# 3 Environmental Setting, Impacts, and Mitigation Measures

## 3.0 Introduction to Analyses

This chapter provides analysis of the physical environmental effects of implementing the Golden State Natural Resources Forest Resiliency Demonstration Project (project). The following sections in this chapter evaluate the environmental impacts of the proposed project:

- 3.1 — Aesthetics
- 3.2 — Air Quality
- 3.3 — Biological Resources
- 3.4 — Cultural Resources
- 3.5 — Energy
- 3.6 — Geology and Soils
- 3.7 — Greenhouse Gas Emissions
- 3.8 — Hazards and Hazardous Materials
- 3.9 — Hydrology and Water Quality
- 3.10 — Land Use and Planning
- 3.11 — Noise and Vibration
- 3.12 — Population and Housing
- 3.13 — Public Services
- 3.14 — Transportation
- 3.15 — Utilities and Service Systems
- 3.16 — Wildfire

### 3.0.1 Section Organization

Each environmental resource section listed above generally has a similar format as described below.

- **Environmental Setting.** This section provides a general overview of the existing physical environmental conditions related to the topic being addressed, based on the conditions present at the time that the Notice of Preparation (NOP) for the EIR was released (June 2023).
- **Regulatory Setting.** This section describes applicable federal, state, and local laws, regulations, and plans relevant to the environmental resource topic and the project.
- **Impacts and Mitigation Measures.** This section identifies thresholds of significance used to evaluate whether an impact is considered significant, based on standards derived from Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

This section evaluates and analyzes project impacts, states the level of significance prior to mitigation, and proposes mitigation measures for significant impacts that would reduce such impacts, if feasible. A statement regarding the level of significance of each impact after mitigation precedes the mitigation measures for that impact.

Cumulative impacts are discussed in each environmental resource section following the description of the project-specific impacts. The cumulative impact analysis considers the effects of the proposed project together with, and against the backdrop of, other past, present, or reasonably foreseeable future projects proposed in the project vicinities and regions. The cumulative impact analysis is based on the same setting, regulatory framework, and significance thresholds presented for each respective resource topic. Additional mitigation measures may be identified if the analysis determines that the proposed project's incremental contribution to a significant cumulative impact would be cumulatively considerable and, therefore, significant in and of itself. Section 0, 3.0.3

Cumulative Impacts Overview, below describes the assumptions and methodology for assessing cumulative impacts.

## 3.0.2 Significance Determinations

In accordance with CEQA, specifically Public Resources Code Section 21068, a "significant effect on the environment" means a substantial or potentially substantial adverse change in the environment. The significance thresholds used for each environmental resource topic are presented in each section of this chapter immediately before the discussion of impacts. For each impact described, one of the following significance determinations is made:

- ***No Impact.*** This determination is made if there is no potential that the proposed project could affect the resource at issue, either because the resource is not present, or the project has no potential to affect it.
- ***Less than Significant.*** This determination applies if there is a potential for some limited impact on a resource, but the impact is not significant in accordance with the significance standard.
- ***Less than Significant with Mitigation.*** This determination applies if there is the potential for a substantial adverse effect in accordance with the significance standard, but mitigation is available to reduce the impact to a less-than-significant level.
- ***Potentially Significant.*** This determination applies to impacts that are potentially significant prior to consideration of feasible mitigation measures.
- ***Significant and Unavoidable.*** This determination applies to impacts that are significant, and for which there appears to be no feasible mitigation available to substantially reduce the impact.

## 3.0.3 Cumulative Impacts Overview

The section below presents the CEQA requirements pertaining to the cumulative analysis and the cumulative projects that have been considered in the cumulative impact analysis presented for each environmental resource topic.

### 3.0.3.1 CEQA Guidelines Requirements

CEQA Guidelines Section 15130(a) requires that an environmental impact report (EIR) discuss cumulative impacts of a project "when the project's incremental effect is cumulatively considerable." As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Pursuant to CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," the lead agency need not consider the effect significant.

CEQA requires an evaluation of cumulative impacts when they are significant. When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. Furthermore, according to CEQA Guidelines Section 15130 (a)(1), there is no need to evaluate cumulative impacts to which the project does not contribute.

