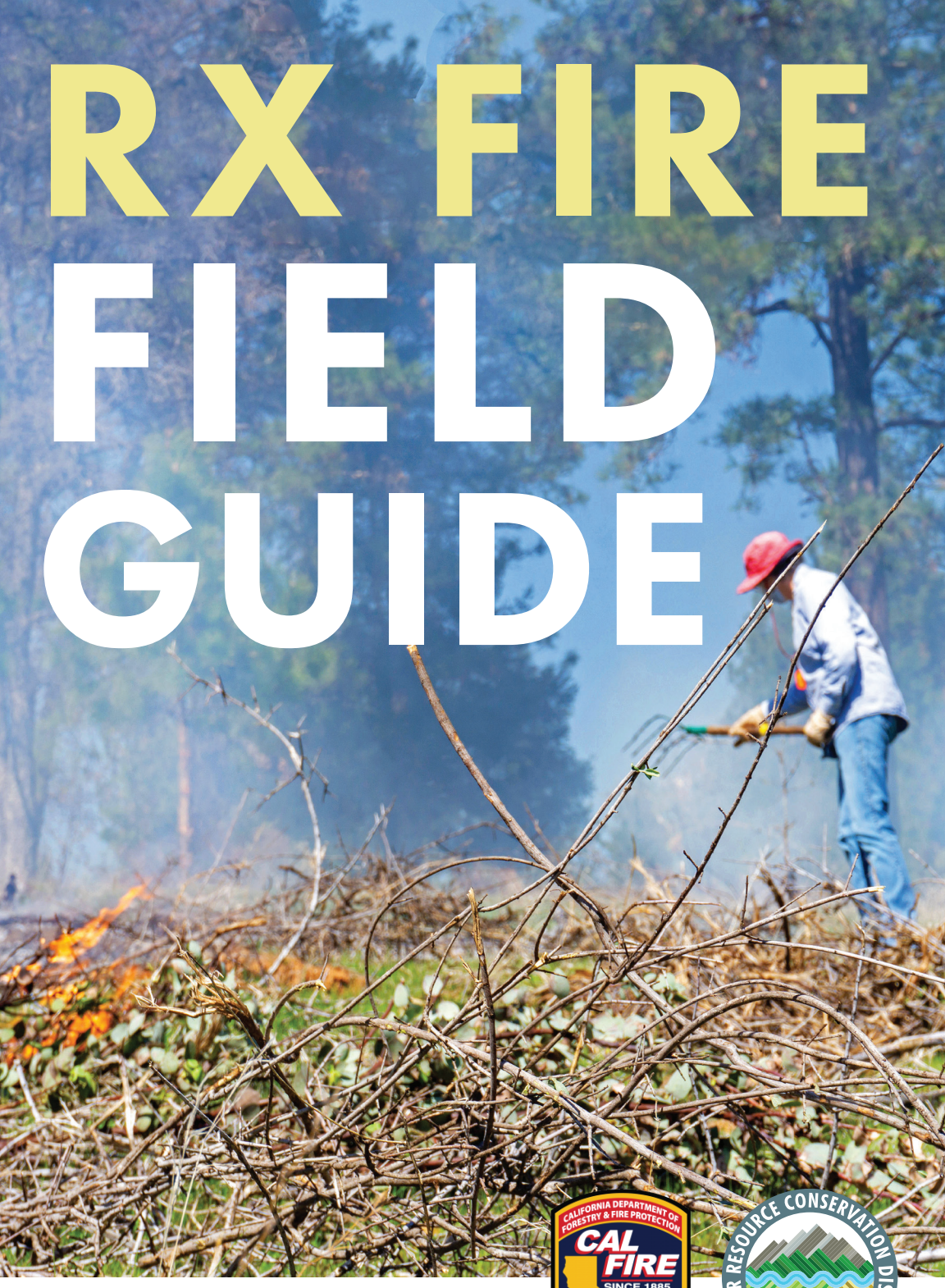
RX FIRE FIELD GUIDE



FOR LANDOWNER AND AGENCY USE

IN THIS GUIDE

FIELD GUIDE INTENT

Prescribed burning is a critical tool for land stewardship in California's fire-dependent ecosystems. More than a century of fire suppression policies have significantly increased fuel loading. Most forests throughout the state are currently too dense to safely apply prescribed fire without initial fuels treatments. Many landowners are pursuing wildfire protection through defensible space, home hardening, and fuels reduction, and there is growing interest in the financial and ecological benefits of prescribed burning. However, landowners often cite lacking the appropriate knowledge or resources to burn their own properties without supervision. Equipping landowners with the knowledge to safely reintroduce fire to low-complexity units capitalizes on less restrictive timelines, reduces administrative oversight and operational expenses, and creates greater community wildfire resiliency.

