

MAY 2021

A Proposal to Address Open Fires and Air Pollution in the Coloma Lotus Valley

**Ad Hoc Committee on Open
Fires and Air Quality**



Basic Overview of this Proposal

- Provide **guidelines to reduce fire and pollution risk** in our community, by recommending limitations on burning and other hazardous activities during times of high fire danger and high levels of air pollution.
- Provide all residents, outfitters, campgrounds, visitors and businesses with **two basic measures** that would **highlight local risk conditions** for our Valley, based on air quality and wildfire ignition metrics unique to where we live (see the two charts below).
- Create a Community web page on Coloma.Com utilizing this content and informational graphics in a user-friendly fashion.

Parameters/Constraints

The **guidelines based on our local metrics are voluntary** and the [Coloma Lotus Advisory Committee](#) does not have the ability to pass any regulations or ordinance codes to enforce these guidelines.

Implementation:

Develop an **alert system based on fire ignition and air quality measures** to conditions in the Coloma Lotus Valley (humidity and wind speed):

- Provide these metrics on the Coloma.Com website
- Push the metrics out to CL News and NextDoor

Future Plans

- Provide signage at the entrances to this valley indicating whether it is a safe burn day.
- Push it out to anyone who provides their email to receive daily updates or notifications when our valley has an alert condition.
- Collect data on the efficacy of this program and advise the El Dorado County Board of Supervisors.

Red Flag Days and No Burn Days are determined by conditions that span large regional areas of California. When conditions are so regionally prevalent that they trigger a Red Flag Day or No Burn Day alert, local residents should always take precautions. Red Flag Days* and No Burn Days are determined by conditions that span large regional areas of California. When conditions are so regionally prevalent that they trigger a Red Flag Day or No Burn Day alert, local residents should always take precautions.*

Two Basic Measures to Determine Red Flag/No Burn Day for our Valley

1. Critical Weather Patterns-Wind Speed and Humidity-Leading to Wildfires¹

If we are in the Orange or Red Zones (see chart below) we would have NO Wood or charcoal fire burning, or exterior open flames of any sort. Covered propane grills are OK.

2. Air Quality Index

If we are in the Orange, Red, Purple, Maroon colors we would have NO Wood or charcoal fire burning, or exterior open flames of any sort. Covered propane grills are OK.

CONDITIONS	WIND SPEED (APPROXIMATES BEAUFORT WIND FORCE SCALE)			
RELATIVE HUMIDITY (RH) Relative humidity tells us how much water vapor is in the air.	Gentle Breeze: Sustained Wind 6-11mph Leaves and small twigs move, light flags extend	Moderate Breeze: Sustained Wind 12-20mph Small branches sway, small trees sway, dust and loose paper blow about	Strong Breeze, Moderate Gale: Sustained Winds 30+mph Large branches sway, whole trees sway, can be difficult to walk against wind	Strong Breeze, Moderate Gale: Sustained Winds 30+mph Large branches sway, whole trees sway, can be difficult to walk against wind
Daytime Minimum Relative Humidity 29-42% and/or Nighttime Maximum RH 60-80%			SPARK RISK	SPARK RISK + NO OPEN FLAMES
Daytime Minimum Relative Humidity 19-28% and/or Nighttime Maximum Relative Humidity 46-60%		SPARK RISK	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES
Daytime Minimum Relative Humidity 9-18% and/or Nighttime Maximum Relative Humidity 31-45%	SPARK RISK	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES
Daytime Minimum Relative Humidity < 9% and/or Nighttime Maximum Relative Humidity < 31%	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES	SPARK RISK + NO OPEN FLAMES

The Critical Weather Patterns Matrix assumes daytime 10-hour fuel moisture ≤ 6% (measured at 1300), annual grasses are cured, and that no wetting rain (greater than 0.10 inch) has fallen in the last 24 hours. The wind event should be expected to last at least 8 hours.

*Conditions that determine Red Flag days can be found at https://gacc.nifc.gov/oscc/predictive/weather/myfiles/Watches_and_Warnings_for_California.htm.

