Crossing Boundaries

FRFTP
Front Range Fuels Treatment Partnership

Residents and agencies working together to mitigate hazardous fuels, protect communities from wildfire and restore forest health on Colorado's Front Range

STATE AGENCIES AND LOCAL RESIDENTS COLLABORATE TO SAFEGUARD LORY STATE PARK, VISITORS AND NEIGHBORS AND RESTORE FOREST HEALTH

You Can See for Miles

Kathy Seiple, Lory State Park manager, looks over a ridge from the west border of the park. The area where she stands once was dense forest infected with dwarf mistletoe. "It was a wildfire hazard waiting to happen," she remarks.

Now, this location offers a magnificent panoramic view of the foothills, canyons and distant mountains outside of the park.

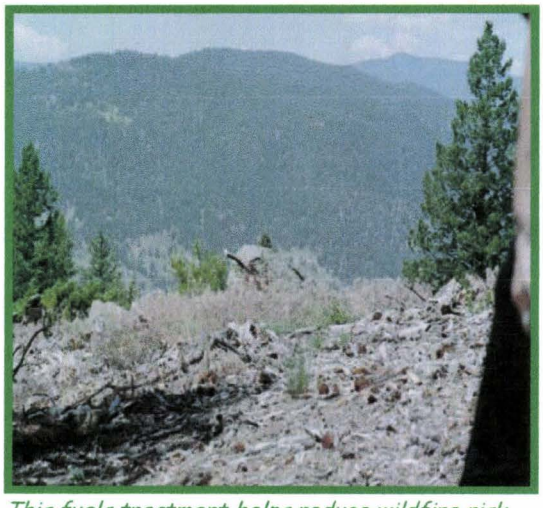
Seiple pauses briefly, then smiles with certainty. "Our forest treatment project is off to a great start."

"Here, a detrimental fuel hazard – mistletoe-infected ponderosa pine – had existed between the park and adjacent private lands," Seiple says.

Clearing the dead and diseased trees helps reduce wildfire risk by providing a break in the link between ground fuels and tree crowns. This fuels treatment method also helps limit the spread of dwarf mistletoe to healthy trees.

"Along with providing wildfire mitigation to safeguard the park, our visitors and neighboring property owners, the aesthetics and enhancement of our park's natural landscapes within and around it are of utmost importance to our partners and state parks."

The spectacular vista helps make Seiple's points clear.



This fuels treatment helps reduce wildfire risk and provides a panoramic view from the west ridge of the park.

Doing the Job Together

Colorado State Parks and the Colorado State Forest Service are partnering on a forest management plan to thin the dense forests in Lory State Park. The team will help defuse future wildfires in the park and alleviate the spread of fire to or from nearby residential properties.

The project also helps eradicate dwarf mistletoe. Prevalent in much of the park's ponderosa pine forests, this parasitic plant has weakened the trees making them susceptible to insects and

diseases. The goal of both partners is to restore the park's forests to a more historically healthy profile where ponderosa stands of varying ages grow in clumps surrounded by open meadows.

The two state agencies began coordination efforts in 2004. "Colorado State Parks and the Colorado State Forest Service will continue to work together on this project and others into the future to reduce wildfire risk and restore forest health," says Denise White, forester, Colorado State Forest Service – Fort Collins District.

A Glimpse of the Park

Lory State Park, a popular recreation area, is located only a few miles northwest of Fort Collins, Colo. The park is adjacent to Horsetooth Reservoir and Horsetooth Mountain Park in Larimer County.

"Many neighbors with homes in the forested wildland-urban interface share Lory State Park's northern and western borders," Seiple comments.