This Field Guide serves as a landowner education tool and provides a framework to guide discussions on prescribed burning between natural resource management agencies (i.e., CAL FIRE, Resource Conservation Districts, Natural Resources Conservation Service, etc.) and private landowners. This Field Guide presents information that addresses common questions related to prescribed fire including permitting, liability, and preparatory work. It also assists landowners and agency representatives to classify prescribed burns as Low, Moderate, or High Complexity and identify where hazard mitigation or additional resources are necessary for safe implementation. Since issues such as regulatory requirements, threatened and endangered species, and weather vary at local scales, it is important to use this document as a guide and verify any specific requirements with local air quality districts and CAL FIRE units.

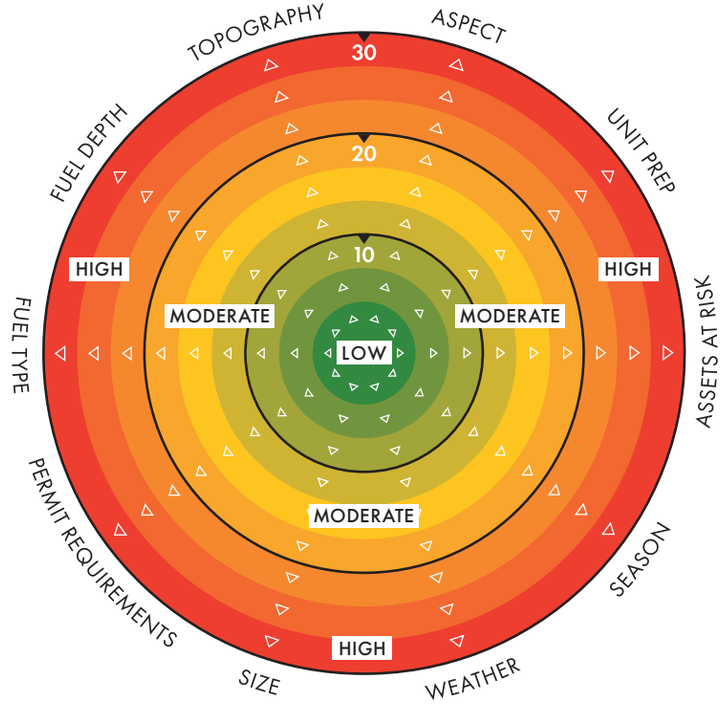
DEFINING COMPLEXITY

For this document, the term 'complexity' references the operational and administrative effort required to safely burn a unit with minimal risk of escape or damages to life, property, or natural resources. Burning operations vary in complexity depending on the interconnectedness of individual factors as they relate to planning and implementation including project location, topography, fuel type, time of year, and assets at risk, among others. Low, Moderate, and High rating levels are assigned for each of the determining factors and include broad descriptors to assist the private landowner in calculating the most appropriate rating. **This Field Guide outlines factors that define a low-complexity burn unit and identifies steps to minimize risk for private landowners applying safe, legal, and ecologically beneficial fire.**

Broadly, a low-complexity burn involves minimal coordination of resources and may be safely completed with few resources and ordinary equipment on-site. Line of sight and word of mouth are often sufficient communications methods on low-complexity prescribed burns.

FIRE COMPLEXITY SPECTRUM

This graphic shows the ten factors that determine the overall complexity of a burn unit. Ratings are subjective and also depend on the skills and confidence of the landowner.



LOW COMPLEXITY
(Center/inner rings)

MODERATE COMPLEXITY
(Middle rings)

HIGH COMPLEXITY
(Outer rings)

The risks of escape or damages to assets within and adjacent to the unit are minimal, especially with additional hazard abatement. By contrast, high-complexity burns require a significant amount of planning and coordination, an experienced and skilled burn boss and crews, and a range of additional resources to ensure safe implementation. Personnel are equipped with personal protective equipment including Nomex and fire shelters. Moderate complexity burns are defined by the transition zone, where a higher level of coordination or communication is necessary compared with low-complexity burns due to the size, topography, or other influential factors. Landowners may use the *Prescribed Burn Complexity Worksheet* to help score their burn unit on the spectrum of complexity.

If determining variables place a burn unit outside of the low-complexity range, the unit is not necessarily unfit for the use of prescribed fire. Rather, more stringent conditions, such as additional fire suppression resources and agency operational involvement, must be in place to conduct a safe burn that meets land management goals. Landowners may discuss alternative options with their local CAL FIRE Battalion Chief or fire management agency.

FACTORS THAT INFLUENCE PRESCRIBED BURN COMPLEXITY

The following descriptors capture common scenarios but are not exhaustive; local insight, empirical evidence, and site-specific information, guidance, and policies should also be used to determine the most appropriate rating. Private landowners should seek assistance from their local CAL FIRE Unit or natural resource management agency for specific questions or concerns.

Each of the determining factors are scored on a range of low, moderate, or high complexity. A factor that scores "low" earns 1 point; "moderate" earns 2 points; and "high" earns 3 points. Low-complexity units score 10; moderate complexity units score between 11 and 20; high complexity units score between 21 and 30. Complexity ratings help landowners, natural resource professionals, and fire management agencies gauge the number of personnel, type of equipment, and necessary resource assistance for successful implementation.

