

Wildfires and Prescribed Burns: Part 1

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In recent years, people are increasingly aware of fires in natural areas. From annual prescribed burns (aka controlled burns) at Prince William Forest to the 2023 Canadian wildfires (approximately 16 miles to over 2,000 miles away respectively), our Fairfax neighborhood felt the impacts. The haze taints the sky and the occasional ash fallout looks like snowflakes. Regardless of the fire's origins, too much smoke in the air is unhealthy to breathe—stay alert to bad air quality warnings! We really are part of a global community. Let's get a better understanding of this force that can be both destructive and rejuvenating.



Figure 1. Smoke from a Prince William Forest controlled burn suddenly billows into Royal Lake Park.

Prescribed burns are a series of small fires set in a designated plot predetermined by park managers or other authorities. The flames may clear deadwood, destroy invasive plants, maintain meadow habitats, activate native plant seeds that need fire to germinate (*i.e.*, fire climax plant communities), and, ironically, prevent largescale wildfires. Burns release nutrients back into the soil. Depending on how the burn is orchestrated, it can either clear understory growth from mature forests or preserve meadows by killing young trees before they mature. To the last point, some plants and animals need meadow habitats to survive so using fires to halt reforestation increases local biodiversity. Buffer zones that will not catch fire surround the burned sectors. Keeping the site away from buildings, scheduling burns to last during daylight hours, conducting this work only when the winds remain calm, and preparedness to extinguish flames outside of the zone are added safety measures. These small fires stay relatively cool; each one dies back when it comes to the burned section of a sister fire so none get too hot. Repeating the burns every several years prevents too much fuel from accumulating that would otherwise build higher than desired temperatures when alight. Much preparation and understanding how fire dynamics impact that area go into controlled burns; ***private citizens should never attempt setting open fires to their suburban yards and gardens as having open fires is illegal in Fairfax County!***

Indigenous peoples across the world did a version of prescribed burns. In North America, the importance was lost to newly arrived Europeans. Yet, some early colonists marveled at the grand trees and majestic forests, saying how one could gallop a horse through the woods—results of American Indian controlled burns. The Indians in what would become Virginia ignited areas for many reasons such as clearing forests for better hunting, driving animals into a direction to be hunted, and agriculture.

Due to Eurocentric misconceptions, native knowhow took the back burner to the fire suppression dominating wild land policies over the last several centuries. With fuel accumulating faster than it could rot away, small sparks could burst into large wildfires. Without burns, seeds from fire climax plants would not germinate and ecosystems shifted. Within the past several decades, scientists rediscovered the important role fire plays in the environment. Locally, Huntley Meadows Park, Ellanor C. Lawrence Park, Elklick Preserve, and Poplar Ford Park have a total of 82 acres that the Fairfax County Park Authority (FCPA) manages with prescribed burns. Controlled burns would not be done in the Royal Lake watershed because much of the parkland is in stream valleys that are too wet for reliable burns. Drier, upland sections are too close to homes.

Simply stated, a wildfire—including forest, grass, bush, and brush fires—is an uncontrolled and unpredictable burn in natural areas. One can start from natural occurrences, such as lightning strikes or



Figure 2. The charred ground surrounded by low-cut turf borders is where a recent prescribed burn occurred at Ellanor C. Lawrence Park. This burn maintains a meadow habitat.

even spontaneous combustion of materials like dried grass on a hot day. Humans catalyze other wildfires when sparks, high heat sources, or flames contact vegetation, especially dried husks, through acts such as:

- accidents (e.g., falling live power lines or roadside vehicle fires)
- carelessness (e.g., tossing smoldering cigarette butts, improper campfires, or setting off fireworks in unsafe areas or detonating illegal ones that land in combustibles)
- arson (e.g., deliberately lighting fires without proper authorization or pyromania)

Factors facilitating the initial spark to grow into an inferno include:

- the amount of combustible material present
- how dry that fuel and ground is
- oxygen, humidity, and wind
- natural containment (e.g., waterways or stoney flats)
- timeliness, accessibility, capability, and effectiveness of the firefighting response

Favorable fire conditions are often found in the dry, western states. The wetter East Coast sees dead plant matter decomposing more readily than out west or frequent rains preventing a fire to catch. Still, wildfires do occur along the eastern seaboard when the conditions are right. Sometimes, neighbors expressed concerns regarding how a suburban wildfire would look in their neck of the woods. [Part 2](#) of this series has tips on preventing wildfires and looks at a wildfire case study that happened at Royal Lake Park.

If you spot a wildfire, call 911! For suspicious activity that does not immediately pose a threat, call Fairfax County non-emergency dispatchers; the West Springfield office number is 703-644-7377.

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