Spark Risk- SR:

- Power tools are not advised: e.g. no lawn mowers, chain saws, metal blade weed trimmers.
- Do not drive or park any vehicle on dry vegetation.
- Double check that trailer chains are not dragging.
- Check on any recent burn piles or campfires that may not be fully extinguished. Always follow the “drown, stir and feel” method.

<https://www.fire.ca.gov/media/5250/campfiretips.pdf>

<https://www.readyforwildfire.org/prevent-wildfire/campfire-safety/>

No Open Flame - NOF:

- Wood or charcoal fired burning, or exterior open flames of any sort are not advised. Covered propane grills are OK.

Air Quality Index - Compiled Chart

Note: In the Coloma Lotus Valley, we have Air Inversions (This is when a layer of cooler air is trapped near the ground by a layer of warm air above the surface.) When the air cannot rise, pollution accumulates near the ground, leading to higher pollutant concentrations.

DAILY AQI COLOR	LEVELS OF CONCERN	VALUES OF INDEX	DESCRIPTION OF AIR QUALITY
GREEN	GOOD	0-50	Air quality is satisfactory, and air pollution poses little or no risk.
YELLOW	MODERATE	51-100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
ORANGE	UNHEALTHY FOR SENSITIVE GROUPS	101-150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
RED	UNHEALTHY	151-200	Some members of the general public may experience health effects. Members of sensitive groups may experience more serious health effects.
PURPLE	VERY UNHEALTHY	201-300	Health alert: The risk of health effects is increased for everyone.
MAROON	HAZARDOUS	300+	Health warning of emergency conditions: everyone is more likely to be affected.

<https://www.airnow.gov/aqi/aqi-basics/>

<https://www.epa.gov/pmcourse/patient-exposure-and-air-quality-index>

https://www.epa.gov/sites/production/files/2018-11/documents/indoor_air_filtration_factsheet-508.pdf

<https://www.epa.gov/sites/production/files/2014-09/aqiguidepm.png>

Frequently Asked Questions Regarding this Proposal

1) *Where's the local data coming from?*

The data that determines fire ignition risk and pollution risk are collected by different types of stations.

a) The local weather station that meets National Weather Service (NWS) National Oceanic and Atmospheric Administration (NOAA) standards is located off Highway 49 near Mother Lode campground. Its data can be directly seen at <https://www.wrh.noaa.gov/mesowest/timeseries.php?sid=PG364&num=168> . This station provides the humidity, temperature and wind speed data that is used to assess ignition risk.

i) The data that determines particulate matter pollution from smoke can be assessed using Purple Air sensors, when their output is set to EPA standards. There is a local Purple Air map at <https://www.purpleair.com/map?opt=1/a/i/mAQI/a10/cC5#13.08/38.80946/-120.9224> where the locations of individual sensors can be seen. Clicking online on any local sensor will give you access to particulate matter graphs spanning several days, which also indicate the

degree of health risk associated with smoke particles. Be sure to select the "US EPA" conversion. The PM 2.5 AQI is an important measurement for human health. Clicking on additional Purple Air stations will overlay their results onto the graph, which enables you to see the difference between one location and another.ii) More Purple Air sensors will be installed shortly, pursuant to the Coloma Lotus Advisory Committee's (CLAC's) effort to secure additional sensors from AQMD.

2) *Is this program for campgrounds or for residents?*

a) It's for everyone. Sparks and embers don't care what the zoning of your parcel is – they will ignite either one. Smoke pollution is an equal consideration for local residents as well as visitors.

3) *Is this a law or an ordinance?*

a) No. Many residents and businesses have expressed interest in working towards some sort of regulatory or county ordinance approach. The CLAC is collecting data and community input to assess the value and impact of the program.



