

CONSOLIDATED FINAL RESTORATION PROJECTS STATEWIDE ORDER
PROGRAM ENVIRONMENTAL IMPACT REPORT
CHAPTER 3 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES
3.20 WILDFIRE

3.20 Wildfire

3.20.1 Introduction

This section describes the potential for restoration projects permitted under the Order to be located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones, and to result in wildfire impacts. These impacts include the potential to affect adopted emergency response or evacuation plans; exacerbate fire risks; or expose people or structures as a result of runoff, post-fire slope instability, or drainage changes.

The environmental setting and evaluation of impacts are based on a review of existing published documents, including city and county general plans; information about example projects similar to the Order that may be implemented by other agencies; and other information sources listed in Chapter 8, *References*.

Potential impacts related to the following topics are described and evaluated in Section 3.10, *Hazards and Hazardous Materials*, of this PEIR:

- ◆ Potential to interfere with emergency access or with an adopted emergency response or evacuation plan
- ◆ Potential to expose people or structures, either directly or indirectly, to significant loss, injury, or death due to wildland fires

No comments specifically addressing wildfire were received in response to the notice of preparation (NOP). See Appendix B for the NOP comment letters.

3.20.2 Environmental Setting

In the past decades, the average wildfire season in the West has lengthened from 5 months to 7 months, the number of large wildfires (affecting more than 1,000 acres) has increased from 140 to 250 per year, and wildfires now burn year-round in California (SBFFP and CAL FIRE 2018). In addition, with the ever-increasing number of people and structures exposed to wildland fire risks, California has seen its largest and most destructive fires in the last few years.

Wildfire behavior is a product of several variables, primarily climate, vegetation, topography, and human influences, which intermix to produce regional and local fire regimes that affect how, when, and where fires burn. The fire regime in any area is defined by several factors, including fire frequency, intensity, severity, and area burned. All of these factors are important to an understanding of how the variables that affect fire behavior produce fire risks. *Fire frequency* refers to the number of fires that occur in a given area over a given period of time, *fire intensity* refers to the speed at which fire travels and the heat that it produces, *fire severity* involves the extent to which ecosystems and existing conditions are affected or changed by a fire, and *area burned* is the size of the area burned by wildfire.

Although wildfire has historically been a key component in ecosystem dynamics, several factors have disrupted the natural fire regime in many of California's ecosystems. In many cases, the type of wildland fire and the pattern of its occurrence—when compared

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to historical conditions—are adversely affecting ecosystem composition, structure, and function. Factors such as fire suppression, land use, exotic invasive species, and climate change all place stresses on the manner in which fire interacts with ecosystem health, function (such as biodiversity), and sustainability.

Warming and drying resulting from human-caused climate change are estimated to have approximately doubled the total area burned by forest fire in the western United States between 1984 and 2015, compared to the total area expected to have burned without climate change (Abatzoglou and Williams 2016). Frequent wildfires reduce the recovery of shrubs and trees—especially shrubs and trees that must produce seeds to regenerate after fire—and increase invasion by nonnative grasses (USGS 2012). Nonnative grasses are generally more flammable than the chaparral and sage scrub vegetation they replace; thus, such conversion exacerbates wildfire hazards (UC DANR 2009).

The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for managing and protecting California’s natural resources. Of the 85 million acres classified as wildlands in the state, 33 million acres are forest lands, with 38 percent privately owned and 62 percent tribally owned or government-owned. The state’s wildlands provide critical watersheds, wildlife habitat, and recreation resources in addition to valuable commercial timberland.

CAL FIRE responds to nearly 6,000 wildland fires that burn, on average, more than 260,000 acres each year (CAL FIRE 2019). Through cooperative agreements, mutual aid, and the state’s emergency plan, CAL FIRE personnel respond to more than 450,000 incidents annually, including structure fires, automobile accidents, medical emergencies, swift-water rescues, civil disturbances, search and rescues, hazardous material spills, train wrecks, floods, and earthquakes.

3.20.3 Regulatory Setting

No federal regulations that pertain to wildfire are applicable to the Order. This section discusses state and regional and local plans, policies, regulations, and laws, and ordinances pertaining to wildfire.