An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus not significant when, for example, a project funds its fair share of a mitigation measure designed to alleviate the cumulative impact. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide detail as great as that provided for the impacts that are attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness and should focus on the cumulative impact to which the identified project contributes.

### 3.0.3.2 Cumulative Projects and Scope of Analysis

The analysis of cumulative impacts may consider either (1) a list of past, present, and probable future projects producing cumulative impacts or (2) a summary of growth projections contained either in an adopted plan that evaluates conditions contributing to cumulative impacts or in a certified environmental document for such a plan.

The cumulative analysis in this EIR relies upon the list method. Projects that are relevant to the cumulative analysis include projects that could:

- Contribute incremental environmental effects on the same resources as, and would have similar impacts to, those discussed in this EIR applicable to the proposed project.
- Be located within the defined geographic scope for the cumulative effect. The defined geographic scope is dependent on the environmental resource affected.
- Contribute impacts that coincide with proposed project impacts during either construction (short-term) or operation (long-term).

Separate lists were developed for each project component

#### Feedstock Acquisition

Feedstock acquisition activities have the potential to occur in a wide geographic area, within a variety of landscapes, over multiple years. Therefore, exact project lists are not feasible to identify. In addition, by design, feedstock activities focus on unmarketable material which limits the number of other cumulative projects that would interact with the proposed projects. Nevertheless, there are project types within the Working Area that can be described. The objectives of the proposed project include reducing excess fuel loads in forests and timberland to promote forest resiliency and reduce vulnerability to catastrophic wildfire. Therefore, there are certain project types that are considered in the cumulative scenario:

#### Timber Harvesting

Commercial timber harvesting results in the removal of vegetation cover and is generally more intensive than other forms of fuel reduction. For example, even-aged management systems such as clear-cutting removes all vegetation in the target area. Timber harvested in California is generally sourced from three land ownership categories: industrial timberland, nonindustrial private forest land, and public lands. Under the Forest Practice Rules, commercial timber harvesting on non-federal lands is subject to various regulations and permitting mechanisms. These include Nonindustrial Timber Management Plans, Timber Harvesting Plans, Emergencies, and Exemptions,

all of which require approval by the California Department of Forestry and Fire Protection (CAL FIRE). Many permits for timber harvesting allow for multiple years to complete the proposed harvesting operations.

Both private and national forest timber harvests have declined for a number of reasons in the past three decades. In 2016, there were a total of 80 primary forest products facilities operating in California. These included 32 sawmills, 23 bioenergy plants, 12 bark and mulch facilities, 2 veneer plants, 1 particleboard plant, and 10 manufacturers of other primary wood products (University of Montana 2019). In 2021, 1,798,782 thousand board feet (MFBM) of timber was harvested in California. Of that, private and tribal entities accounted for 1,586,774 MFBM, the state accounted for 14,038 MFBM, the United States Forest Service (USFS) accounted for 287,620 MFBM, and the Bureau of Land Management or other public organizations accounted for 1,069 MFBM (University of Montana 2023).

## CAL FIRE Programs

### CAL FIRE Vegetation Management Program (VMP)

CAL FIRE's Vegetation Management Program (VMP) intends to reduce wildland fire fuel hazards and other resource management issues on State Responsibility Area (SRA) land. VMP is a cost-sharing program that uses prescribed burning, chemical, manual, and mechanical treatments to reduce fuel hazards. Implementation of VMP projects is at the discretion of CAL FIRE Units in contract with private landowners. Projects that are identified through Fire Management Plans or are within the unit's priority areas for fire prevention are of most value to the unit and will typically be prioritized (CAL FIRE 2023a). Over the last 14 years, an average of 7,000 acres have been treated annually (CAL FIRE 2023b). Projects approved under this program are ongoing with CAL FIRE's participation as funding and staffing allows.

