.

3.1 PHYSICAL SETTING

3.1.1 Geographic Setting

Tuolumne County is located in the center of the California Mother Lode along the western slope of the Sierra Nevada mountain range. The County is bordered on the north by Calaveras County and Alpine County, on the south by Mariposa County and Merced County, on the west by Stanislaus County, and on the east by Alpine and Mono counties. According to the U.S. Census Bureau, Tuolumne County encompasses 2,274 total square miles, or 1,455,360 acres, with approximately 77% under the jurisdiction of government agencies.

Located in the central Sierra Nevada, Tuolumne County is bordered by major rivers to the north and south and encompasses the Columbia and Railtown 1897 State Historic Parks, Bureau of Land Management lands, American Indian Rancherias, and much of the Stanislaus National Forest and Yosemite National Park (Tuolumne County, 2012). Additionally, Calaveras Big Trees State Park is found mainly within Tuolumne County's borders. The remainder of the land consists, in general, of hills and forests, and agricultural grazing land. The County is also home to the two highest mountain passes through the Sierra Nevada, Tioga Pass (9,945 feet) and Sonora Pass (9,628 feet). Much of the land in the County is unincorporated, with Sonora established as the only incorporated city.

The unincorporated County is predominantly rural with dispersed small-town communities surrounded by open expanses consisting of agriculture, native vegetation, and low-density residential development. The topography is quite diverse in Tuolumne County ranging from the mountainous landscape and steep canyons of the High Sierras in the east to the foothills and gently undulating plains in the west. Deep river canyons are cut into the western slope of the Sierra Nevada in Tuolumne County. In their upper reaches in the higher Sierra, rivers and glacial sculpturing have carved massive granite cliffs. Native vegetation and tree cover are important ingredients in the setting of the Stanislaus National Forest and Yosemite National Park in the eastern portion of the County as well as in agricultural rangeland.

The basic street and highway network in Tuolumne County is comprised of a combination of approximately 139 miles of State highways (including highways 49, 108, 120, and 132) and approximately 610 miles of maintained County roads. Beyond this basic system, there are also several hundred additional miles of Federal (Bureau of Land Management, Forest Service and National Park) and privately maintained roads. When these roads are grouped by category, they form the functional system of roadways for Tuolumne County which are further described in Section 4.15, *Transportation and Circulation*.



3.1.2 Rivers and Watersheds

There are two main rivers within the County: the Stanislaus River and the Tuolumne River. The Stanislaus River is an approximately 65-mile long waterway that flows from the Sierra Nevada to the San Joaquin River in the eastern part of the Central Valley and is one of the largest tributaries of the San Joaquin River. The Stanislaus River Watershed covers an area of approximately 904 square miles. The river originates as North, Middle, and South Forks in Stanislaus National Forest in the Sierra Nevada Mountains. The confluence of the North and Middle Forks northeast of New Melones Lake forms the Stanislaus River proper. The South Fork joins the river within New Melones Lake. The North Fork forms the northwestern boundary of the County.

The Tuolumne River headwaters originate in the High Sierra at the eastern edge of Tuolumne Meadows in Yosemite National Park. The watershed area covers approximately 1,533 square miles. The Tuolumne River flows through Yosemite National Park and into Hetch Hetchy Valley, which was flooded behind the O'Shaughnessy Dam in 1923, and then into the Stanislaus National Forest. At the O'Shaughnessy Dam, approximately 33% of the river's flow is diverted to the San Francisco Bay Area, where it provides drinking water for nearly 2.5 million people. The headwaters of the Middle Tuolumne River are between 7,000 and 8,000 feet in elevation inside Yosemite National Park. The Middle Tuolumne River joins the South Fork Tuolumne River outside of the park (Tuolumne River Trust, 2015). The headwaters of the South Fork Tuolumne begin between White Wolf and Yosemite Valley at elevations between 8,000 and 8,500 feet. The South Fork Tuolumne River exits the park just north of Hodgdon Meadow and upstream of its confluence with the main Tuolumne River (Tuolumne River Trust, 2015). The North Fork Tuolumne begins near Dodge Ridge, south of Highway 108, on the Stanislaus National Forest. It traverses private and public lands before joining the main stem Tuolumne above Don Pedro Reservoir (Tuolumne River Trust, 2015).

3.1.3 Climate

The general climate of Tuolumne County varies considerably with elevation and proximity to mountain peaks. The terrain features of the County make it possible for various climates to exist within the general area. The pattern of mountains and hills is primarily responsible for the wide variations of rainfall, temperatures, and localized winds that occur throughout the region. Temperature variations have an important influence on County wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. The Sierra Nevada mountain range receives large amounts of precipitation from storms moving over the continent from the Pacific Ocean. Precipitation in the County is highly variable, depending on elevation and location. Areas in the eastern portion of the County, have relatively high elevations, and receive the most precipitation. Precipitation levels decline toward the western areas of the County. Climates vary from alpine in the high elevations of the eastern areas to more arid at the western edge of the County.