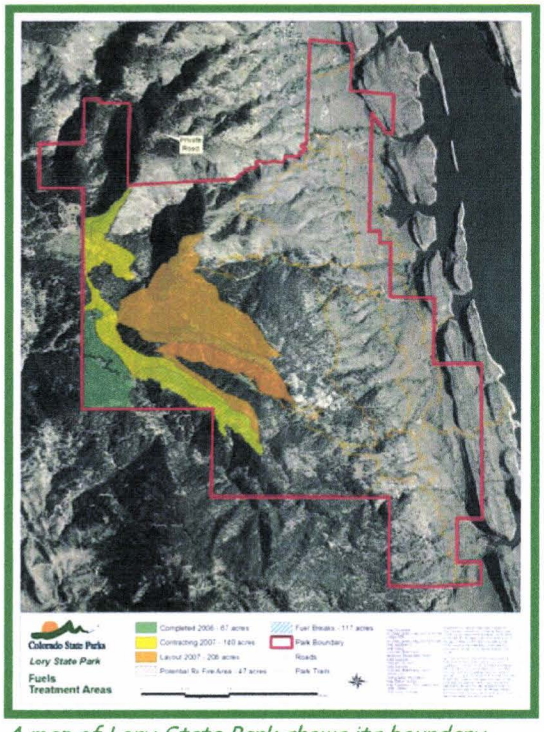
The park manager is proud of this pristine natural resource that consists of nearly 2,500 acres of diverse terrain including ponderosa pine and Douglas-fir forests, meadows and rock-outcroppings, as well as many species of wildflowers and wildlife, waterfalls and spectacular views of the Front Range. A 20-mile trail system is host to hikers, mountain-bikers, horseback riders and other recreationists and nature-lovers.

The Park Plan

Land Stewardship Associates wrote the Lory State Park Wildfire Hazard and Mitigation Plan and describe the park's vulnerability to wildfire events as "...a buildup in ground fuels and a dramatic increase in forest density."

"Ninety percent of its forests have larger trees with crowns close enough to support intense fires with the potential to spread, unconstrained, along the western sections of the park."

The project map illustrates the Lory State Park boundary, outlined in red. The private roads used to access the project are north of the park.



A map of Lory State Park shows its boundary outlined in red and shaded project areas.

Last year, a 67-acre fuels treatment area – shaded in green on the map – was completed. This summer, the second phase, approximately 130 acres (of the 140-acre project area), also was treated. This area is shaded in yellow on the map.

"Following recommendations in the plan, at least 153 acres will be treated in 2008," said White. This section is highlighted in orange on the map.

The plan helped Colorado State Parks and the Colorado State Forest Service launch the project with the first phase of fuels treatment.

Forest Thinning 101

In May 2006, the first 67-acre section of dense forest was thinned in order to reduce the park's wildfire hazards, remove dwarf mistletoe and restore the

forest to a more resilient condition. Bordered on two sides by private property, the project is located on the west side of the park, the direction of prevailing winds.

"Reducing forest fuels will help diminish the likelihood of fires spreading from private lands to the interior of the park, and will help contain fires within the park, minimizing the spread of fire to private lands," White explains.

Dyce Gayton, a U.S. Forest Service employee and a resident of the Red Cedar Drive neighborhood that borders the park on the north, comments about the project.

"Most properties on our road are downwind from the prevailing westerly winds. Fuels reduction treatments along the ridge in Lory State Park would likely reduce the potential for wildfire to spread from the park to private property."

Prior to treatment, the area consisted of many stunted, yet mature ponderosa pine infected with mistletoe.

"In stands where mistletoe was either not as extensive or non-existent, individual trees, or groups of trees, were removed to reduce fuels. This method of thinning left all sizes of trees in random clumps, which is how ponderosa pine stands grew before the era of fire suppression," said White. "We now have more diversity in the treated forest stand structure, which is desirable because it will be more resistant to insect and disease epidemics and catastrophic wildfire."

To control dwarf mistletoe in areas where all trees were infected, small clearcuts – the removal of all trees in a stand – were created.

White says that these areas have excellent grass and forb growth, and that some are next to natural meadows where sun-loving ponderosa pines were encroaching.

Forestry experts expect to see healthy ponderosa pine regeneration in areas treated in this manner.