### CAL FIRE California Vegetation Treatment Program (CalVTP)

The California Vegetation Treatment Program (CalVTP) is implemented by CAL FIRE and other project proponents. The intent of CalVTP is to reduce the risk of wildfire and to avoid the detrimental impacts of wildfire on people, property, and natural resources within 20.3 million acres of the CAL FIRE State Responsibility area (SRA). Vegetation treatments through CalVTP are targeted to occur on approximately 250,000 acres a year, although actual acres treated each year fluctuate based on a number of factors. The number of treated acres through CalVTP count towards CAL FIRE's portion of the annual statewide goal of 500,000-acres of vegetation treatment on non-federal lands. CalVTP consists of three treatments: wildland-urban interface fuel reduction, fuel breaks, and ecological restoration. Treatment activities include prescribed burning, mechanical treatment, manual treatment, prescribed herbivory, and herbicides. The CalVTP was adopted by the CAL FIRE Board in December of 2019 and 62 projects of varying sizes across the state have been approved under the program since (Ascent Environmental 2019; CAL FIRE 2023b).

### CAL FIRE California Forest Improvement Program (CFIP)

The CAL FIRE California Forest Improvement Program (CFIP) also funds vegetation management programs to provide eligible landowners technical and financial assistance with planning, reforestation, and resource management investments to improve the quality and value of forestland. Projects under CFIP are non-commercial operations typically used to modify sub-merchantable trees or trees lacking any commercial value (CAL FIRE 2023c). As shown in Table 3-1 below, approximately 89,000 acres of land have undergone vegetation management projects through the CFIP. It is estimated that approximately 6,500 acres are treated annually under CFIP.

### CAL FIRE Demonstration Forests

CAL FIRE operates 14 Demonstration State Forests, which together represent the most common forest types in the State. The forests account for 85,000 acres and provide for research and demonstration opportunities relating to natural resource management. The Demonstration Forests also provide the public with a variety of recreational opportunities, fish and wildlife habitat, and watershed protection. Revenue generated from timber in the Demonstration Forests provides funds for research, infrastructure, recreation, and administration.

## Federal Projects

Federal agencies also conduct vegetation management projects on federally owned lands. The implementation of the National Fire Plan and Healthy Forests Restoration Act has resulted in the USDA Forest Service and other federal agencies implementing fuel reduction projects and related activities within the recent years. Vegetation treatment projects are reported by federal agencies through the National Fire Plan Operations and Reporting System. Goals and objectives of federal agency vegetation management projects are generally consistent with the CalVTP objectives to utilize vegetation management as a method or tool to protect life, property, and natural resources from wildfire.

## Other Vegetation and Fuels Treatment Programs

State, regional, and local agencies conduct vegetation treatments within the SRA. Such treatments are being implemented by agencies that own or manage land including the California Department of Fish and Wildlife (CDFW), California State Parks, University of California, California State University, counties, water and irrigation districts, conservation districts, park and open space districts, and flood control districts. Other local agencies, non-profits, and other organizations conduct vegetation treatments in the Local Responsibility Area (LRA). LRA vegetation treatments are partially reflected in the acreage described in Table 3-1 under prescribed burning within the state and defensible space acreages in LRA land.

In addition, there are several other programs, plans, or directives that directly or indirectly contribute to a variety of vegetation treatments in California. These include but are not limited to: Public Resources Code 4291 – Defensible Space, Executive Order B-42-17 (Tree Mortality), Executive Order N-05-19, the California 2030 Natural and Working Lands Climate Change Implementation Plan, California Forest Carbon Plan, Habitat Conservation Plans, and Natural Communities Conservation Plans.

Table 3-1 below presents a summary of the past and present cumulative projects (2004-2018) discussed above.

**Table 3-1. Summary of Past and Present Cumulative Projects (2004-2018)**

| Year | CAL FIRE VMP | *Prescribed Burning | CAL FIRE CFIP | Timber Harvesting Federal | Timber Harvesting CAL FIRE | Federal Mechanical Treatments (outside SRA) | Total |
|---|---|---|---|---|---|---|---|
| 2004 | 4,322 | 27,633 | 15,649 | 64,160 | 229,658 | 52,610 | 394,032 |
| 2005 | 8,377 | 64,305 | 23,592 | 46,252 | 164,520 | 51,596 | 358,642 |
| 2006 | 9,965 | 87,882 | 7,659 | 49,226 | 145,854 | 51,367 | 351,953 |
| 2007 | 6,980 | 39,728 | 4,091 | 39,835 | 151,552 | 55,668 | 297,854 |
| 2008 | 8,949 | 49,761 | 13,338 | 37,023 | 124,387 | 43,996 | 277,454 |
| 2009 | 4,295 | 44,808 | 6,704 | 29,748 | 119,594 | 36,150 | 241,299 |