4) What laws, ordinances and regulations are already in place for fires and smoke?

a) There are many existing restrictions on fires already in place at the county and state level, and for adjacent federal lands managed by the BLM and USFS. Many locals and visitors are not aware of these, or that restrictions for campfires are different than restrictions for burn piles. For example, No Burn Days do not apply to burning that is exempted, such as recreational activities which include campfires and fire pits. Pertinent excerpts of laws, ordinances, rules and regulations are summarized in the following section.

i) The County's campfire ordinance code can be found at https://library.municode.com/ca/el_dorado_county/codes/code_of_ordinances?nodeId=PTAGECOOR_TIT8PUHESA_CH8.08FIPR_S8.08.060CARE

ii) State laws regarding campfires are summarized in a CalFire publication at <https://www.fire.ca.gov/media/5250/campfiretips.pdf> State campfire permit information may be accessed at <https://www.readyforwildfire.org/permits/campfire-permit/>

iii) The BLM fire restriction order, effective from April 2020 through 2025, is at https://www.blm.gov/sites/blm.gov/files/BLM0021206_CA%20Statewide%20Fire%20Order_final_508.pdf

iv) The El Dorado National Forest maintains a Current Conditions page on its website that indicates where and if campfires are allowed at <https://www.fs.usda.gov/detailfull/eldorado/home/?cid=stelprdb5358111&width=full>

b) Similarly, there are many existing restrictions on smoke and particulate matter pollution at the county, regional, state and federal level.

i) The county adheres to AQMD regional and state Air Resources Board Open Burning rules which can be found at

<https://ww2.arb.ca.gov/sites/default/files/classic/technology-clearinghouse/rules/RuleID830.pdf>

(1) Note that while there is an exemption for recreational burning, compliance with Smoke Management Rules in section 300.3(F) is still required. This includes section 300.3F(1)(e) which stipulates that "Burning shall be curtailed when smoke drifting onto a nearby populated area becomes a public nuisance."

(2) "Nuisance" is defined in section 300.2(P), which specifies that Health and Safety Code Section 41700 shall apply.

(3) Health and Safety Code Section 41700 states that: "Except as otherwise provided in Section 41705, a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause,



or have a natural tendency to cause, injury or damage to business or property.” See https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=41700.&lawCode=HSC

5) Can I install a Purple Air (an air pollution monitor) or an NOAA/NWS compliant weather station on my property?

a) Anyone can purchase and install a Purple Air sensor. See <https://www2.purpleair.com/collections/air-quality-sensors> . You will need a good internet connection and a power source to plug in the sensor outside. We strongly recommend that you test a variety of locations at your site to avoid contaminants that would only be measurable from your own property, such as fireplace smoke, barbeques etc.

b) For an NOAA/NWS compliant weather station, the short answer is maybe. The NOAA has a Cooperative Observer Program and there are strict siting requirements for these stations, some of which will make it difficult to install a compliant station in many parts of the Coloma Lotus Valley. For more information see <https://www.weather.gov/coop/>

6) Will there be fire risk signage for visitors?

One of the major goals of the program is to advise visitors that the Coloma Lotus Valley takes fire and air pollution risk seriously, so let the CLAC (Coloma Lotus Advisory Committee) know if you would like to volunteer to maintain fire risk signage during the fire season.

7) What do I do if I want to report a Public Nuisance-concerns about fires and/or air pollution?

“Burning shall be curtailed when smoke drifting onto a nearby populated area becomes a public nuisance.” (see 4b above). If you feel there is a risk and want to report it you can go to the following website <https://www.edcgov.us/Government/AirQualityManagement/Pages/complaint.aspx> or call during regular hours (530) 621-7501 or after hours (530) 957-3466 or call the County non emergency dispatch line (530) 621-6600. If calling the dispatch center, ask the dispatcher to contact the Air Quality Management District staff.

8) Where can I provide input on the program?

End Notes: Conditions that determine Red Flag days can be found at https://gacc.nifc.gov/oscc/predictive/weather/myfiles/Watches_and_Warnings_for_California.htm. The IM Matrix assumes daytime 10-hour fuel moisture ≤ 6% (measured at 1300), annual grasses are cured, and that no wetting rain (greater than 0.10 inch) has fallen in the last 24 hours. The wind event should be expected to last at least 8 hours.