Future permitted restoration projects that would be implemented under the Order may be subject to the laws and regulations listed below, as well as other local or individual restoration projects requirements, depending on the project location.

State

California Department of Forestry and Fire Protection

CAL FIRE is dedicated to the fire protection and stewardship of more than 31 million acres of California’s wildlands. The Office of the State Fire Marshal supports CAL FIRE’s mission to protect life and property through fire prevention engineering programs, law and code enforcement, and education. The State Fire Marshal enforces fire-related laws in state-owned or operated buildings; investigates arson fires in California; licenses entities that inspect and service fire protection systems; approves fireworks as safe and sane for use in California; regulates the use of chemical flame retardants; evaluates building materials against fire safety standards; regulates

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hazardous liquid pipelines; and tracks incident statistics for state and local government emergency response agencies.

CAL FIRE identifies Fire Hazard Severity Zones throughout California for both State Responsibility Areas (SRAs) and Local Responsibility Areas (LRAs). SRAs are the areas of the state where the State of California is financially responsible for preventing and suppressing wildfires. SRAs do not include lands within city boundaries or in federal ownership. LRAs include lands on which neither the state nor the federal government has any legal responsibility for providing fire protection.

CAL FIRE classifies zones within SRAs and LRAs as Moderate, High, or Very High Fire Hazard. Zone classifications are based on characteristics that affect the probability of an area burning and potential fire behavior in the area. Many factors are considered such as fire history, existing and potential fuels, flame length, blowing embers, terrain, weather, and the likelihood that buildings will ignite. Each area receives a score for flame length, embers, and the likelihood of the area burning. Scores are then averaged over the zone areas. Final zone class (Moderate, High, and Very High) is based on the average scores for the zone (CAL FIRE 2015).

The State Board of Forestry and Fire Protection (SBFFP) is a government-appointed body within CAL FIRE. The SBFFP is responsible for developing the state's general forest policy, determining CAL FIRE's guidance policies, and representing the state's interest in federal forestland in California. Together, the SBFFP and CAL FIRE work to carry out the California Legislature's mandate to protect and enhance the state's unique forest and wildland resources.

The SBFFP is charged with protecting all wildland forest resources in California that are not under federal jurisdiction. These resources include major commercial and noncommercial stands of timber, areas reserved for parks and recreation, woodlands, brush-range watersheds, and private and state lands that contribute to California's forest resource wealth.

Government Code Sections 51175–51189 direct CAL FIRE to identify areas of very high fire hazard within LRAs. Mapping of Very High Fire Hazard Severity Zones (VHFHSZs) is based on data and models of potential fuels over a 30- to 50-year time horizon and their expected fire behavior and burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings.

Maps of VHFHSZs in Local Responsibility Areas were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data.

In late 2005, effective in 2008, the California Building Commission adopted California Building Code (CBC) Chapter 7A, which required that new buildings in VHFHSZs use ignition-resistant construction methods and materials. CBC Chapter 7A applies to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings in a Wildland-Urban Interface Fire Area as defined in CBC Section 702A. Chapter 7A establishes the minimum standards for the protection of life and property by increasing the ability of a building in any fire hazard severity zone in

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SRAs or any Wildland-Urban Interface Fire Area to resist the intrusion of flames or burning embers projected by a vegetation fire. By doing so, Chapter 7A contributes to a systematic reduction in losses from conflagrations.

VHFHSZs are delineated and used to identify properties whose owners must disclose natural hazards when selling their property and must provide a defensible-space clearance of 100 feet.

2018 Strategic Fire Plan for California

The SBFFP has adopted strategic fire plans for California since the 1930s and updates the plans periodically to reflect the current and anticipated needs of California's wildlands. The Strategic Fire Plan is the state's road map for reducing wildfire risks through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The Strategic Fire Plan is adopted to better respond to the changes of the environmental, social, and economic landscape of California's wildlands, and to provide CAL FIRE with appropriate guidance for adequate statewide fire protection of state responsibility areas.

CAL FIRE implements and enforces the SBFFP's policies and regulations. The 2018 Strategic Fire Plan reflects CAL FIRE's focus on: (1) fire prevention and suppression activities to protect lives, property, and ecosystem services; and (2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation.