**Table 3-1. Summary of Past and Present Cumulative Projects (2004-2018)**

| Year | CAL FIRE VMP | *Prescribed Burning | CAL FIRE CFIP | Timber Harvesting Federal | Timber Harvesting CAL FIRE | Federal Mechanical Treatments (outside SRA) | Total |
|---|---|---|---|---|---|---|---|
| 2010 | 6,053 | 27,469 | 6,693 | 23,675 | 113,015 | 38,216 | 215,121 |
| 2011 | 8,067 | 35,120 | 0 | 27,168 | 123,230 | 40,318 | 233,904 |
| 2012 | 7,786 | 16,482 | 0 | 27,505 | 131,873 | 48,699 | 232,346 |
| 2013 | 3,246 | 22,021 | 779 | 29,521 | 128,238 | 37,825 | 221,630 |
| 2014 | 701 | 13,033 | 1,676 | 26,444 | 142,942 | 27,733 | 212,529 |
| 2015 | 2,652 | 27,555 | 1,331 | 24,565 | 97,843 | 34,718 | 188,664 |
| 2016 | 6,029 | 10,095 | 2,408 | 30,956 | 110,302 | 32,271 | 192,061 |
| 2017 | 9,203 | 37,066 | 2,719 | 29,470 | 93,083 | 24,081 | 195,622 |
| 2018 | 10,443 | 59,850 | 2,589 | 29,285 | 36,212 | 27,021 | 165,400 |
| **Total** | **97,068** | **562,808** | **89,228** | **514,833** | **1,912,303** | **602,269** | **3,778,511** |

**Source:** Final Program EIR for the California Vegetation Treatment Program (CAL FIRE 2023b).
**Note:**
* The state acreage for prescribed burning may overlap with treatment acreages reported under the VMP.
Although no fuel reduction acreage was recorded in 2011 and 2012, expenditures within the CFIP program did occur.
Cal VTP was approved in 2019 and is therefore not represented in the table.

## Lassen Facility

No cumulative projects were identified relative to the proposed Lassen Facility. The County has no active development applications within Big Valley. No similar projects (such as biomass energy) are proposed within the County.

## Tuolumne Facility

1. Chicken Ranch Rancheria New Hotel and Casino Project
2. Tuolumne Bioenergy Woody Biomass Pellet Manufacturing Facility
3. Tuolumne Biomass LLC Biomass Utilization Project
4. Yosemite Junction
5. Social and Ecological Resilience Across the Landscape (SERAL) Forest Health Project Phase 1 – Stanislaus National Forest

Four projects have been identified in the vicinity of the proposed project that could contribute to potential cumulative effects. A fifth project, SERAL, is a forestry project, but due its location it is discussed here as a County project rather than part of the Feedstock Acquisition cumulative setting.

Project 1 is a 398,000 square foot 4-story hotel and 3 story casino resort on a 42-acre project site located in western Tuolumne County, approximately 6.8 miles northeast of the Tuolumne Facility. The project would replace the existing casino on site and include slot machines, table games, bars, a food area, 180-200 hotel rooms, a spa, pool deck, restaurant, and two 4-story parking structures. The project has been approved by the tribal government and a notice of completion was filed for the project on April 13, 2021. The anticipated opening date is July 2024.

Project 2, Tuolumne Bioenergy, (also referred to as "Heartwood") is a woody biomass pellet manufacturing facility, located approximately 13.4 miles northeast of the Tuolumne Facility, in the community of Sonora. The project includes a manufacturing facility, storage areas, two storage silos, outdoor equipment, landscaped, and concrete areas. The project sources biomass primarily from "slash" from forest fuels treatment and thinning activities. Secondary sources are sourced from agricultural waste trees and orchards. The project expects to produce approximately 31,000 tons annually for domestic home heating purposes. The project has been approved by Tuolumne County however, the project applicant has not yet applied or obtained any construction permits.

