



Prescribed Fire



Prescribed fire reduces unsafe levels of fuel that could cause a wildfire to grow quickly. In addition, it promotes the growth of native plants, returning the area to a more natural ecosystem.

Fire at Mississippi National River and Recreation Area

Today the National Park Service uses prescribed fire as one tool in restoring and maintaining representative landscapes, ecosystems, and reducing hazardous fuels. These landscapes and ecosystems give visitors a better understanding of the setting for a particular event in history that

took place and provide an opportunity for visitors to explore the wonders of nature. The NPS uses fire ecologists to measure the effects of prescribed fires to see if they meet park objectives in creating a particular landscape and restoring an ecosystem.

The History of Fire

Historically, the floodplain and mesic forests in the area would have experienced fires only infrequently, on the order of decades to hundreds of years between fires, due to the vegetation and topographical features.

From the 1820's to the mid-1900's European settlement eradicated native prairie from the site. Given the predominance of prairie and oak

savanna areas, it is clear fire played a historic role in maintaining the landscape prior to Euro-American settlement.

Today, ecologists and wildlife managers use fire to benefit plants, animals, and humans because prescribed fire supports biological diversity and reduces the chances of catastrophic wildfires.

Benefits of Prescribed Fire

Fire's natural process profoundly influences the native vegetation of the region. Fire aids in reproduction of many fire-dependent plant species. Many fire-adapted species have special root systems that grow very deep and allow quick recovery from fire. Fire only generates high temperatures above the soil and into the top few centimeters of soil, leaving these deep roots unharmed.

In the tallgrass prairie and oak savanna areas at Coldwater Spring, the use of fire will help restore upland areas by excluding invasive species and promoting native forbs and trees (like bur oaks). It is possible that more bird species will be attracted to the area, as the prairie composition will be unique to the area.

Since there are no explicit records or data available

to determine the fire frequency at Coldwater Spring specifically, it can be assumed that the area burned with intervals short enough to create an open, prairie setting while maintaining oak savannas and mixed and mesic and floodplain forests.

The National Park Service uses prescribed fire as a tool to rehabilitate and maintain the natural landscape of Mississippi NRRRA. Other benefits include:

- reduction of woody brush,
- releasing nutrients back into the soil to enhance plant growth, and therefore stimulating native species diversity,
- suppressing non-native species, and
- creates a mosaic of burned and unburned fuels, reducing the ability of a wildfire to spread.

Conducting a Prescribed Fire

Mississippi NRRRA conducts its prescribed fire program under the guidance and direction of trained and experienced National Park Service fire personnel. They carefully plan prescribed fires under specific guidelines and perform the fires under the control of a trained crew with specialized equipment.

Prescribed fires have management goals and specific objectives for each area burned. Before burning, a designated set of conditions must exist, including recent precipitation, wind speed and direction, and relative humidity. Crews monitor weather conditions throughout the burn to make sure the burn is completed safely.

Natural and artificial firebreaks, such as broken

topography, the Mississippi River, and roads all reduce the amount of water and staffing required for fire control by keeping the fire within the designated boundary. Smoke may cause minor inconvenience, even though fire personnel plan ignition methods to avoid excess smoke in the area.

Prescribed fires differ from wildfires because managers implement prescribed fire under specific conditions that create less intense fires than do wildfires. Therefore, wildfires at Mississippi NRRRA are immediately attacked because of their unpredictable and potentially damaging effect on property, and the public's and firefighters' health and safety. Tactics used to suppress a wildfire may be different than controlling a prescribed fire depending on the circumstances.

Protecting Park Neighbors

Prescribed fires at Mississippi NRRA have a secondary benefit of reducing the risk of a wildland fire spreading outside of Mississippi NRRA boundaries and onto private land by reducing the amount of fuel, such as dead grass, woody shrubs and other “burnable” vegetation. Wildfire does not recognize political boundaries and does not know where the park stops and private land begins. Fire agencies refer to areas where natural land and

homes occur together Wildland-Urban Interface areas.

Park managers use prescribed fire as one tool in reducing these “hazardous fuels” and preventing unwanted wildland fire. When burned under the right conditions, these hazardous fuels will be consumed and will not provide fodder for wildland fire.

Smoke

While prescribed fires have proven to be very successful in creating healthy ecosystems, there is a challenging side effect: smoke. Exposure to smoke can be reduced through actions taken by both the park and the public. Fire managers look for ignition days with unstable atmospheric conditions, which help to raise and disperse smoke. It is important to understand that smoke usually is naturally lifted as daytime heating occurs. This allows smoke to be mixed with air, dispersing the smoke throughout the area. As daytime temperatures begin to drop

in the evening, smoke from the fire may settle into low lying areas and remain there for the night. The general public and especially those with breathing problems and the elderly can follow simple guidelines to reduce smoke exposure.

- Close windows and doors,
- Close outside vents,
- Stay indoors when smoke is present, and
- If respiratory condition exists, one may want to leave the area for the day.

Coldwater Spring Prescribed Fire Unit

Mississippi National River and Recreation Area 2021 Coldwater Prescribed Burn, Public Map