Most ponderosa pine and Douglas-fir trees were mechanically masticated – or chewed.

A Hydro-Ax – a large articulated tractor with an eight-foot wide mower-mulching head mounted on the front – was used to masticate the first 67 acres.

The Hydro-Ax is hard at work masticating trees on the first 67 acres in Lory State Park.

The mulching head is like a huge, powerful lawnmower that can mulch trees as large as 10 inches in diameter.

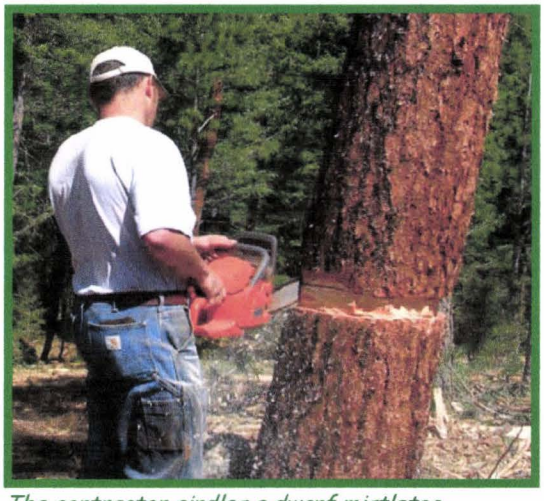
The Hydro-Ax distributes the woody debris relatively evenly over the ground, which helps mulch the area. "Decay of the masticated chunks returns nutrients to the soil, allowing for new vegetative growth to thrive later," White says.

The Hydro-Ax often is used on projects of this nature because it has rubber flotation-type tires that cause little disturbance to the ground's surface.

White said wildlife also will benefit from the treatments. "Two to five large-diameter mistletoe-infected trees per acre were girdled – a method that kills the tree but leaves it standing – so insect food, nesting and perching sites will continue to be provided for them. Some dead standing trees, too large to masticate, also were left for wildlife to use."

Other infected trees were cut, de-limbed and left on the forest floor to provide natural woody material for organisms and animals.

"These techniques simulate a natural tree-killing event," White said.



The contractor girdles a dwarf mistletoe-infected ponderosa pine.

Collaboration Equals Success

To visit the fuels treatment area, Seiple drives by private properties located just north of the park. She takes a four-wheel drive vehicle on about three miles of steep residential road through the Red Cedar Drive Road Association neighborhood, and then continues up rugged terrain on another winding private road.

"We are very grateful to our neighbors for giving permission so our forestry contractor can use their roads to access this remote site in the park," says Seiple. "This project wouldn't have been possible without the wonderful relationship that has developed between our neighbors, the Colorado State Forest Service, the forestry contractor and Colorado State Parks."

White agrees. "The interaction between our partners in this project has allowed us to complete the fuels reduction treatment areas more proficiently."

Gayton adds that "short-term impacts to property owners, such as additional use of the road by contractors during fuels reduction treatments, are offset by the long-term benefits of hazardous fuels reduction."

From Woody Debris to Lush Flora

When Seiple arrives at the first completed fuels treatment site, she walks through chunks of decomposing pine trees that now serve as mulch for young vegetation. Seiple reaches down to display a delicate wildflower between her fingertips and expresses satisfaction with the new look of this section of the forest.

Now, grasses, wildflowers and young sprouting pine poke through the natural debris and are surrounded by healthy trees that were left to thrive. "This area came alive this year. I wouldn't have believed it after seeing the large pieces of wood left scattered on the ground last year." Seiple also noticed signs of more wildlife coming to the newly rejuvenated forest.

Seiple displays a delicate wildflower growing amongst the woody debris.

"Nature is taking care of its own now," she says.

It's obvious that this park manager is pleased with the results of the project.

Lory State Park visitors and wildlife will enjoy the change, and what was done will help keep the park, its neighbors and visitors safer from wildfire.

"Our partners each brought unique expertise to the table. We worked through any concerns and shared common goals

– to preserve the health of the forest and its wildlife, and to protect people from wildfire as best we can through mitigation. We have a win-win situation. Just look at the landscape now," Seiple said.