BURN PRACTITIONER EXPERIENCE LEVEL

Burn unit complexity is also influenced by the experience level of the landowner or prescribed burn practitioner.

LOW EXPERIENCE LEVEL is classified as somebody who has conducted fewer than 10 low-complexity prescribed burns.

MODERATE EXPERIENCE LEVEL includes burn practitioners who have led 10 to 20 burns, including those of moderate complexity, suggesting that enough coordination was involved that an Incident Command System (ICS) structure was in place. The ICS structure is an on-scene, all-risk incident management concept that allows for a standardized approach to command, control, and coordination of emergency response.

HIGH EXPERIENCE LEVEL is an individual who has led more than 20 high-complexity burns in which the event required a high degree of planning, logistics, and communication, and followed a strict ICS structure.

NOTES:

FUEL TYPE

Fuel type describes the dominant vegetation type and is typically categorized as grass, brush, or timber. Simply defined, grass is categorized as low-complexity, brush as moderate complexity, and timber as high complexity. Fuel type influences the fire's rate of spread, intensity, and fuel availability. In prescribed fire, grass fuels are generally categorized as low-complexity. Depending on the amount of fuels preparatory work and other influential factors, burn units targeting surface fuels, such as needlecast and leaf litter, may also fall under the low-complexity classification. Landowners must take note of the fuel type in areas adjacent to the burn unit, as these contribute to resource requirements affecting containment. *Hazard and risk mitigation strategies such as fuels reduction and preparatory work or adjusting the seasonality of a burn, may reduce score and lower the complexity rating.*

FUEL TYPE	Grass, Leaves, or Needlecast	Brush	Timber / Timber Understory	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

FUEL DEPTH

Forest litter and duff layers have accumulated due to the lack of fire on the landscape. Duff layers less than 2" thick are considered low-complexity. Moderate complexity includes fuel depths between 2" and 5" thick. Duff layers greater than 5" are classified as high complexity and should be considered during planning because more precipitation is needed in the weeks before burning to saturate deep duff layers compared with shallow duff layers. Precipitation reduces the availability of fuels to burn and minimizes heat damage to soils. In addition, deep duff layers must be scraped away from the base of desirable trees and other valued assets to avoid heat damage or mortality (page 11).

FUEL DEPTH	<2"	2"–5"	>5"	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

SEASON

Seasonality influences operational and administrative complexity. California forests experience prolonged periods of drought that contribute to intense fire behavior during the dry season. Low-complexity burns are implemented between November and February, when cooler temperatures and higher relative humidities mitigate fire behavior. Moderate-complexity burns are implemented between March and May, and high-complexity burns are conducted between June and October. To promote forest stewardship, it is ideal to apply prescribed burns in the winter when plants are dormant, rather than in the spring when plants are actively growing. *The classifications listed above capture more broad seasonal trends and may not account for prolonged periods of drought or regional burn bans.*

SEASON	Nov – Feb	Mar – May	June – Oct	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

TOPOGRAPHY

Topography is one of the driving elements of fire behavior (page 8). Wind and fuel flammability change based on slope and aspect. A low-complexity unit has no significant changes in slope or terrain. High-complexity burn units may have multiple topographic features such as drainages, box canyons, and/or chimneys. A burn with slopes or drainages may still be categorized as low- or moderate-complexity, but ignition patterns must be adjusted accordingly. When burning on slopes, landowners should use 'backing fire' (page 13), igniting at the top of the slope and allowing the fire to slowly back downhill. When burning in drainages, the 'head' or top of the drainage must be burned first to remove fuels and reduce the risk of fire running upslope.

TOPOGRAPHY	No significant changes in slope/terrain	One significant change in slope/terrain	Multiple topographic elements	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

ASPECT

The aspect of a site influences solar preheating and affects fuel moisture and temperature, thereby influencing fire intensity. Sunlit aspects (i.e., south, west) are heated and dried and have correspondingly more intense fire behavior compared with cooler aspects (north, east). The aspect of a burn unit may determine the ideal ignition time to achieve objectives (i.e., north aspects may be ignited later in the day after more solar preheating, whereas south aspects may be ignited earlier when it is cooler). Low-complexity units have north or northwest aspects whereas high-complexity units have south or southwest aspects. Moderate complexity units include those that are flat or with aspects facing east or west.

ASPECT	North / Northwest	Flat or East / West	South / Southwest	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

UNIT PREP

In low-complexity prescribed burns, a significant amount of prep work has been completed in which all ladder fuels (fuels that allow the transition of a surface fire to a crown fire) have been removed through pile burning or disposal. In addition, burn units must be surrounded by control lines. Natural fire breaks (i.e., rocks or green grass) may be used to reduce unit preparatory work. Units are classified as high-complexity if they have not been treated with initial fuels reduction, or if there is extensive broadcast chipping or mastication. A burn unit is considered moderate complexity if prep work included sporadic or limited patches of mastication and/or broadcast chipping. Mastication and broadcast chipping rearrange fuel structure, but increase fuel availability, often leading to higher fire intensity if heat isn't managed appropriately. In addition, if a unit was prepped using mastication or broadcast chipping, the weather window for burning is narrower, and a burn tactic called "phased burning" may be necessary (page 9).