California Office of Emergency Services

The California Emergency Management Agency was incorporated into the Governor's Office on January 1, 2009, by Assembly Bill 38 (Nava), which also merged the duties, powers, purposes, and responsibilities of the Governor's Office of Emergency Services (Cal OES) with those of the Governor's Office of Homeland Security. Cal OES coordinates the overall state government response to major disasters in support of local governments. The agency is responsible for ensuring the state's readiness to respond to and recover from all hazards—natural or man-made emergencies and disasters—and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

The Cal OES Fire and Rescue Division coordinates the statewide response of fire and rescue mutual-aid resources to all types of emergencies, including hazardous materials. The Fire and Rescue Division's Operations Section coordinates the California Fire and Rescue Mutual Aid System. Coordinated response through the Mutual Aid System includes responses to major fires, earthquakes, tsunamis, hazardous materials, and other disasters.

California Building Code

The CBC (California Code of Regulations Title 24, Part 2) identifies building design standards, including those for fire safety. The CBC is based on the International Building Code but has been amended for conditions in California. The CBC is updated every 3 years; the current (2019) CBC went into effect January 1, 2020. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local

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conditions under specific amendment rules prescribed by the California Building Standards Commission. Commercial and residential buildings are plan-checked by city and county building officials for compliance with the CBC. Typical fire safety requirements of the CBC include installing fire sprinklers in all new residential, high-rise, and hazardous materials buildings; establishing fire resistance standards for fire doors, building materials, and particular types of construction; and clearing debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

The California Fire Code (CFC) (California Code of Regulations Title 24, Part 9) incorporates by adoption the International Fire Code of the International Code Council, with California amendments. The CFC is updated every 3 years; the current (2019) CFC went into effect January 1, 2020. It is effective statewide, but a local jurisdiction may adopt more restrictive standards based on local conditions under specific amendment rules prescribed by the California Building Standards Commission. The CFC regulates building standards in the CBC, fire department access, fire protection systems and devices, fire and explosion hazards safety, storage and use of hazardous materials, and standards for building inspection.

Regional and Local

The study area encompasses multiple counties with multiple cities throughout California. Each county and city has local regulations and a general plan with health and safety goals and policies that guide development and encourage conformance with fire regulations.

3.20.4 Impacts and Mitigation Measures

Methods of Analysis

Wildfire impacts from the types of restoration projects permitted under the Order are evaluated in terms of how typical construction and operation of project components could impact wildfires. However, the precise locations and detailed characteristics of potential future individual restoration projects are not yet determined. Therefore, this analysis focuses on reasonably foreseeable changes from implementation of the types of projects and actions that might be taken in the future consistent with the level of detail appropriate for a program-level analysis.

Permanent impacts are considered those that would continue through the life of a proposed restoration project as a result of the environmental conditions created by the project (e.g., ongoing maintenance in a wildland area). Temporary impacts are considered those that would be temporary in nature (e.g., construction-related activities).

The approach to assessing wildfire impacts was to identify and review existing environmental studies, data, model results, and other information for projects that are consistent with those identified in Section 2.6, *Categories of Restoration Projects in the Order*, and Section 2.7, *Typical Construction, Operation, and Maintenance Activities and Methods*.

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Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, an impact related to wildfire is considered significant if the restoration projects permitted under the Order would be located in or near state responsibility areas or lands classified as VHFHSZs and would do any of the following:

- ◆ Substantially impair an adopted emergency response plan or emergency evacuation plan
- ◆ Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire
- ◆ Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment
- ◆ Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes

For an evaluation of how restoration projects permitted under the Order could interfere with emergency response access or with an adopted emergency response or evacuation plan, see Section 3.10, *Hazards and Hazardous Materials*.

Impacts and Mitigation Measures

Table 3.20-1 summarizes the impact conclusions presented in this section for easy reference.