After touring the park's completed fuels reduction areas this summer, Gayton remarks, "It was encouraging to see how quickly the visual impacts from the treatments completed last year have recovered."

Vegetation recovery is seen in Lory State Park where fuels treatments were completed in 2006.

A hike up Westridge Trail in Lory State Park will take you along the western border where this project is beginning to change the appearance and sustainability of Lory State Park's forests – for the better. Take time to look around and you might be pleasantly surprised at what you'll discover while you're there.

For more information about this project, contact:
Denise White, Colorado State Forest Service, at 970.491.8348,
denise.white@colostate.edu
or
Matt Schulz, Colorado State Parks, at 303.866.3203,
matt.schulz@state.co.us

F R F T P
Front Range Fuels Treatment Partnership

Colorado State Forest Service

Colorado State Parks

Story by:
GayLene Rossiter
Colorado State Forest Service
October 21, 2007

Photos by: GayLene Rossiter
& courtesy of
Colorado State Forest Service

Attendees at 8/29/07 Lory State Park tour of '06 + '07 fuel reduction units.

Dyce Gayton - Red Cedar
Doris Yamanaka - Feldspar
Neal Berger - Feldspar
Doug Dempsey - Feldspar
Mike & Gloria Bacher - "
Jane Low
Suzie & Tom Barbour → Lodgepole PL
Bob Phemister - Redstone

Info handed out at 8/29/07 neighbor tour of '06+'07 units

Lory State Park Forest Health and Fuels Reduction Project-2006 Unit

This project was designed to:

- Reduce fuel loading to decrease the chance of fire passing to or from private lands to the West.
- Eradicate dwarf mistletoe to improve stand health.
- Meet forest restoration goals, which include reducing the number of Douglas-fir trees on the northern slopes, expanding current openings/meadows to allow for increased forage for wildlife, and recreating a patchy/clumped pattern of trees.

Operating Period: April 17, 2006 to May 22, 2006
Size: 67 acres
Equipment: 2 Hydro-Ax machines (large articulated tractors with eight foot wide mower–mulcher heads mounted on the front and rubber flotation-type tires)
Costs: $888/acre; $59,498.68 Total

Notes:

- The unit will need to be monitored for the next few years as not all infections have produced fruiting bodies yet.
- Dwarf mistletoe-infected trees that were too big to masticate were girdled (removal of a 2-inch wide band of bark and cambium around the trunk) for wildlife. These will likely harden and probably not be as suitable for cavity-nesting wildlife. However, they will still serve other purposes for wildlife.
- To reduce the spread of noxious weeds from other projects the undercarriage and tires of all trucks and equipment was washed offsite before entering the project area.
- Smoking was only allowed inside vehicles. Each vehicle contained a Class A fire extinguisher and a fire tool. All vehicles and motorized equipment utilized effective manufacturer-certified spark arresters and muffler systems.
- The vehicle and trailer used to haul the masticating equipment was not taken on Red Cedar Drive.
- The contractor provided a lock for both access gates and left the gates locked in a way that allowed others access with separate locks.

Prescription (partial)

The trees to be removed in a small demonstration area were painted by the forester. Other than this marked demonstration area, the contractor determined which trees to remove based on the management prescription. This was closely monitored by the forester.

With the exceptions stated below, all live ponderosa pine trees with any amount of dwarf mistletoe will be mechanically mulched. Exceptions: The contractor will mechanically girdle and leave for wildlife use all live 10-inch dbh (diameter at breast height or 4.5 feet above ground) or larger dwarf mistletoe infected trees with a limit of 200 for the entire project and a maximum of five per each acre. This means that some acres may not have any girdled trees and other acres will have up to five girdled trees. Any live 10-inch dbh or larger infected trees beyond 200 will be felled and

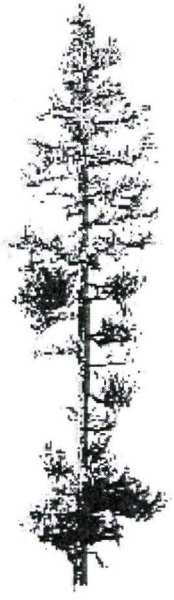
masticated down to a 6-inch top. All limbs will be masticated. Tree boles below the 6-inch top will be left intact.

