

# Burn Pile Guide

## Tips for Building and Extinguishing a Burn Pile in Sonoma County, California



Image by Jameson Wolf

### Step 1 — Build the pile

- Make sure brush, limbs, leaves have dried for at least 60 days. The more it dries, the cleaner it burns.
- Place the largest logs on the bottom; small sticks, dry leaves and brush in the center to create an easily combustible “nest”; and lots of medium-sized logs and branches on top.
- The legal “home burner” pile size is 4' in diameter and 4' tall. You can add to this as it burns down.
- Build piles on the flattest ground possible. If you must build on a hill, dig a “roll out” trench just below it, so that hot coals or logs will be caught before rolling downhill.
- Place your piles at least 15' from any structures.
- Clear dead and dry vegetation including grass around the pile at least 4' or, if possible, up to 10'. Some live vegetation near the pile may get damaged by heat. Place your piles at least 10' from the base of the trees you don't want damaged by the fire. Keep in mind that, since heat rises, tree branches directly above the pile might still get singed and moss or dead branches could ignite. Consider removing branches above the pile or place the pile in a different location.
- If your pile will be in the rain, consider covering a 2' x 2' section with [wax paper](#). Stash fine branches and dry leaves underneath the paper. This allows for burning of piles even on rainy days reducing both the size of the flames and the risk of an “escape” (fire that spreads beyond intended boundaries). You can also use a tarp or piece of plastic to keep your piles dry while it's raining—these should be removed before burning.
- Do not add non-vegetative materials to your pile. Do not burn trash.

## Step 2 - Pay air quality fees

- Determine if you are in the Bay Area Air District (BAAD) or Northern Sonoma County Air Pollution Control District (NSCAPCD). Visit [Sonoma County's Air Quality District webpage](#) to see the boundary.
- If in the BAAD, fill out the [open burn form](#) and pay the annual fee (up to \$199.00; if burning piles on more than 10 acres, [eligible](#) for exemption).
- If in the NSCAPCD fill out the [open burn form](#) and pay the annual fee (roughly \$30).

## Step 3 - Get burn permit

- Burning of residential piles with permits is typically allowed from about November 1 to May 1. These dates can change. Always check for details at [Cal Fire's Burn Permit site](#). Cal Fire usually issues a residential burn permit suspension during the summer months (approximately June to October).
- Determine if you are in "State Responsibility Area" (SRA), "Local Responsibility Area" (LRA), or both. Contact your [local fire district](#) or type in your address [here](#) to find out.
  - If in "SRA," you will need a burn permit from Cal Fire (in addition to the air quality permit) only if burning between May 1 until the end of the fall fire season (October or November). This info can be found [here](#). The permits are free and informative. 4'x4' piles or smaller require a LE-62a permit and are [found here](#).
  - In "SRA," piles larger than 4'x4' require an LE-5 permit, which can be found [here](#). This is for very large piles such as logging slash piles.
  - If you are in the "LRA," check with the [city or county fire district](#) that covers you about burn permitting.

## Step 4 - Checklist for burn day

- Call the hotline to see if it's a permissible burn day:
  - If you are in the BAAD, call 800-792-0787 or check [online here](#).
  - If you are in the NSCAPCD, call 707-565-2876.
  - Be prepared to cancel your burn, if it is not a permissible day or if the weather, especially winds, change suddenly (see below for key markers).
- Notify Sonoma County's REDCOM dispatch (707-565-1700) of the address where you are burning, how many piles and at what time you plan to burn, and to provide your name and phone number.
  - If possible, notify your local fire district (Cal Fire or local) to provide the same information.
- Wear appropriate clothing: Leather work boots, cotton pants or jeans, long sleeve natural fiber shirt, leather gloves and eye protection. Avoid any synthetic materials, as they may melt and cause injuries.
- Clear dead and dry vegetation around the pile (see details in Step 1).
- Start burning no earlier than 10AM so that any inversion layer may lift. Do not ignite or add new material to burn piles later than 3PM. This will help with better smoke dispersal and cleaner air.

Monitor your smoke and consider not burning if your smoke is not riding aloft and being dispersed.

