High elevation, high winds, mountain pine beetles – the property between Laramie and Cheyenne had obstacles to overcome.

ADAMS' PROPERTY UPDATE

By Jennifer Thompson, Mark Hughes, Mark Ellison, Martin Curry, Nick Williams

Much has happened on the Adams' property since last summer! This high-elevation (8,300 feet) property had a number of challenges, several of which were forestry issues due to the large number and variety of trees.

The most prominent issue has been the mountain pine beetle (mpb) epidemic. The property and surrounding forests have been heavily infested by this pest, which killed many of the pines that give the land its character.

(**Editor's note:** The introductory article to the Adams' property "Third property improvement project contains forest, riparian areas" is in the Summer 2010 *Barnyards & Backyards* issue.)

Mountain Pine Beetle on the Wane?

The worst of the mpb epidemic in Wyoming seems to be behind us, and this holds true at the Adams' property. This summer was the third consecutive year of spraying insecticide, and all indications are the treatment was highly effective. Only one non-sprayed tree was observed to be hit by mpb. This is a drastic improvement over the past two years when hundreds of trees were infested and died.

The turnaround was the result of several factors – a decrease in the mpb population in the area, fewer trees available for mpb infestation on the property, and a more aggressive approach by the landowners to protect their most valued trees.

Realizing they could not afford to spray all their pine trees, the Adams chose trees to spray based on the following: retain pine trees in close proximity to their home, maintain tree species diversity, and protect the larger, healthier trees.

To ensure the right trees were sprayed, the Barnyards & Backyards team of Jennifer Thompson, Mark Hughes, and Mark Ellison used paint to mark trees that met the owners' criteria. The insecticide applicator easily identified trees the landowners wanted protected, thus eliminating guesswork that can often lead to unsatisfied landowners. Check out the YouTube video on this process by clicking the YouTube icon on our home page at barnyardsandbackyards.com.

Pruning to Control White Pine Blister Rust

When the property was first visited, more than two dozen limber pines were infected with white pine blister rust – a fungus that has killed hundreds of limber pines in the area. To prevent further spread of the fungus, infected limbs were pruned from trees. Where cankers had developed

Crew begins work to make the area more firewise – more resistant to wildfire.

on the main trunk, entire trees were removed. A video with more information about the fungus and the treatment of it on the property can be viewed on our YouTube channel. With numerous dead and dying branches removed, the positive aesthetic effects were immediate; however, with the fungus still active in the area, the Adams need to annually inspect limber pines for new infection.

A Little Work Makes Property more Firewise

The Adams did a great job during the planning of their home to work in features such as cement roof tiles and fire-resistant siding that make the structure more resistant to wildfire. Nick Williams, Wyoming State Forestry Division fire resource forester, met with the Adams in August to survey vegetation on the property to see if any further improvements could be made. He found that some work on the vegetation could improve fire safety.

The group set to work removing lower branches on trees next to the structure (up to 5 to 6 feet in height for this size of tree) and removing lower fuels such as creeping juniper bushes and sagebrush plants that could carry a ground fire into the trees' canopies. This work took an hour or two and has resulted in a firewise but still aesthetically pleasing landscape. The Adams will now have to maintain the work each year and remove accumulated debris near the house. (See the firewise video on our YouTube channel.)

Aspen Stand Given a Helping Hand

Aspen health is generally on the decline in the West due to several factors including conifer tree competition, lack of natural fire, and drought.

The Adams property has several aspen stands in varying degrees of health that were evaluated to determine which could be reinvigorated. Two stands in decline, but healthy enough to respond to management activities, were chosen. Conifers were moving into both stands and beginning to shade out aspen. Young aspen were also being grazed on by elk and moose, preventing them from growing and replacing older, dying trees. This past August, a Barnyards & Backyards team of 10 along with the Adams tackled the work intensive task of reinvigorating an aspen stand adjacent to the Adams' home.

Conifers were felled to reduce competition and increase sunlight, while declining aspen were cut down to trigger a regenerative response from the root system. Typically, when a living aspen is cut down, the root system will send up sprouts (also called suckers) to compensate for the lost leaf area. The hope is these aspen suckers will benefit from the improved conditions created by removing the conifers and then grow to replace older trees as they die.

The team completed the work in only a couple hours, running three chainsaws to cut down the trees and cut stems into firewood, and a chipper to chip-up the tree branches and tops. The group felt a real sense of accomplishment after completing this project and their hard work was very evident in the rejuvenated aspen stand. Check out the YouTube video that shows the team at work.

A big snow year filled these snow fences by January.

Start on Snow Control

Due to their high elevation location, large snowdrifts made the Adams' driveway impassable at times. Bob would spend numerous hours a day on a tractor using a snow blower to open a path. The location of the driveway was the major reason. Winter prevailing winds here are from the southwest. Due to the driveway's location at the bottom of a hill, there is approximately 15 feet of elevation rise to the west within 200 feet of the driveway. This difference in elevation alone creates 2 to 4 feet drifts on or near the driveway.

Planting a living snow fence was discussed to control the drifting; however, many years would be needed for the trees to mature enough to become effective in this challenging climate where plant growth is slow. This, in combination with unfavorable soils at the planting location, makes using trees or shrubs as snow fence material unfeasible. The recommendation was to construct two, 4-foot slat fences, which were built in 2010. The winter of 2010/2011 was an exceptional snow year in this area. The slat fences worked until their snow storage capacity was filled, but delaying when Bob had to begin snow removal. Reviewing the past season and snow control options, the landowners have decided to add two more fences near the top of the hill to add more snow storage capacity and further delay the beginning of snow removal.

Rangeland in Good Shape, Wildlife Plentiful

This past September, a group of project members led by Rachel Mealor, UW Extension rangeland specialist, and Rex Lockman, wildlife specialist with the Laramie County Conservation District, conducted a rangeland assessment. The sagebrush-dominated rangeland that covers most of the property is in good shape. The crew suggested the landowners take photographs of the property to monitor changes in the land over time. Taking photos from the same point over many years can help track changes that may otherwise go unnoticed. Using this method, land managers can detect detrimental changes and then employ strategies (such as weed control, grazing) to address these changes and track the effectiveness of the strategy.

To view a short video clip that discusses and demonstrates this technique on the Adams' property, visit the website and click on the YouTube button at the bottom of the page. (See the article on page 20 in this issue to learn about wildlife habitat on this property.)

Weeds

Luckily, there is no huge invasive weed problem on the property. Brian Mealor, UW Extension weed specialist, and Audra Rouge with Albany County Weed and Pest assessed the property for weeds. The main weed problems are Dalmatian toadflax and Canada thistle. There is also some houndstongue. Most of these weeds are in the disturbed area near the driveway. The thistle has also colonized portions of the riparian area. Control measures include hand-pulling of the toadflax by Jane Adams. Additionally, two herbicides were recommended for treatment of the Canada thistle: Milestone and Transline (for use around an aspen stand). The Adams borrowed a backpack sprayer from the local weed and pest district and sprayed Milestone on most of the weeds this summer. Rouge also visited the property and released a weevil in the riparian area that feeds on Canada thistle plants. Together, these control methods should help reduce current populations and stop the spread of these weeds.

Dalmatian toadflax is one of the weeds on the Adams' property.