Existing snags being used by wildlife or snags greater than 10 inches dbh will be retained.

Target basal area is 60 square feet per acre for choosing remaining trees to be thinned, maintaining fewer poorly formed (often suppressed), damaged, diseased (such as western gall rust), and dead trees to maintain park aesthetics, selecting against Douglas-fir, and leaving no less than 10 feet between Douglas-fir trees less than 5 inches dbh. Some live "character" trees may be left. Residual trees will be left in an uneven and clumpy pattern with a representation of all diameter classes.

Chip depth will not exceed ten inches. Previously dead and down woody material should not be mulched and larger diameter down logs should be left intact as much as possible. All stumps will be cut as close to the ground as possible, but in no circumstances will stump height exceed four inches on the uphill side. Ephemeral drainage areas will not be used as primary travel routes.

The Hawksworth six-class dwarf mistletoe rating system

	Instructions		Example
Step 1	Divide live crown into thirds.		If this third has no visible infections, its rating is (0).
Step 2	Rate each third separately. Each third should be given a rating of 0, 1, or 2 as described below: (0) no visible infections (1) light infection (1/2 or less of total number of branches in the third infected (2) heavy infection (more than 1/2 total number of branches in the third infected).		If this third is lightly infected, its rating is (1). If this third is heavily infected, its rating is (2).
Step 3	Add ratings of thirds to obtain rating for total tree.		The tree in this example gets a rating of: 0 + 1 + 2 = 3.

On a tree or stand basis, light infection is a rating of 1 to 2; moderate is 3 to 4; and severe is 5 to 6.

Colorado State FOREST SERVICE

Fort Collins District
5060 Campus Delivery
Fort Collins, Colorado 80523-5060
(970) 491-8660
FAX: (970) 491-8645

February 12, 2007

Dear Lory State Park Neighbor:

Colorado State Parks and the Colorado State Forest service are planning a second forest management project to reduce the risk of wildfire on and near Lory State Park. A public information meeting will be held on February 26 at 7:00 p.m. at the Lory State Park Visitor Center to discuss the projects.

Over the next three years the agencies intend to reduce the park's forest fuels on more than 300 acres, which will include tree thinning and the creation of fuel breaks. The use of prescribed fire is also being considered.

The public information meeting is open to all members of the community. As a nearby landowner you are highly encouraged to attend. The Lory State Park Visitor Center is located at 708 Lodgepole Drive, Bellvue, CO 80512. Please contact park manager Kathy Seiple at (970) 493-1623 for more information.

Wildfire fuel reduction treatments are more effective when completed on adjacent properties. If you are interested in developing a plan for your forest or have questions about forest management, please contact the Fort Collins District of the Colorado State Forest Service at (970) 491-8660.

Sincerely,

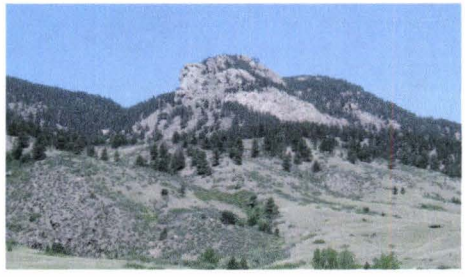
Denise White
Forester
Colorado State Forest Service

Lory State Park

Forest Fuels Mitigation Project

Why are There so Many Cut Trees?