Project 3, Tuolumne Biomass LLC, is located approximately 3.7 miles northwest of the Tuolumne Facility. The project intends to utilize woody biomass material from forest stewardship projects, including forest restoration and wildfire mitigation activities, to manufacture a number of value-added products. The approximate 17-acres project site would include a truck scale, access road, log deck yard, outdoor storage, merchandizing line, millwright shop, retention pond, on-site wastewater disposal, water storage, warehouse building, and an office. At full capacity the project plans to utilize 20,000 tons of biomass to convert into products. The project has been approved by Tuolumne County and the project applicant has applied for and obtained a grading permit.

Project 4, Yosemite Junction (LUNR-24-13) is located at the junction of SR 120 and SR 108 (7520 SR 120, Jamestown). This County has received an application (LUNR-24-13) for this approximately 4-acre commercial development. The proposed project includes a restaurant/bar, convenience store, gas station, visitor center, and 8 RV sites. The County will initiate the CEQA process for the project once the application is deemed complete.

Project 5, SERAL, is located on 118,000 acres in Tuolumne County, almost entirely to the north and west of Highway 108. The project is a fuel reduction treatments operation funded by CAL FIRE for Tuolumne County to reduce fuels and shift vegetation structure and composition to better align with the County's natural range in variation and allow for a more resilient landscape to combat high severity fire, insects, disease, drought, and climate change. A notice of exemption for the project was filed on February 13, 2023.

### Port of Stockton Projects

1. Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project
2. TC NO. CAL. Development Warehousing and Distribution Facility Project
3. McDonald Island Dredged Material Placement Site Project
4. Port of Stockton Rail Bridge Replacement and Rail Improvements Project
5. Denmar Natural Soda Ash Export Terminal at the Port of Stockton

Five projects have been identified in the Port of Stockton that may overlap or contribute to cumulative impacts (Port of Stockton 2023).

Project 1 is located on a 5-acre project site in the Port of Stockton East Complex, adjacent to the Port of Stockton location approximately .8 mile southeast. The project involves the development, construction, and operation of a hydrogen-generation, compression, and storage facility to support a demand for hydrogen fuel. A notice of intent to adopt the project's Mitigated Negative Declaration was filed by the Port of Stockton.

Project 2 is located is located on a 102-acre project site in the Port of Stockton West Complex, approximately 850ft south of the Port of Stockton location. The project includes construction and operation of a 655,200 square foot distribution warehouse on a portion of the project site and remediation of contaminated soils throughout the site.

Also included in the project is an outdoor storage area, parking, trailer storage. The final environmental impact report for this project is currently in preparation.

Project 3 is located on McDonald Island, along the Stockton Deepwater Ship Channel, approximately 7.4 miles southeast of the Port of Stockton location. The project includes constructing a new and expanded 18-acre dredged material placement site operated as part of the U.S. Army Corps of Engineers ongoing Stockton Operations and Maintenance program. A notice of intent to adopt the project's Mitigated Negative Declaration was posted by the Port of Stockton.

Project 4 involves the replacement of a functionally obsolete rail bridge and the construction of a new lead track, rail underpass, and rail classification yard in the Port of Stockton West Complex. The project also includes a new rail underpass and associated modifications to road underpasses and overpasses to increase efficiency of train operations within the Port of Stockton. The project site is located in the Port's West and East Complexes, with some rail work approximately 1,100 feet south of the Port of Stockton location. A notice of intent to adopt the project's Mitigated Negative Declaration was posted by the Port of Stockton on June 25, 2021. The project was approved by the Port Commission.

Project 5 involves the construction of the Denmar Natural Soda Ash Export Terminal located in the central portion of the Port of Stockton West Complex, approximately 350 feet west of the Port of Stockton location. The project would construct and operate a bulk terminal at existing Berths 18 and 19 and include shiploaders, parking, buildings, conveyors, towers, and storage facilities on warehouse sites. The project was approved by the Port Commission.

## 3.0.4 References

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