

Forest Management Helps Save Chadron State Park from Fire

OVER THE PAST HALF-CENTURY, wildfire has twice threatened Nebraska's first and oldest recreational landmark, Chadron State Park. In 1973, a devastating, stand-destroying crown fire known as the Deadhorse Fire narrowly missed the Park's northwest corner. Again in 2006, the Park was spared when the fast-moving Spotted Tail Fire destroyed homes and threatened the nearby community of Chadron.

Nebraska, along with the rest of the western U.S., has entered a new age of megafires. These large fires occur more frequently than in the past, spread very rapidly immediately upon ignition and

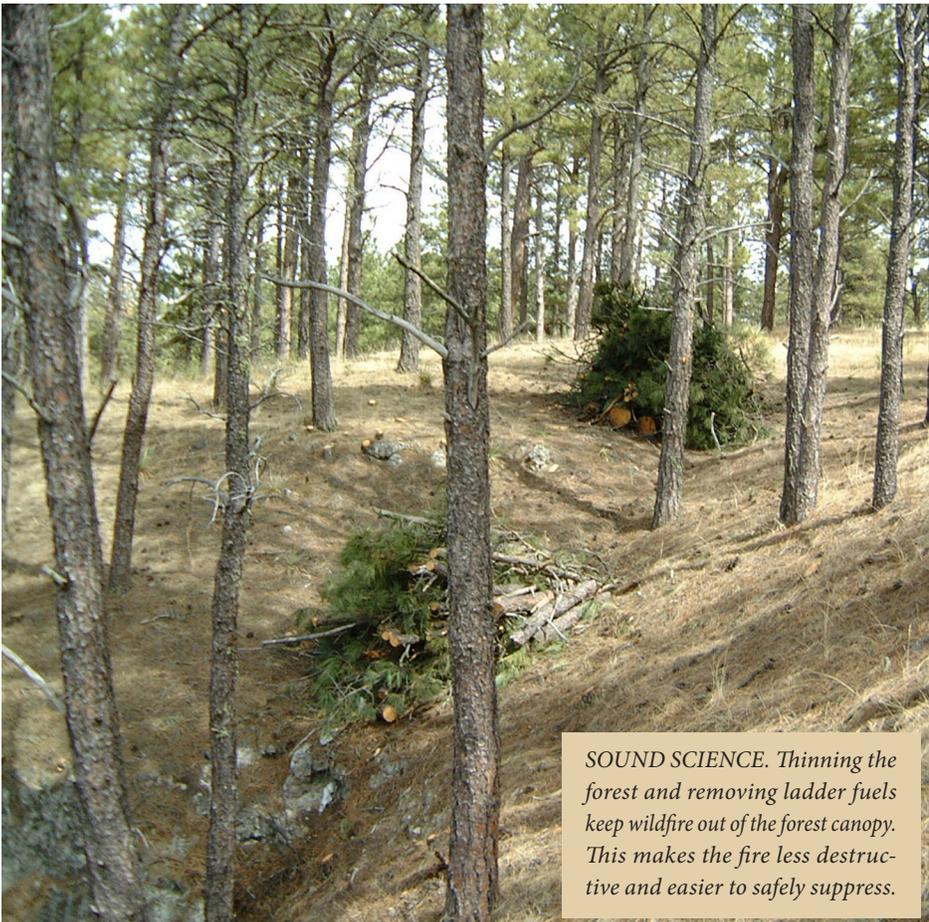
burn over large areas for weeks. They can be difficult to impossible to control, cost enormous amounts of money and put lives and property of entire communities, residents, visitors and emergency response personnel at great risk.

This year made history with fires carving out three very large "holes" in the dwindling forest resource of northwest Nebraska, when the Park fell victim to the West Ash Creek Fire on its deadly rampage across the Pine Ridge.

The good news is that due to active forest management over the past decade, and with the heroic efforts of many firefighters,

the Park lost no infrastructure and its forest survived the fire intact. About 90 percent of the Park burned, with the majority of the fire staying on the ground as an understory grass fire. Unfortunately, this wasn't the case for surrounding unmanaged forest choked with too many trees, where volatile crown fires blackened large swaths of woodland. To fend against fire and guarantee a green forest for the future, the Park used three key forestry treatments: logging, thinning and chipping.

Based on sound science, there are numerous environmental benefits of this active forest management scheme. The three treatments reduced the number of trees in the dangerously overstocked woodland, thereby reducing fire danger. Stand-destroying crown fire was avoided along with the potential for soil erosion and water pollution downstream in the Chadron Creek watershed.



SOUND SCIENCE. Thinning the forest and removing ladder fuels keep wildfire out of the forest canopy. This makes the fire less destructive and easier to safely suppress.

The resilience of Chadron State Park's forest against destructive fires will serve as the model for how ponderosa pine forests will be managed in the future.

We learned many lessons from the 2012 fire season.

Stagnated timber stands were opened up and slash was utilized as chipped fuel for Chadron State College, allowing more sunlight to reach the forest floor. Sun-starved understory grasses were released along with increased forage production for grazing.

The remaining timber stands have plenty of space to grow; shrubs and forbs have flourished in the understory, providing much-needed habitat diversity for a wide array of wildlife species.

For the ponderosa pine ecosystem of northwest Nebraska, it's not a matter of if a fire comes... but when. We learned many lessons from the 2012 fire season, including reinforcement of the drastic need for active forest management.

The resilience of the Park's forest against these destructive fires will serve as the model for how ponderosa pine forests will be managed in the future. With this said, tree mortality due to crown scorch and torching may eclipse 25 percent, due largely to extreme flame lengths of the understory grass fire.

It's anticipated that the Park will incorporate understory fuel treatments (grazing, prescribed burning) in the future, which will complement the foundation built by the three key forest fuel treatments (logging, thinning, chipping). In doing so, tree mortality from crown scorch and torching will be substantially reduced and the legacy of a green, living forest will continue in perpetuity at Chadron State Park.



EXTREME BEHAVIOR. Trees scorched from ground fire in the Pine Ridge. Trees, especially ponderosa pine, can often survive ground fires, but ponderosa pines cannot survive a crown fire.

DID YOU KNOW?

There are 38,000 new acres of eastern redcedar forest every year in Nebraska; the average volume of this forest is 5.6 tons per acre. That's 212,800 tons of wood added on these new acres every year.