UNIT PREP	Prepped with pile burning / fuel removal	Sporadic or limited patches of mastication /chipping	No previous treatment / chipping or mastication	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

ASSETS AT RISK

Complexity is also determined by whether there are structures, power lines, valued trees, or other assets located within or near the burn unit. Mitigation measures must be implemented to protect assets that are at risk of damage from heat or flames. **To reduce complexity, landowners may make burn units smaller, scrape duff away from trees or structures, and/or ensure water is available to reduce heat damage.** Low-complexity units have a single asset at risk within or directly adjacent to the burn unit and it is natural resource driven (i.e., large, valued tree). A moderate complexity unit contains two assets at risk, including hand-built infrastructure (i.e., a home, garage, powerlines, etc.). High-complexity units contain at least three assets at risk that may be a combination of natural resource values and hand-built infrastructure.

ASSETS AT RISK	1 asset at risk	2 assets at risk	> 2 assets at risk	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

PERMIT REQUIREMENTS

Landowners interested in prescribed burning must acquire all necessary permits. Although exact permit requirements may vary regionally, a smoke permit from the local air district is always required for a broadcast burn. Some air districts always require a smoke management plan (SMP), whereas others require an SMP only under certain conditions. According to Public Resources Code 4423, CAL FIRE burn permit requirements vary across the state (page 15). A burn is considered low-complexity if a basic smoke permit is required from the local air district, but a CAL FIRE burn permit is not required. A moderate complexity burn requires a smoke management plan from the local air district *or* requires a CAL FIRE burn permit. A high complexity burn requires both a smoke management plan from the local air district *and* a CAL FIRE burn permit.

PERMIT REQUIREMENTS	No CAL FIRE permit required	SMP required *or* CAL FIRE burn permit required	SMP *and* CAL FIRE burn permit required	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

WEATHER

When burning, landowners must evaluate the weather before ignition and continually reassess weather conditions during their burn. Burn prescriptions are based on several factors including management objectives, microclimate, and fuel type. Ideal temperature, wind speed/direction, and relative humidity may vary. If applying for a CAL FIRE permit, landowners will be required to submit a general weather prescription for their broadcast burn. For low-complexity burns, temperature ranges from 45°F to 65°F degrees, relative humidity ranges from 35% to 65%, and winds are less than 5 mph. For a moderate-complexity prescription, temperature ranges from 65°F to 75°F, relative humidities range from 25% to 45%, and wind speeds are less than 10 mph. A high-complexity prescription has temperatures greater than 85°F, relative humidity between 20% and 30%, and winds less than 10 mph.

WEATHER	TEMP: 45°F to 65°F RH: 35%–65% WINDS: < 5 mph	TEMP: 65°F to 75°F RH: 25%–45% WINDS: < 10 mph	TEMP: > 85°F RH: 20%–30% WINDS: < 10 mph	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

NOTES:

SIZE

Burn unit size should never be the primary determinant for complexity. A small unit can still be complex based on other influential factors. However, regulatory requirements may become more complex with larger prescribed burns. For example, air districts often require a higher level permitting document (Smoke Management Plan, page 16) for prescribed burns larger than 10 acres.

SIZE	< 10 acres	10–20 acres	> 20 acres	MY SCORE:
COMPLEXITY	Low	Moderate	High	
SCORE	1 point	2 points	3 points	

The preceding factors are components of the fire environment, which is defined as the surrounding conditions, influences, and modifying forces that determine the behavior of a fire. Clive Countryman, author of The Fire Environment (1972), summarized its dynamic nature. He states, "The fire environment components and many of their factors are closely related. Thus, the current state of one factor depends on the state of the other factors. A change in one factor can start a chain of reactions that affect the other factors." Burn practitioners must be aware that the outlined factors may align to create more aggressive fire behavior than a simple complexity scale can represent.

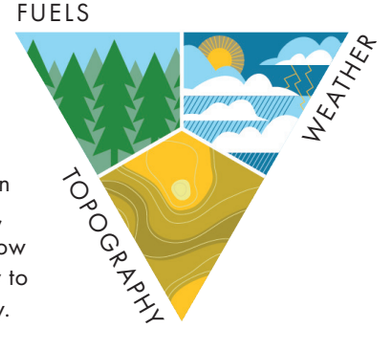
TOTAL COMPLEXITY SCORE

Fuel Type	Fuel Depth	Season	Topography	Aspect	Unit Prep	Assets at Risk	Permit Requirements	Weather	Size	TOTAL

10 pts = Low-complexity | **11–20 pts** = Moderate-complexity | **21–30 pts** = High-complexity

FIRE BEHAVIOR BASICS

Landowners should understand the basics of fire behavior, including the effects of weather, topography, and fuels, before re-introducing fire to their property. Walk around the property or potential burn units to identify the dominant fuel type, native plants, and changes in topography. Visualize and discuss how fire will move across the landscape and identify how to minimize complexity to reduce cost, risk, and liability.



