

Prescribed Burns



February 8: burn by Blair Center conducted; ground bare



March 13: grasses and first fronds of palmettos begin to emerge



March 28: ferns, grasses, ground cover growing; palmettos begin to flower



April 21: small cabbage palm in center sending out new fronds; wildflowers emerge



July 25: palms leafed out, grasses and wildflowers blooming

For thousands of years, fire has played an important role in shaping the landscape of South Florida. Historically, natural fires usually occurred during the summer wet season, started by lightning from thunderstorms. Because the ground was wet, the intensity and severity of the fires were limited.

This natural cycle changed as man altered the landscape of South Florida. Large areas were drained for human use and natural fire patterns were disrupted. Now, controlled or prescribed burns are used to try and duplicate the beneficial effects of natural limited fires.

Prescribed burns are one of the land management tools used at Corkscrew. These burns are a very cost effective way of managing the land, and the reasons behind the frequency and time of year depend on the desired impacts on the ecosystems to be burned.

TIMING AND LOCATION

Marsh and savannah areas burn every one to three years. This is beneficial for numerous grasses and wildflowers because fire can enhance seed germination.

On the other hand, pine flatwoods, high pine, and shrub wetlands often burn in intervals of three to seven years.

The season of the burn also impacts the vegetation. Pine trees are at a higher risk of mortality in the fall because of higher energy demands in the winter combined with new growth emerging in the spring.

To protect hardwoods, early spring burns need to be avoided because the plants have used up their energy putting out new leaves and are less likely to recover. Areas such as hammocks will burn more infrequently.

BENEFITS OF BURNS

One benefit of these fires is reduction of hazardous fuels, thus increasing protection for people, facilities, and even forests. These burned areas become firebreaks during wildfire outbreaks.

Additionally, there are numerous ecological benefits. Burning enhances habitat used by wildlife including endangered species including the Florida panther, gopher tortoise, eastern indigo snake, and red-cockaded woodpecker. Many people worry about wildlife mortality due to fire, but this is actually rare. Animals are more directly impacted by the alteration of their habitat.

Certain species of plants only appear the first one to two years after a burn. Many trees benefit from fire. The naked seeds of pine and other species such as wiregrass are favored by access to bare mineral soils. Thus burning increases minerals and nutrient in soil and opens up bare patches for seeds to take root.

Ultimately, a land manager desires a mosaic of different ecological transitional stages for plant communities that can be maintained of time with burning. Without fire, hardwood species eventually come to dominate an area. For example, over time without burns the wet prairie off of the boardwalk at Corkscrew would likely transition into a mesic pine flatwood.

There are additional benefits to burning such as controlling disease and insects, and the clearing of overgrown riparian areas. Think of the abundance of new, highly nutritious green shoots growing a month after a prescribed burn. These higher nutrient grasses and forbs are better for herbivores such as deer, which are often sighted foraging in recently burned areas.

BURN UNITS AT CORKSCREW

Corkscrew Swamp Sanctuary is sectioned off into burn units. These burn units help use fire as a management tool. Firebreaks are usually already in place and need only be refreshed instead of newly made, minimizing soil disturbance impacts which often favor invasive plant species. These units also help with recording the frequency of fires.

Fire units often follow borders between different vegetative communities.

The wet prairie is a different burn unit than the pine flatwoods around the Blair Audubon Center. The wet prairie is on a more frequent burn rotation than the flatwoods.

ADVANTAGES AND RISKS

There are disadvantages and risks associated with prescribed fires. For the personnel, it is a hot and tiring all-day process with risk to personal health from smoke inhalation, injuries due to falling or tripping over unseen debris, and overheating and dehydration. If fires occasionally get outside of a burn unit perimeter, staff must work quickly and efficiently to suppress these.

Other risks include fires burning too hot and moving too slowly, which can lead to burning of tree roots or, depending on soil moisture conditions, even the ignition of peat. Because of the complexities associated with prescribed fires, burn crew leaders must be trained and certified.

PLANNING AND BURNING

Planning a prescribed fire takes training and knowledge of the ecosystems, topography, weather, and fire behavior.

Before a burn is conducted, a decision about the kind of weather the burn

needs must be made. The area to be burned and how it will be burned is also noted. Another consideration is how any wind might impact surrounding areas. Wind conditions that would put smoke over roads, airports, etc. are avoided. This is calculated using a smoke screening test.

