

U.S. Fish & Wildlife Service

# Wildland Fire Management in the Midwest

*Keeping Fire  
On Our Side*



# The Two Faces of Wildland Fire



## Wildland Fire on the Web

[fire.fws.gov](http://fire.fws.gov)  
U.S. Fish & Wildlife Service  
Fire Management

[www.firewise.org](http://www.firewise.org)  
FireWise, sponsored by the  
National Wildland/Urban  
Interface Fire Program

[www.nifc.gov](http://www.nifc.gov)  
National Interagency Fire Center

[www.smokeybear.com](http://www.smokeybear.com)  
Smokey's Official Website

## Friend or Foe?



This blue goose, designed by J.N. “Ding” Darling, has become the symbol of the National Wildlife Refuge System.

What comes to mind when you hear the word “fire”? Warmth, danger, comfort, excitement, power? People have a love-hate relationship with fire, and for good reason. Under the right conditions, fire can be useful, enjoyable, and even necessary for survival. At the wrong time and place, however, it can be destructive and life-threatening.

Let’s look at the two faces of wildland fire in the Midwest – the friendly and the fierce. Controlled, or “prescribed,” burning is used by land managers to improve wildlife habitat and reduce the risk of dangerous fires. Wildfire, on the other hand, can threaten life and property with little notice, if it occurs near homes.

The U.S. Fish & Wildlife Service is working to make fire a positive force. You can do your part by “fire proofing” your home and property. Together, we can keep fire on our side.

## It’s Only Natural



Fire was here long before we were. It has played a productive role in the natural systems of the Midwest for centuries, revitalizing the landscape.

Along with grazing animals like bison, fire kept the tallgrass prairie in present-day Minnesota, Wisconsin, Iowa, Illinois, and Missouri healthy. It is estimated that, before European settlement, the prairie burned naturally every four or five years. Fire removed dead vegetation and returned nutrients to the soil, nurturing native grasses and wildflowers. It kept shrubs and trees from invading the open grasslands. Quite simply, it kept the prairie prairie.

Along the Great Lakes, jack pine forests also depended on fire for survival. Jack pine evolved to withstand fire and even needs it to

regenerate. The tree's seeds are protected from flames inside sturdy, sealed cones, which remain on the branches. The heat from a fire melts the cones' waxy coating, releasing seeds onto the freshly re-charged soil after the fire passes. Jack pine stands typically burn every 30 to 50 years.

## A Dangerous Combination



As towns appeared in the Midwest during the 1800s, disaster began to strike. In the North Woods, debris left from uncontrolled logging fueled deadly fires. In 1871, the Peshtigo Fire burned nearly four million acres in Michigan and Wisconsin, killing more than 1,500 people. In 1894, the Hinckley Fire in east-central Minnesota destroyed six towns and 256,000 acres in just four hours. More than 400 people died.

Population trends in the late 20th century have set the stage for more fire-related disasters. Many people are leaving cities and making their homes near wild places. Public safety officials and natural resource managers are concerned about a new phenomenon, the Wildland/Urban Interface. In this zone, homes are interspersed with undeveloped land, creating a potentially volatile situation. As more people choose to live in rural areas, safely managing fire on the natural landscape is becoming more difficult, and more crucial.

## A Year of Fire in the Midwest\*

# of wildfires = 115

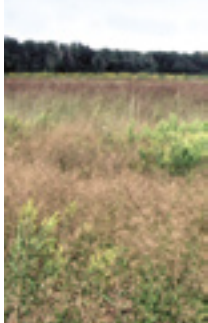
# of prescribed fires = 364

# of acres the Fish & Wildlife Service managed with prescribed fire = 72,000

\$\$ that Fish & Wildlife Service fire management activities contributed to local economies = \$5,600,000

\*Figures for national wildlife refuges and wetland management districts in Minnesota, Wisconsin, Michigan, Iowa, Missouri, Illinois, Indiana, and Ohio from October 2002 - September 2003.

## A Prescription for Healthy Habitat & Human Safety



Each year, Fish & Wildlife Service staff use prescribed fire to restore and maintain wildlife habitat on up to 10 percent of National Wildlife Refuge System lands throughout the Midwest. In so doing, they also serve refuge neighbors by reducing hazardous conditions. Managed burns on refuges and waterfowl production areas help wildlife and people.

Prescribed burns rejuvenate the prairie. They cleanse it of accumulated, dead vegetation and stimulate fresh growth. Native grasses and wildflowers, which evolved with fire, benefit from nutrients returned to the soil during a burn. They produce more seeds and re-grow in greater abundance. Non-native plants and woody vegetation, on the other hand, are deterred by the flames. In addition to maintaining existing prairie, regular burning helps restore prairie to old pastures, hay fields, and crop lands.



In addition to its ecological value, prescribed fire serves the interests of the local community. Burning removes dead vegetation that can feed a dangerous wildfire. Through regular burning, this “fuel load” is reduced, lowering the chances of an unintended fire and providing a safety buffer if one should start elsewhere. Used in conjunction with other control methods, burning combats leafy spurge, a noxious weed that can reduce the productivity of agricultural crops.