MANAGEMENT OBJECTIVES

- ➡ Fuels reduction
- ➡ Defensible Space
- ➡ Native Plant Cultivation
- ➡ Watershed Improvement
- ➡ Cultural Fire
- ➡ Range Improvement
- ➡ Managing Invasive Species
- ➡ Other: _____

RX FIRE CHECKLIST

- ☐ Management Objectives
- ☐ Fuels Preparatory Work
- ☐ Burn Unit Preparation and Mitigation
- ☐ Liability
- ☐ Permits
- ☐ Environmental Compliance
- ☐ Notifications

LOW-COMPLEXITY BURN UNITS

SEASONALITY

The seasonality of the burn may differ depending on management objectives. For example, if managing for range improvement and invasive species (i.e., yellow starthistle, barbed goatgrass, medusahead, etc.), late springtime burns may be necessary. By contrast, low-intensity fire for native plant stewardship is historically applied in the late fall and winter months when plants are dormant. **Landowner-led burns are encouraged during the winter months, when permitting requirements are less stringent and the cooler, wet weather creates safer conditions for burning.**

FUELS

FUEL TYPE

Fuel type can predict flame heights during a prescribed burn. **Generally, grasslands or open, 'park-like' forests with minimal fuel loading and no ladder fuels are classified as low-complexity.**

Fig 1: A low intensity fire burning needlecast

Fig 2: Prescribed fire in masticated fuelbed.

FUEL DEPTH & MOISTURE

To minimize complexity, greater fuel depth requires higher soil and fuel moisture contents to allow for "phased burns." Phased burning is a technique where only the upper layer of surface fuels are available, or dry enough, to burn. **Complexity generally increases with thicker, drier duff layers and burn prescriptions and weather windows should be adjusted accordingly.**

- Shallow (0–2")
- Moderate (2–5")
- Deep (more than 5")

BURN UNIT PREPARATION & MITIGATION

Private landowners should take all necessary precautions to prepare their burn unit and mitigate any risk of escape or heat damage to property and natural resources.

FUELS PREPARATORY WORK

According to the California Public Resources Codes (PRC 4103 and PRC 4104), a fire that is not appropriately lined, staffed, and equipped poses a threat to life, property, and natural resources. In addition to fuels treatment standards, the difference between a forest fire and a prescribed burn is the preparatory work required before igniting to ensure it is safe and legal.

Completing the appropriate preparatory work encourages safe, effective, and ecologically responsible burning. Mechanical thinning and the removal of ladder fuels is necessary prior to burning to reduce fireline intensity and the complexity of a prescribed burn. Ladder fuels are low-lying branches and vegetation that can carry flames from low-growing plants into the tops of trees and shrubs, transitioning a surface fire into a crown fire. Refer to Additional Resources (page 19–20) for available cost-share programs for fuels reduction work.

FUELS TREATMENTS

Remove, Reduce, or Rearrange: These are general guidelines regarding fuels reduction, not steadfast rules. Burn units should be individually assessed when determining complexity level.

- REMOVE: Removal is the most effective way to deal with excess fuels on your property before prescribed burning. This includes pile burning or chipping vegetative material into a dump truck for disposal. **Removal of fuel minimizes risk and complexity because it reduces surface heat that could damage soils and plants when conducting a prescribed burn.**
- REDUCE: Reducing fuels includes a combination of activities such as pile burning and chipping. This can be more cost-effective than full 'removal' for some landowners but may introduce greater risk of damaging surface heat when burning.
- REARRANGE: Rearranging fuels includes activities like broadcast chipping or mastication. These activities rearrange the structure of the fuels on your property, but the same amount of vegetative material is present. **Follow up with prescribed burning is possible, but may require a more narrow prescription due to the amount of fuel that remains on the ground.**

Holding resources stand on the control line as the flaming front on a prescribed burn backs through the unit.

CONTROL & CHECK LINES

Although the terms 'control' and 'check' lines sound similar, they are used differently when preparing a site to burn. **The presence of existing control lines (i.e., green grass, roads, etc.) and flat or gently sloping terrain (for easy line installation) are both factors that may contribute to a "low-complexity" classification.**

CONTROL LINES: Natural or hand-built barriers to fire spread. Generally, about 4 feet wide or 1.5 times the length of the fuel type being burned (i.e., needlecast, grass, etc.). These lines serve to keep a fire within established boundaries under prevailing conditions. Control lines may already be present (roads, green grass, etc.) or can be created by scraping to bare mineral soil using hand tools or equipment.

CHECK LINES: A line that is not built to contain a fire but will slow a fire's spread. Generally, they are about 1.5 to 2 feet wide (but may vary according to local conditions and fuel type).