- Never burn if weather conditions are unsafe!
  - ⚠ Do **NOT** burn when winds exceed 10 mph as this substantially increases the chance of a fire accident or “escape.” The liability is on the person lighting and landowner.
  - ⚠ Do **NOT** burn, if relative humidity is below 30%.
  - ⚠ Do **NOT** burn, if the temperature is above 80° Fahrenheit.
    - Check your weather—**especially winds, for several days out**—as it can take several days for piles to finish burning. [Weather Underground](#) or [PG&E](#) are a few good sites to check for weather. [Windy](#) is a great resource for wind predictions.
- Have a water source and shovel at the burn site.
- Kick each pile with your foot to give small animals like mice or birds a warning and time to escape before you light the piles.
- If possible, light the pile near the top. This will help to reduce smoke.
- An adult is required to be in attendance at the fire. Invite friends too!

## Step 5 - Extinguish burn pile

- Let the pile burn down to ash or coal (if the weather is permissive; see below how to establish that). Moving smoldering logs and coal toward the center with a metal rake or a shovel will speed up the burn-down process.
- Douse the pile with lots of water, while stirring with a shovel. It may take between 50 to 100 gallons of water, but aggressive stirring significantly reduces the total amount of water needed. It's very hard to extinguish piles completely when it's windy (winds above 8 mph). Water evaporates, if you don't stir it in.
- Spread the coals out from the center, if there is room; working with a larger surface area is easier to extinguish.
- If you have hot logs, scrape all of the heat from these logs with a shovel, hoe or other metal hand tool. You can chop up, scrape and mix all of it with dirt. Covering hot logs with wet dirt is a great way to increase the effectiveness of water.
- The pile is fully extinguished when the ashes and coals at the bottom of the pile are completely cold to the touch of your ungloved hand.
- Check the burn area once on the night of the burn and twice during the following day—in the morning as the sun begins to shine on the burned area, and again at the hottest hour (typically between 2-4PM).
- For the next 10 days, continue to check your burn area once a day—even if you are certain your piles are extinguished. Check more than once a day, if:
  - Winds exceed 8 mph. [Windy](#) website is a great resource for wind speed predictions.
  - Relative humidity drops below 30%
  - Temperature climbs above 80° F.

- If you are unable to stay for at least 10 days to check on the piles, ask a neighbor or hire help to check for you. Night patrols are necessary during windy or dry conditions, as you may be able to see burning embers that are not visible during the day. Use the backside of your ungloved hand to sense any heat coming from the pile.

## When to extinguish burn piles with water

- Extinguish burned down piles with water if there is no forecasted rain in the next five days, if the weather is entering a warming and drying trend, or if the heat of the burning piles has visibly dehydrated and killed surrounding vegetation.
- Consider purchasing an electronic fuel moisture probe (see links below). Put it into sticks that you plan to burn that measure approximately the diameter of a quarter (those are called 10-hour fuels). If those sticks are reading humidity lower than 12%, you are in the dry season regardless of the month and should water your pile burns after they have burned down to ash or coal at the end of the burn day. Use this gauge even during the wet season (November to May) because we no longer have a reliable rainy season.

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## Fuel moisture probes recommended by fire experts and foresters

[AccuMASTER Duo Pro Pin and Pinless Moisture Meter for Wood and Building Materials](#) (\$62)

[Protimeter Mini C Wood Moisture Meter](#) (\$220)

## To learn more about pile burns

- Visit Sonoma County's [regulations page](#) for pile burning in the rainy season.
- Visit Cal Fire's [instructions](#) for safe pile burns.
- Visit the website of our local prescribed burn association, [Good Fire Alliance](#), to find burn pile workshops, helpful guides, and instructions on how to join their list-serv.
- Pepperwood Preserve hosts pile burning workshops. Visit their [classes page](#) to check for availability and to sign up or watch their [video](#) tutorial.
- UC extension produced a series of videos on "[Pile Burning Fundamentals](#)." You can email Tori Norville, UCCE Fire Science Advisor, at [tnorville@ucanr.edu](mailto:tnorville@ucanr.edu), to set up a free site visit.

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**Limitation of Liability:** These guidelines were developed with community input and support, based on anecdotal experience, and should in no way hold any party responsible for any direct or indirect outcomes arising out of or in any way connected with the use of this document.

This guide was created by members of the Good Fire Alliance, with contributions from: Jared Childress, prescribed burn coordinator, the [Central Coast Prescribed Burn Association](#); Garrett Gradillas, training programs manager, [Fire Forward](#); Annie Madden, prescribed fire squad lead,

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To access this guide online, visit: <https://calpba.org/good-fire-alliance>