3.1.4 Vegetation

Tuolumne County contains a wide diversity of tree (hardwood and coniferous forests, oak woodlands), shrub (chaparrals), and herbaceous (grasslands) habitat types. The tree-dominated



habitats can support diverse wildlife populations. Riparian habitats are generally the terrestrial areas adjacent to fresh water bodies forming a vegetated corridor from stream edge to floodplain edge. Riparian habitats within the county occur along the rivers, creeks, streams, and ravines in the county. Shrub-dominated habitats, such as various chaparral communities, are comprised primarily of woody, evergreen shrubs and occur predominantly in the western portion of Tuolumne County. These habitats are generally comprised of areas dominated by grasses and other non-woody species. The majority of this habitat in Tuolumne County is comprised of non-native grasslands located in the lowlands of the western portion of the county. Herbaceous-dominated habitats include: Annual Grasslands, Perennial Grassland, and Wet Meadow.

3.1.5 Ownership

Approximately 77.1% of Tuolumne County is under public designation, which applies to land under government agency jurisdiction such as the United States Forest Service, Yosemite National Park, Bureau of Land Management, Schools, Caltrans, or irrigation districts. Thus the General Plan Update acknowledges that Tuolumne County has limited jurisdiction over those lands. Thus only approximately 22.9% of Tuolumne County is under private ownership which is subject to the land use plan, policies and implementation programs of the Tuolumne County General Plan Update.

3.2 DEMOGRAPHICS

Basic data regarding population, housing, and jobs in Tuolumne County are provided below. More detailed discussion of these topics can be found in Section 4.12, *Population and Housing*.

According to the California Department of Finance, the existing population of Tuolumne County is 54,337 and there are approximately 31,406 dwelling units in the County as of 2015. The unincorporated area of Tuolumne County represents approximately 91-92% of the total County population, while the City of Sonora makes up approximately 8-9%. The average household size is 2.28 persons, while the vacancy rate is 30.7 percent (Department of Finance, 2015).

The U S Census American Community Survey (ACS) for Tuolumne County for the period of 2007 - 2011 indicates that 18,423 civilians 16 years of age or older were employed in the unincorporated area of Tuolumne County in 2011. The Labor Market Division of the California Employment Development Department statistics reported that 20,036 civilians were employed in 2006. Between 2006 and 2011, civilian employment decreased by 1,613 which represents an 8% decrease in jobs. In 2011, education, health care and social services sectors combined represent 22.1% of employment followed by arts and entertainment / accommodation and food service industries which represent 14.3% of jobs. Retail is the third largest industry with 11.9% of jobs.



3.3 CONSISTENCY WITH APPLICABLE LOCAL AND REGIONAL PLANS

In addition to the General Plan, various other local and regional plans exist in Tuolumne County that also regulate land uses. The General Plan Update would be consistent with these plans and as noted below, for those plans that relate to environmental impacts under CEQA, this EIR includes demonstration that the General Plan Update would be consistent with those plans. The EIR section where the plan is addressed is noted in parenthesis below.

- Airport Land Use Compatibility Plan (ALUCP) (see Section 4.10, *Land Use and Planning*)
- Tuolumne-Stanislaus Integrated Regional Water Management Plan (IRWMP) (see Section 4.9, *Hydrology and Water Quality*)
- Regional Transportation Plan (RTP) (see sections 4.10, *Land Use and Planning* and Section 4.15, *Transportation and Circulation*)
- Capital Improvement Program (CIP) (see Section 4.15, *Transportation and Circulation*)
- Tuolumne County Fire Department (TCFD) Service Level Stabilization Plan (see Section 4.13, *Public Services*)
- Emergency Services Plan (see Section 4.8, *Hazards and Hazardous Materials*)
- Tuolumne County Multi-Jurisdiction Hazard Mitigation Plan (LHMP) (see Section 4.8, *Hazards and Hazardous Materials*)
- Recreation Master Plan (see Section 4.14, *Recreation*)
- Sonora General Plan
- Stanislaus National Forest Land and Resources Management Plan
- Economic Development Strategy for Tuolumne County and City of Sonora
- Urban Water Management Plan (UWMP) for Groveland Community Services District (GCSD) and Tuolumne Utilities District (TUD) (see Section 4.16, *Utilities and Service Systems*)
- Bureau of Land Management Red Hills Management Area Plan (see Section 4.1, *Aesthetics* and Section 4.4, *Biological Resources*)
- Bureau of Reclamation New Melones Master Plan
- Yosemite National Park Plan (see Section 4.1, *Aesthetics*, Section 4.4 *Biological Resources*, Section 4.5, *Cultural Resources*, Section 4.14, *Recreation*)