INFRASTRUCTURE & TREE PREPARATION

The presence of multiple high-value resources within the burn unit may elevate the complexity level or add to necessary prep work before igniting.

Document all assets that may be at risk of heat damage in the unit including hand-built and natural assets (i.e., plastic pipes, sprinkler heads, high-value/ desirable trees, etc.). If an object or resource in your burn unit cannot sustain much heat, take steps to mitigate potential damage.

To save a mature tree from heat damage:

Scrape fuels a few feet away from the tree base to mineral soil.

On steeper terrain, the downhill side should be scraped more widely to avoid convective heat damage.

➡ For example, to save a mature tree from heat damage, scrape fuels a few feet away from the tree base to mineral soil. If the tree is located on steeper terrain, the downhill side should be scraped more widely to avoid convective heat damage. Consider the fire-adaptive traits of each tree species when applying protective measures.

WATER ACCESS

Limited water access elevates the complexity status of the burn and may necessitate agency assistance.

Having access to water may be necessary to burn safely and demonstrate due diligence (page 14). Equipment may include backpack pumps, an accessible and charged garden hose, or a pickup truck with a water tank and pump. The placement and amount of water needed on site will vary based on the size, fuel type, and topography of the unit.

EQUIPMENT

Basic equipment typically used for a prescribed burn includes a water source (garden hose that reaches the entire unit, mobile pump, or backpack pumps placed throughout the unit), hand tools (McLeod, pitchfork, hoe, Pulaski, etc.), and a lighter or ignition source. Cell phones or some other form of effective communications must be in place to access the 911 system in the event of an emergency. Family radio service (FRS) radios are useful for internal communications and logistics, however they cannot access 911 directly.

PERSONNEL

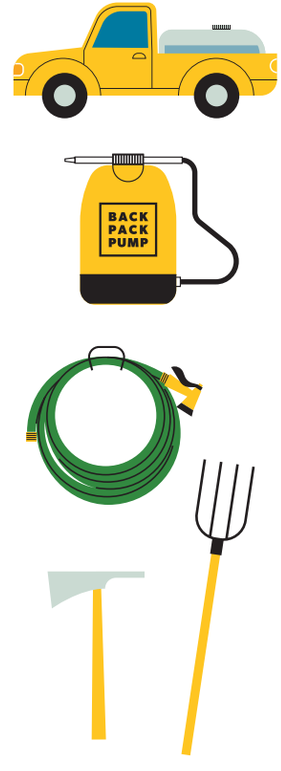
The number of personnel may vary based on size and topography of your burn. Generally, it is good to have at least one person for every 50 to 75 feet of active flaming front. All participants on a low-complexity burn must wear the appropriate personal protective equipment including leather boots, leather gloves, natural fiber clothing, and a helmet.

Consider using release of liability forms when volunteers or others are working on your property. See Additional Resources.

When permits are required, landowners may request that CAL FIRE provide standby fire protection for the burn (PRC 4491(c)). CAL FIRE resources may be unavailable, and landowners should plan burns so that CAL FIRE is not required to be on site.

Smoke and heat will naturally move uphill (page 11).

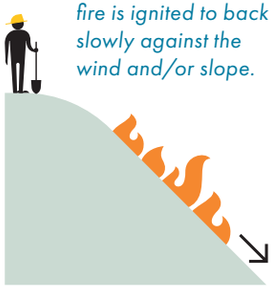
Burn Equipment



FIRING OPERATIONS

Backing fire should be the only firing tactic utilized for low-complexity burns, especially for fire practitioners with minimal experience.

Backing fire is an ignition tactic where fire is ignited to back slowly against the wind and/or slope.



BACKING FIRE: Fire is ignited to spread downslope and/or against prevailing winds. Backing fire has a slow rate of spread and lower fireline intensity than other ignition techniques. This ignition tactic is suitable for low-complexity prescribed burning and most effective for complete combustion. It is often the safest ignition strategy when wind speed and direction are stable. Some disadvantages include slower progress and potential for root damage from increased heat exposure if the soil is not moist enough.

As landowners become more experienced with prescribed burning, they may want to explore other ignition tactics such as flanking / lateral firing or head firing depending on the management objectives.

LIABILITY

In prescribed burning, liability identifies who is legally responsible for damages in the event of an escape. Currently, California is identified as a 'simple negligence state,' meaning that "[the state] holds a person legally responsible for harm if reasonable care was not taken" (Quinn-Davidson & Stackhouse, 2020). Recent changes in legislation including SB 332 (2021, Dodd) and SB 926 (2022, Dodd) have granted certified burn bosses and cultural burners greater flexibility in liability (e.g., gross negligence). Landowners who adhere to a burn plan reviewed and approved by a certified burn boss are also eligible for gross negligence. However, non-certified property owners who write their own burn plan, are not affiliated with a tribe, and conduct their own burn are liable under simple negligence.

The laws surrounding prescribed fire and liability in California are rapidly changing. Readers of this Field Guide should seek out additional resources to get the most up-to-date information on legislation surrounding the use of prescribed fire by private landowners.