Service staff also work beyond refuge boundaries to help communities manage fire. Refuge firefighters may respond to off-site wildfires to protect people and property. The Rural Fire Assistance Program provides funding to local fire departments who may assist

with fighting wildfires on refuge lands.

## Just What the Doctor Ordered



A prescribed burn is a carefully planned and executed event. Long before a match is struck, staff complete a unit-specific Prescribed Burn Plan, outlining the tracts of land to be managed, and create fire breaks to prevent a runaway blaze. Managers carefully choose days when weather conditions will help control the flames while still allowing an effective burn. Air temperature, humidity, wind speed and direction, and vegetation moisture must all be “within prescription.”

On the day of the burn, equipment and trained personnel are assembled at the site. After confirming that weather conditions meet the requirements, the “burn boss,” a specially qualified fire manager, gives the okay and oversees the burn. Local emergency personnel and refuge neighbors are notified, and the burn is monitored closely. Flames are carefully extinguished before staff leave the site.

## Checklist For a Safe, Efficient, Prescribed Burn

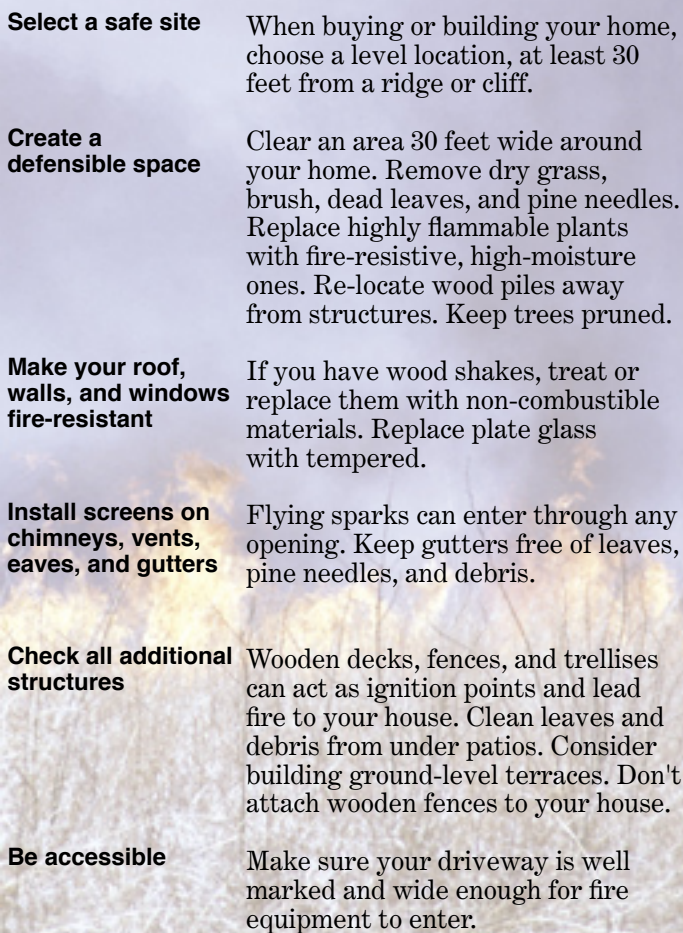
- Complete Prescribed Burn Plan
- Construct fire breaks
- Assemble equipment and trained crew
- Check conditions:
  - air temperature
  - humidity
  - wind speed and direction
  - moisture of vegetation to be burned
- Notify local emergency personnel and neighbors
- Set test fire to confirm conditions
- Conduct burn with constant supervision
- Secure perimeter of the burn
- Monitor until fire is completely out

## Living with Fire

Along with the pleasure of living among wild lands comes the responsibility of preparing for a wildfire. Homeowners should take

steps to protect themselves and their properties. From construction to maintenance, there are things you can do to make your home fire-resistant and increase the odds that it will still be standing once the fire has passed.

## Be a FireWise Homeowner:

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- |   |   |
|---|---|
| <b>Select a safe site</b>                                     | When buying or building your home, choose a level location, at least 30 feet from a ridge or cliff.   |
| <b>Create a defensible space</b>                              | Clear an area 30 feet wide around your home. Remove dry grass, brush, dead leaves, and pine needles. Replace highly flammable plants with fire-resistive, high-moisture ones. Re-locate wood piles away from structures. Keep trees pruned. |
| <b>Make your roof, walls, and windows fire-resistant</b>      | If you have wood shakes, treat or replace them with non-combustible materials. Replace plate glass with tempered.   |
| <b>Install screens on chimneys, vents, eaves, and gutters</b> | Flying sparks can enter through any opening. Keep gutters free of leaves, pine needles, and debris.   |
| <b>Check all additional structures</b>                        | Wooden decks, fences, and trellises can act as ignition points and lead fire to your house. Clean leaves and debris from under patios. Consider building ground-level terraces. Don't attach wooden fences to your house.                   |
| <b>Be accessible</b>  | Make sure your driveway is well marked and wide enough for fire equipment to enter.   |

## A Friendship Based on Respect

Fire can be an influential ally or an awesome opponent. Like any great power, it must be respected and managed with care. Thoughtful preparation and action by public managers and private property owners can help keep its effects positive. When properly managed, wildland fire should give us all a warm feeling.

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