These are parts of a burn prescription and are required for every burn. Firebreaks or plow lines are put in or replowed as needed ahead of time. These act as access roads for burn crews as well as to help contain the burn within the desired area.

On the morning of the burn, if weather is favorable, the Florida Division of Forestry and local fire stations are called for permits using the burn prescriptions.

Once permitted, the fire crew in protective gear along with equipment such as radios, water tanks, flappers (used to smother creeping flames), rakes (used to cover small flame with sand or dirt or to clear vegetation from an area), and bladder bags (backpacks with water that can be used to put out small flames in unwanted areas) will be situated according to the prescription at the site of the fire.

First, a test fire is started. This allows the burn crew to assess how the

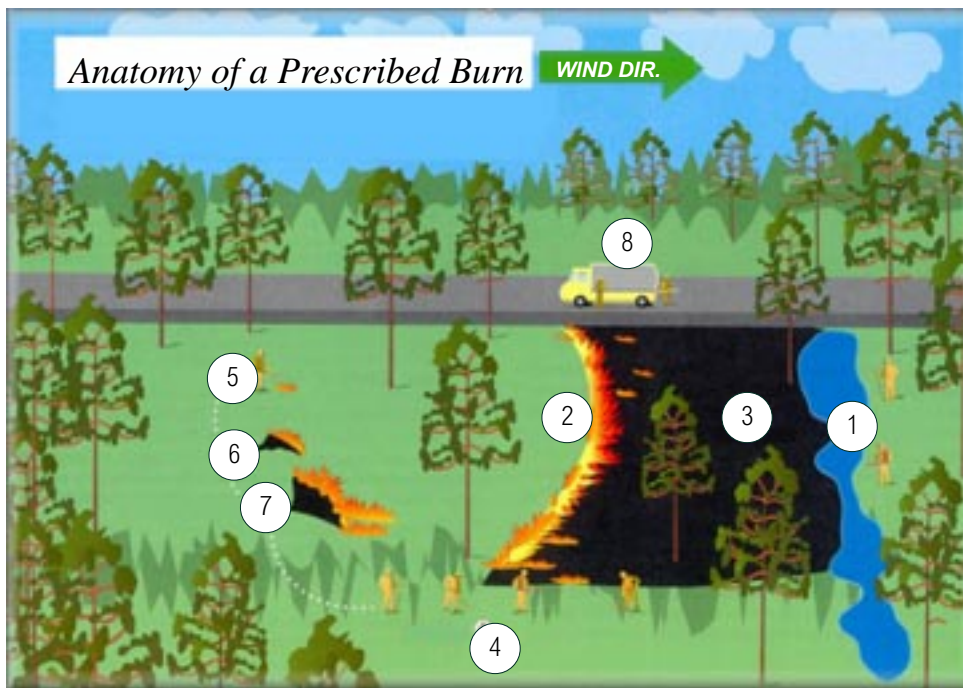
fire is likely to behave. However, fire behavior can and does shift throughout the day as the temperatures rise and relative humidity begins to go down. Throughout the day, weather is monitored for changes.

After a successful test fire, crews proceed with the burn. On the downwind side of a burn, a backing fire is initiated. This is to give added protection downwind of the area being burned (burn unit). The burn unit, weather conditions, and objectives of the burns determine how other ignition techniques will be used. It often requires multiple techniques to get the area burned.

The edges of the unit are constantly being evaluated and observed throughout the burn for spotovers. A spotover is when wind blows an ember outside of the designated burn unit, and these must be put out immediately.

Once the unit has burned and the fire is out, the perimeter of the burn unit is checked for smoldering logs, burning snags, and other hazards that could cause problems later and problems are monitored or extinguished.

Prescribed burns are an extremely useful land management tool that helps control exotics, perpetuate fire-dependent species, improve aesthetics, and enhance wildlife habitat.



Key to the chart

Prescribed burn managers try to find a natural firebreak, such as a creek (1) or they create one with a tractor. From there, they set a downwind backfire (2). This creates a burned out area (3) at which spot the headfires, set in successive ignitions (5), (6), and (7) will stop. Crew members patrol a handline (4) to ensure that the burn is contained. A brush truck (8) equipped with water or foam is on hand to control the fire if it shifts direction or intensity due to wind or other unforeseen conditions.

Chart from Florida Department of Forestry