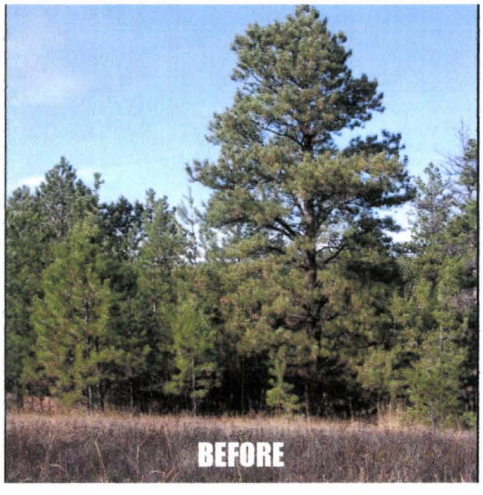
Since 2003, Colorado State Parks and the Colorado State Forest Service have been conducting forest thinning projects to reduce the risk of wildfire. At Lory State Park, work has begun on the most strategic fuel reduction areas that are critical for the safety of park visitors and park neighbors; however there are still many areas we plan to treat to further protect the area over the next few years. This work involves cutting trees to create significant breaks in the continuity of trees.

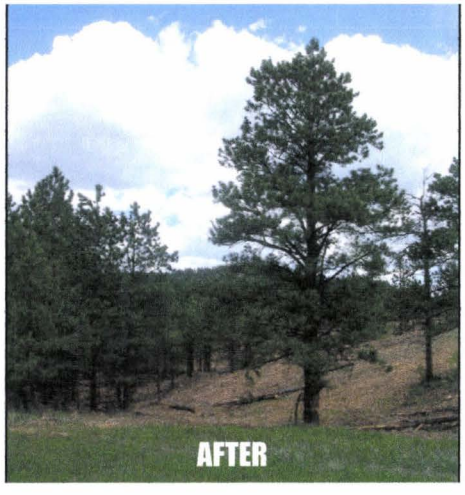


Current Projects (2007)

Five project areas (140 acres) will be active in 2007:

- These areas will expand upon the already completed treatment area to collectively reduce wildfire hazard to the park and neighboring communities.
- Fuel reduction treatments will include mechanical mastication of dwarf mistletoe-infected trees, which will also reduce tree crowding and increase crown separation.





Past Treatments (2006)

- FH1b – 67 acres - Reduced hazardous fuel loading in ponderosa pine with mechanical mastication. (see before/after photos)

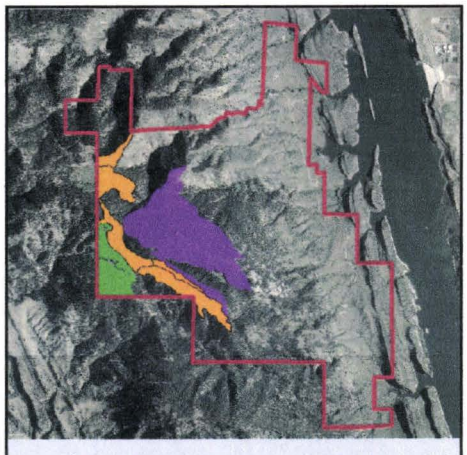
Long-term Benefits

These fuel treatments will result in a varied, open ponderosa pine and Douglas-fir woodland that will have an increased resistance to catastrophic wildfire, insects, and diseases. There will be a greater variety of tree ages and forest stand densities than is currently seen. The new generation of trees will be able to grow with fewer dwarf mistletoe infestations and replace aging trees.

Why is Forest Thinning Necessary?

With extended drought and mature/dense forest conditions, these fuel mitigation projects are necessary to help protect park resources, facilities, visitors and neighbors in the event of a wildfire. Methods for the fuel treatment are chosen to have the least impact to the ecology and the aesthetics of the park. These projects should also improve resistance to insects and diseases in these forests.

The effectiveness of these projects can be increased if neighbors participate in fuel mitigation on their property. For information and assistance with fuel mitigation on your property, ***contact the Colorado State Forest Service at 970-491-8660.***



Orange area	**=**	**current projects**
Green area	**=**	**completed project**
Purple area	**=**	**future projects**

Forest Fuel Mitigation

What is Fuel Mitigation?