MOP-UP & PATROL

Mop-up and patrol of a prescribed burn refers to the extinguishing of burning material when the unit is no longer being ignited. The process involves walking the burn unit and using hand tools or water to extinguish hot spots and reduce flare-ups that may threaten containment lines. Most labor is focused on the perimeter lines. During this time, personnel on-site may expose the bottom of logs for hot embers or use a tool to expose hot soil and roots to cooler air. Depending on the complexity of the burn, the mop-up phase may take several hours or several days. *Generally, more prep work before the burn and during the planning phases may reduce the time dedicated to mop-up and patrol.*

DUE DILIGENCE

BURN PLAN: A burn plan outlines burn objectives, location, and a weather prescription. Burn plans should be written for every burn, regardless of complexity. **Preparing a burn plan demonstrates due diligence by forcing the fire practitioner to think critically about each action associated with the burn before ignition.** It should include a written prescription with the weather conditions under which the burn will be conducted (temperature, relative humidity, and wind direction and speed), number of personnel and assigned roles, and the type, amount, and placement of necessary equipment. A simple burn plan may be only a few pages and must include a map of the burn unit (for small, low-complexity units, the map can be hand drawn).

A Sample Burn Plan can be found under Additional Resources.

PERMITS

Landowners should always ensure that they have the appropriate permits to demonstrate due diligence. Landowner-led, low-complexity burns may be conducted under approved burn permits or when burn permits are not required, as determined by Public Resources Code 4423 (page 15) and the local CAL FIRE unit. **Permit requirements vary across the state and landowners should always check with local fire protection districts for site-specific restrictions.**

A BURN PLAN MAY INCLUDE:

- ☐ Project Area Description
- ☐ Pre-burn Considerations
- ☐ Prescription
- ☐ Smoke Mgmt Plan
- ☐ Ignition Plan
- ☐ Post-burn Activities
- ☐ Notifications
- ☐ Wildfire Conversion Plan
- ☐ Risk Mgmt Activities
- ☐ Other Attachments (maps, go / no-go checklist, etc.)

For sample plans, visit: calpba.org/burn-plans

CAL FIRE BURN PERMITS

Public Resources Code (PRC) 4423 stipulates differences between counties regarding permit requirements.

ZONE A: Burn permits required year-round (Mono, Inyo, San Bernardino, Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Diego, Imperial).

ZONE B: All other counties. Permits are required when determined by the local CAL FIRE Unit. Local restrictions may exist.

When required, CAL FIRE permits for agricultural burning, broadcast burning, and pile burning may be accessed on the CAL FIRE website: burnpermit.fire.ca.gov. The online permitting system will prompt landowners to describe the fuel type, location, and size of the proposed burn unit. To apply for a broadcast burn permit, a basic weather prescription, including temperature, relative humidity, and wind speed/direction will be required. Landowners may upload a Burn Plan to the application and provide additional information of the proposed burn unit. Once submitted, the permit application will be reviewed by a local CAL FIRE Battalion Chief and a site visit may be required before the permit is approved.

PERMIT CHECKLIST

- ☐ CAL FIRE
- ☐ Air Quality Burn Permit
- ☐ Smoke Management Plan
- ☐ PFIRS
- ☐ Other: _____

AIR QUALITY PERMIT

An Air Quality Management District (AQMD) burn permit is required year-round and regardless of complexity status. Landowners should call their local Air District or check the AQMD website the morning of their burn to determine whether it is an approved burn day. The fees associated with air quality permits vary by region and landowners should contact their local AQMD office for more information.

PFIRS (Prescribed Fire Incident Reporting System) is an online interface between air quality managers, land management agencies, and individuals who conduct prescribed burning in California. It is intended to facilitate communications on planned burns and approvals. Not all prescribed burns are featured on PFIRS. Landowners should request additional information from their local AQMD to determine whether an account is necessary for their burn. **PFIRS is also a helpful resource for landowners and includes information on weather, burn status outlooks, and forecast trends.**

Smoke Management Plan (SMP): Local air districts may require landowners to submit a smoke management plan based on acres burned, emissions, or proximity to vulnerable populations (i.e., hospitals or schools). SMPs are more expensive than a basic burn permit. Landowners should check with their local AQMD office to determine requirements.

An aerial image of a prescribed burn in a mixed conifer forest. Smoke impacts from prescribed burning are monitored by the local AQMD to reduce negative effects on vulnerable populations.

ENVIRONMENTAL COMPLIANCE

In low-complexity burn scenarios, public agencies likely will not participate or provide support, financially or operationally. In this case, the private landowner is not required to complete environmental compliance documentation to burn.

Tribal Consultation: If an artifact or archaeological resource is found on the property before, during, or after fuels treatment including prescribed burning, landowners are strongly encouraged to reach out and notify the local tribe. See Additional Resources on page 20 for a statewide Native American contact list.