**Table 3.20-1
Summary of Impact Conclusions—Wildfire**

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.20-1: Implementing restoration projects permitted under the Order could exacerbate fire risk.	LTSM	LTSM
3.20-2: Implementing restoration projects permitted under the Order could result in downslope or downstream risks as a result of runoff, post-fire slope instability, or drainage changes.	LTSM	LTSM

SOURCE: Data compiled by Environmental Science Associates in 2019 and 2010

NOTE: LTSM = less than significant with mitigation

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As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with the general protection measures and mitigation measures listed below would be required when applicable to a given project. Not all general protection measures and mitigation measures would apply to all restoration projects. The applicability of the general protection measures and mitigation measures would depend on the individual restoration activities, project location, and the potentially significant impacts of the individual restoration project. Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Impact 3.20-1: Implementing projects permitted under the Order could exacerbate fire risk.

Effects of Project Construction Activities

Construction activities for restoration projects permitted under the Order could be located in areas with a High or Very High Fire Hazard Severity rating. Construction work could occur or staging areas could be located in or near areas with dense vegetation and/or be susceptible to high winds. For example, heavy construction equipment and passenger vehicles could drive on vegetated areas before clearing and grading, which could increase the fire danger. Construction equipment or heated mufflers could throw sparks, or oils, lubricants, and other combustible materials could accidentally ignite, resulting in a fire. Construction activities such as steel cutting and welding, while uncommon for most restoration project types, are also potential sources of ignition.

The specific locations of possible future permitted restoration projects are not known at this time. Therefore, the risk associated with a wildfire cannot be determined. Factors necessary to identify the risk include the locations of facilities relative to areas rated as High and Very High Fire Hazard Severity Zones and overgrown or dry vegetation. Because of the potential for wildfire associated with construction activities for restoration projects permitted under the Order, this impact would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure FIRE-1 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure FIRE-1: Develop and Implement a Fire Prevention Plan

The following measures shall be implemented before and during construction of restoration projects permitted under the Order, where applicable:

- ◆ For restoration projects in areas designated as Very High or High Fire Hazard Severity Zones, a project-specific fire prevention plan for construction and operation of the project shall be prepared and submitted to the CEQA lead agency for review before the start of construction.

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- ◆ The draft copy of the fire prevention plan shall be provided to each fire agency (e.g., CAL FIRE and county or local municipal fire agencies) before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones.

Implementing Mitigation Measure FIRE-1 would reduce the impacts of the construction of restoration projects related to fire risk to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Similar to construction activities, operations and maintenance (O&M) of restoration projects permitted under the Order could occur in areas subject to the threat of wildfires. A restoration project may include reestablishment of native vegetation in areas where vegetation had previously been removed. In such cases, fuel loading may increase after the native vegetation has grown in and may result in an increase in fire danger. In addition, vegetation could be present in or near the locations of restoration projects or facilities, and equipment and vehicles used during O&M activities could come into contact with vegetated areas and be exposed to high winds, potentially igniting dry vegetation and causing a fire. As a result, project occupants (O&M workers) could be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

The specific locations of possible future permitted restoration projects are not known at this time. Therefore, the risk of a wildfire cannot be determined. Factors necessary to identify the risk include the location of the facilities relative to areas rated as High and Very High Fire Hazard Severity Zones and the degree of overgrown or dry vegetation in the restoration project area. Because of the potential for wildfire from O&M activities for future projects permitted under the Order, this impact would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure FIRE-1 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. Implementing Mitigation Measure FIRE-1 would reduce the impacts of project O&M activities related to fire risk to a **less-than-significant** level.

Impact 3.20-2: Implementing future restoration projects permitted under the Order could result in downslope or downstream risks as a result of runoff, post-fire slope instability, or drainage changes.

Effects of Project Construction Activities

Construction activities for restoration projects permitted under the Order would include grading and drainage changes and removal of nonnative vegetation. Construction work for restoration projects permitted under the Order could result in a reduction of vegetation in the study area. Plant roots stabilize the soil and above-ground plant parts slow the flow of water, allowing it to percolate into the soil. Removing plants during construction activities for restoration projects permitted under the Order could increase runoff.

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Restoration projects could also be located in areas with a High or Very High Fire Hazard Severity rating. Removal of surface vegetation by a wildfire reduces the ability of the soil surface to absorb rainwater and can cause an increase in runoff that may include large amounts of debris. Slope failures, mudflows, and landslides are common in areas where steep hillsides and embankments are present; such conditions would be exacerbated in a post-fire environment where vegetative cover has been removed and could occur in many parts of the state.