Fuel Mitigation is forest management directed at reducing the risk of large wildfires. This can be done in a number of ways and varies by forest type. The main goal is to slow the spread of fire to protect people and structures. In some cases, fuel mitigation can improve the resistance of trees to disease and pests, protect watersheds or restore historic ecological conditions.

Why is it a Big Deal Now?

Forest fuel mitigation is now in the news for numerous reasons.

Wildland-Urban Interface – Human development is increasing in forested areas where fire is a natural occurrence, therefore more homes and communities are at risk of large fires.

Drought and Stress – Colorado is experiencing a prolonged drought that has resulted in drier and more flammable fuels. Insect epidemics which are native to Colorado, may be increasing in numbers and severity due to drought.

Fire Suppression – Particularly at lower elevations, fires have been suppressed for many years and smaller trees and denser forests are providing more fuels.

Maturing Forests – Across Colorado, many forests were burned and logged in the late-1800s. Many of these forests are now reaching a mature state that produces more fuels for fire.

As the fires of 2000-2002 brought to people's attention, all of these factors can combine to result in dramatic consequences for homes and communities.

How is Mitigation Being Performed on State Parks?

Projects on State Parks lands are designed to slow the spread and reduce the risk of wildfires, to minimize the impacts to wildlife and natural vegetation, to mimic natural processes to the largest extent possible, and to maintain the aesthetics that visitors expect in State Parks. The types of projects on State Parks lands include:

Defensible Space – clearing and thinning trees and brush back about 200 feet from structures. CSFS Firewise information can provide details for your home (www.ext.colostate.edu/pubs/natres/06302.html).

Prescribed Burning – reintroducing burning helps to mimic the natural disturbance processes in order to keep down fuel loads and, in some cases, improve understory species.

Thinning in Ponderosa and Oak – at lower elevations, where vegetation has become dense from fire suppression, we can thin to levels that are less likely to carry large fires, and in some cases this process may restore the forests to conditions that resemble those of hundreds of years ago.

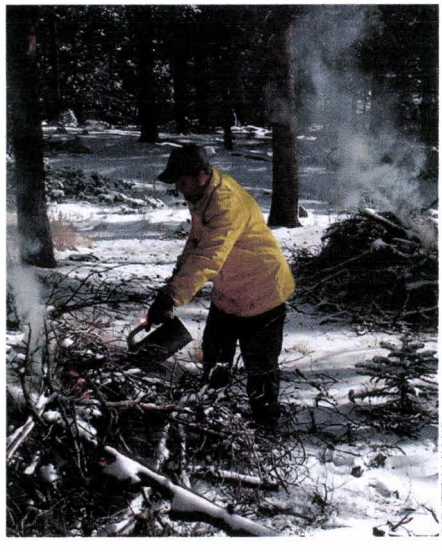
Lodgepole Patch Cuts – different forest types require different methods. Lodgepole requires larger cuts because of its unique ecology, so typically patches of 2-10 acres are cut.

Aspen Selection – particularly in mixed conifer forests, selective thinning can be used to promote more aspen regrowth, which provides good habitat for elk and deer.

Funding

These projects are possible because of funding from the Colorado Lottery, Great Outdoors Colorado (GOCO), the Front Range Fuels Treatment Partnership (FRFTP) and other federal sources. Close coordination between Colorado State Parks, Colorado State Forest Service, and Colorado Division of Emergency Management has resulted in a $2.5 million pre-disaster mitigation grant from FEMA that will partially fund fuel mitigation projects for the next three years and will assist us in protecting Colorado's watersheds and communities.

Colorado State Parks



CSP-STEW-2/15/07

COLORADO LOTTERY

GREAT OUTDOORS COLORADO

FEMA

Colorado State Forest Service

Colorado State Parks
Play hard. Rest easy.