NOTIFICATIONS

Regardless of complexity status, landowners should notify the following entities prior to conducting a prescribed burn for safety and demonstration of due diligence.

REQUIRED NOTIFICATIONS

- Local Air Quality Control District
- Local CAL FIRE Unit

ENCOURAGED NOTIFICATIONS

- Neighbors
- Local municipal fire stations (city, volunteer, etc.)
- Local tribal representatives
- Law enforcement

A volunteer participates in a prescribed burn.

PRESCRIBED FIRE GO/NO-GO CHECKLIST

Landowners must ensure that all variables (weather, preparatory work, equipment, personnel, etc.) are in place prior to igniting to achieve desired objectives. After completing the Go/No-Go Checklist, landowners should conduct a test burn. Test burns occur in representative fuels and in a location that allows for easy suppression if the weather and smoke conditions are not acceptable. During the burn, landowners should assess and reassess whether they are achieving desired results and remaining within prescription.

PRESCRIBED FIRE GO/NO-GO CHECKLIST

PRELIMINARY QUESTIONS	**Circle YES or NO**
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If **NO** proceed with the Go/No-Go checklist below. If **YES** go to item B.	**YES** **NO**
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If **YES**, proceed with checklist below. If **NO**, STOP: Implementation is not allowed. An amendment is needed.	**YES** **NO**

GO / NO-GO CHECKLIST	**Circle YES or NO**
Have ALL permits and clearances been obtained?	**YES** **NO**
Have ALL the required notifications been made?	**YES** **NO**
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	**YES** **NO**
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	**YES** **NO**
Are ALL prescription parameters met?	**YES** **NO**
Are ALL smoke management specifications met?	**YES** **NO**
Are ALL planned operations personnel and equipment on-site, available and operational?	**YES** **NO**
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	**YES** **NO**
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	**YES** **NO**

If all the questions were answered YES proceed with a test fire. Document the current conditions, location and results. **If any questions were answered NO,** DO NOT proceed with the test fire: Implementation is not allowed.

After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective? Circle **YES** or **NO**

Burn Boss or
Responsible Party Signature _____ Date _____

ADDITIONAL RESOURCES

If the burn falls outside of the low-complexity parameters, landowners may seek alternative options for prescribed burning including hiring an insured contractor or working with state or federal agencies.

AIR QUALITY MANAGEMENT DISTRICT (AQMD)

Find your Air District
ww2.arb.ca.gov/california-air-districts

PFIRS (Prescribed Fire Incident Reporting System)
ssl.arb.ca.gov/pfirs

COST-SHARE RESOURCES

CAL FIRE

CAL FIRE reviews and approves burn permits through an online portal (page 15). Contact your local CAL FIRE office to find out more.

Find your local unit
fire.ca.gov

California Forest Improvement Program (CFIP)
fire.ca.gov/grants

Vegetation Management Program (CAL VMP)
fire.ca.gov/what-we-do

NATURAL RESOURCE CONSERVATION SERVICE

Environmental Quality Incentives Program (EQIP)
nrcs.usda.gov/programs-initiatives

Conservation Stewardship Program (CSP)
nrcs.usda.gov/programs-initiatives

NATIVE PLANT RESOURCES

Fire Effects Information System (FEIS)
feis-crs.org/feis

Cal Flora
calflora.org

California Native Plant Society (CNPS) CALSCAPE
calscape.org

UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION (UCCE) FORESTRY ADVISORS

For your area advisor visit:
ucanr.edu/sites/forestry

WEATHER RESOURCES

CA PBA Rx Fire Weather Resources
calpba.org/rx-burn-planning

National Weather Service
weather.gov

Weather Underground
wunderground.com

Northern California Geographic Area Coordination Center (GACC)
gacc.nifc.gov/oncc

NOAA
weather.gov/fire

Remote Area Weather Stations (RAWS)
raws.dri.edu/wraws/ncaF.html

Windy (mobile app)
windy.app

LOCAL TRIBAL CONSULTATION

If landowners find or know of archaeological resources on their lands, they are strongly encouraged to reach out to the local tribe for consultation. CAL FIRE maintains a list of Native American Contacts under their Cultural Resources Management Program.

fire.ca.gov/

PRESCRIBED FIRE RESOURCES

Depending on your location, community-led burning efforts may be coordinated by RCDs, UCCE, nonprofits, Fire Safe Councils, or others.

CAL FIRE Rx Fire Information
readyforwildfire.org

California PBA
calpba.org

Sample Burn Plans
Burn Plans & Incident Action Plans (IAP) — California PBA
calpba.org/burn-plans

Go/No Go Checklist
Prescribed Fire Go/No-Go Checklist
wildlandfire.sd.gov

Release of Liability Forms (Volunteers)
Liability Documents — California PBA
calpba.org/liability-documents

Funding for this project provided by the California Department of Forestry and Fire Protection's Fire Prevention Program. If you have additional questions about implementing prescribed fire, please contact your local CAL FIRE Unit. If you are outside the jurisdiction of CAL FIRE, contact your local fire agency.