Increased surface runoff and erosion is also possible in a post-fire environment where surface vegetation has been removed and steep slopes can increase the velocity of runoff flows. For example, one category of restoration projects involves removing nonnative terrestrial and aquatic invasive species and revegetating with native plants, which could lead to unstable soil conditions or increased runoff.

However, as described in Section 3.11, *Hydrology and Water Quality*, these restoration projects would not increase the rate or amount of surface runoff in a manner that would increase flooding on- or off-site, thereby resulting in downslope or downstream risk, because general protection measures regarding site stabilization and erosion control would be implemented on permitted projects, including but not limited to WQHM-3 and WQHM-6; IWW-3 and IWW-6; and VHDR-2, VHDR-3, and VHDR-4. In addition, these changes would likely have relatively localized effects on site and immediately downstream or downslope of the site. Therefore, floodplain restoration improvements are not expected to increase surface elevations or the chance of flooding in adjacent floodplains.

In addition, many of the restoration projects permitted under the Order would involve revegetating with native plants in areas where nonnative plant communities have been removed, which would restore soil stability and slow the rate of runoff. Further, many restoration project types permitted under the Order would improve the health and resiliency of vegetation communities, including communities in riparian and adjacent upslope areas that evolved with wildfire. The restoration of native vegetation communities that are more healthy and resilient would reduce downslope or downstream risks from runoff, post-fire slope instability, or drainage changes.

Construction activities for restoration projects permitted under the Order are not expected to increase the rate or amount of surface runoff or changes to drainage in a manner that would result in downslope or downstream risks. However, the exact locations and extent of restoration projects that would be permitted under the Order are not yet determined. Factors necessary to identify the risk include the location of the facilities relative to areas rated as High and Very High Fire Hazard Severity Zones and the degree of overgrown or dry vegetation in the restoration project area. Therefore, it is not possible to conclude that such projects would not result in post-fire slope instability. Therefore, this impact would be **potentially significant**.

The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure FIRE-1 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of

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the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. Implementation of Mitigation Measure FIRE-1 and the applicable general protection measures would reduce the impact related to post-fire slope instability to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Similar to construction activities, O&M activities for restoration projects permitted under the Order could occur in areas subject to the threat of wildfires, leading to post-fire slope instability. Removal of surface vegetation by a wildfire reduces the ability of the soil surface to absorb rainwater and can cause an increase in runoff that may include large amounts of debris. Slope failures, mudflows, and landslides are common in areas where steep hillsides and embankments are present; such conditions would be exacerbated in a post-fire environment where vegetative cover has been removed and could occur in many parts of the state.

Increased surface runoff and erosion is also possible in a post-fire environment where surface vegetation has been removed and steep slopes can increase the velocity of runoff flows. For example, one category of restoration projects involves removing nonnative terrestrial and aquatic invasive species and revegetating with native plants, which could lead to unstable soil conditions or increased runoff.

Restoration projects permitted under the Order could permanently alter drainage patterns. Many of the long-term effects of these projects on drainage patterns and flood flows are expected to be beneficial or neutral, because the specific purpose of these projects would be to correct existing conditions that contribute to resource degradation. Restoration projects could alter runoff rates and timing, as local drainage patterns could change during project construction. However, these projects would likely have relatively localized effects on-site and immediately downstream (or downslope) of the floodplain restoration improvements, and would not increase surface water elevations or the chance of flooding in adjacent floodplains.

In addition, many of the restoration projects permitted under the Order would involve revegetating with native plants in areas where nonnative plants have been removed, which would restore soil stability and slow the rate of runoff. Further, as stated above, many restoration project types permitted under the Order would improve the health and resiliency of vegetation communities, including communities in riparian and adjacent upslope areas that evolved with wildfire.

The specific locations of possible future permitted restoration projects are not known at this time. Therefore, it is not possible to conclude that such projects would not result in post-fire slope instability. Factors necessary to identify the risk include the location of the facilities relative to areas rated as High and Very High Fire Hazard Severity Zones and the degree of overgrown or dry vegetation in the restoration project area. Because of the potential for post-fire slope instability from O&M activities for future projects permitted under the Order, this impact would be **potentially significant**.

The Order does not include any general protection measures applicable to this impact.

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