NEWS RELEASE

CONTACT: Gary Thorson, (303) 866-3203 ext. 337, gary.thorson@state.co.us or
Clare Sinacori (303) 866-3203 ext. 320, clare.sinacori@state.co.us
This news release is also available at www.parks.state.co.us

For immediate release April x, 2005

Lory State Park wildfire mitigation project planned

Denver—A forest management project to reduce the risk of wildfire on and near Lory State Park is being planned by Colorado State Parks in conjunction with the Colorado State Forest Service. Colorado State Parks Director Lyle Laverty will host a public information meeting concerning projects planned for this summer and next fall. The meeting is open to all members of the public and will be held on Thursday April 28, 2005 at 7:00 PM at the Lory State Park Visitor Center located at 708 Lodgepole Drive, Bellvue, CO 80512. Residents of Bellvue, points west and north along County Road 25 G and landowners that share a boundary with Lory State Park are encouraged to attend, along with park users interested in wildfire mitigation efforts. Please contact Kathy Seiple, Park Manager of Lory State Park at 970.493.1623 for more information.

Article published Nov 19, 2006

Lory officials fight parasitic plant

Dense lower-elevation state park susceptible to forest fire

By LAURA BAILEY
LauraBailey@coloradoan.com

While foresters are fighting bark beetle infestations in highland state parks, Lory State Park is dealing with its own nasty invasion.

A parasitic plant that attaches to Ponderosa pines has invaded parts of the densely forested park, leaving its aged, vulnerable trees even more susceptible to severe wildfires, disease and insects.

"The trees are probably vulnerable to any kind of disease, but the one we got wasn't a beetle. It was dwarf mistletoe," said park manager Kathy Seiple.

As a result, foresters are now trying to rid the park of the dwarf mistletoe, an aggressive plant that grows on trees, slowly robbing it of nutrients and water. The effort is part of a larger initiative to head off catastrophic wildfires by creating healthier forests along Colorado's Front Range.

Like many lower-elevation Ponderosa forests in the state, Lory has seen few fires blow through in the course of the last century. The result is a thick, densely populated forest of old trees susceptible to severe wildfires because of the build up of dead timbers, said Boyd Lebeda, Colorado Forest Service district forester for Fort Collins.

According to Colorado State Parks, Lory has been categorized as one of 16 state parks with a high potential for catastrophic fire near communities.

The parasitic mistletoe contributes to the problem by weakening and killing trees.

To deal with the problem, the state forest service thinned 66 acres of the forest in the southwest highlands of the park this year. It will continue to thin other areas in the coming years, Lebeda said.

Rooting up the infected trees is the most effective way to eradicate the invasive plant, which spreads seeds by shooting them onto other trees. The yellow shrubby plant, which roots itself in pine bark, can shoot the seeds at a distance of 60 feet, Seiple said

"If you have millions of seeds - and that's what we're talking about here - shooting 50 to 60 feet in every direction, it's a pretty severe thing," she said.

Besides slowly killing older trees, the plants also shower their seeds on younger trees making it difficult for them to grow into healthy mature trees.

A private contractor hired to look at the infestation said it was the worst case he's seen, she said.

Taking out the infected trees not only thins the forest and prevents it from becoming a tinderbox, it reduces the chances of bark beetles and other diseases spreading to the park, Lebeda said.

For now the beetles are most prevalent in places like Grand and Summit county, but there is some increased activity in Poudre Canyon, he said.

Seiple said Lory is one of several lower elevation parks in Colorado made vulnerable to such scourges because of policies focused on protecting human development from fire.

Policies that encouraged the suppression of fires have resulted in old, dense forests such as Lory that are likely to burn more severely than they would have had natural fires been allowed to take course from time to time, she said.

"Because we've suppressed it, we have a lot of old dense forests that are susceptible to dwarf mistletoe and insects," she said.

Other state parks that are part of the thinning initiative are: Golden Gate Canyon in Golden; Boulder's El Dorado Canyon; Roxborough State Park, southwest of Denver; Staunton State Park near Bailey and Mueller State Park, west of Colorado Springs.