Juvenile Crews Work Hard to Rehabilitate Burned Areas

In June and July of 2006, the Kolob Fire swept through 17,000 acres of land in Washington County, over 10,000 of which were inside the boundaries of Zion National Park. More than 300 personnel were needed to control the wildfire, as well as several helicopters, engines and air tankers. After the fire, virtually all of the trees in the area were killed, and ground vegetation was scorched. Wildlife habitat was dramatically reduced, and the soil was subject to erosion and invasion by cheatgrass, an invasive plant that degrades range conditions and changes future fire regimes in an ecosystem.

The fire had a very personal impact on one unfortunate landowner who owned property adjacent to Zion National Park. The landowner (who asked not to be identified) lost his home to the wildfire, and his 200 acres of land were completely burned over. In the aftermath of this devastation, he contacted Patrick Moore, Area Forester with the Division of Forestry, Fire, and State Lands (FFSL) to see what could be done to rehabilitate the property. Moore took a look at the property and saw plenty of positive work that could be done. “We saw several areas that continued on next page

Washington County Juvenile Work Crews donated 210 hours to a fire rehabilitation project on the outskirts of Zion National Park.
needed some attention,” he said. “We wanted to get some trees back on the property, stabilize the soil and stream banks, and control invasive weeds.”

To address these needs, the Division prepared an Agroforestry Plan for the landowner’s property. This document assessed resources on the land and made management recommendations to improve the property’s condition. Once the plan was approved, the landowner became eligible for cost-share funds through the Forest Land Enhancement Program (FLEP). Cost-share plans like FLEP or the Natural Resource Conservation Service’s (NRCS) Environmental Quality Incentives Program (EQIP) exist to give landowners the financial resources they need to put recommended practices on the ground.

While it was relatively easy to determine what needed to be done on the property, and funds were in place through FLEP, finding the labor to carry out the rehabilitation project was more problematic. Moore explained that this is a typical issue the Division faces: while there is no shortage of projects needing attention, “it can be really tough to get the hands on deck” to get them done. Moore decided to contact the 5th District Juvenile Court out of St. George to see if any of their juvenile work crews would be available to help. The Court agreed, and a crew supervisor was sent to inspect the site. Soon afterwards, the first crew of 10 teenagers arrived on the property.

The crews provided their own tools and water and visited the site approximately seven times. Before each crew began their work, Moore gave them a bit of education on forest ecosystems and the role of fire in maintaining wildlands. He also instructed them in how to plant cottonwoods, willows, and pinyons. In all, the crews donated approximately 210 hours of service to the rehabilitation project and planted more than 2,500 trees.

The native willows and cottonwoods were planted in riparian areas to stabilize exposed and eroding streambanks, reduce sedimentation, and improve water quality. Once the trees have grown, they will provide shade over the stream and habitat for wildlife on the shore. They will also prevent highly invasive tamarisk trees from taking over the stream banks. The benefits of this riparian work will extend downstream to the Virgin River, where the water will be cleaner and cooler for fish and other aquatic species.

The pinyon plantings were another important component of the rehabilitation plan. Fire plays a vital role in maintaining pinyon-juniper ecosystems, but because this particular property had 99 percent pinyon mortality after the wildfire, Moore determined that it would be important to revegetate the area in order to preserve soil and water resources. The pinyon plantings will also provide habitat for wildlife...
and deter invasive weeds from taking over. In addition to the plantings, FFSL worked with the NRCS to reseed the area to further stabilize and protect its sensitive soils.

Moore was very pleased with the work ethic of the crews and the quality of work they provided. He credited the crew supervisors with keeping the crews focused and working hard. Word got out about the great work the crews did, and Moore says that the local Division of Wildlife Resources (DWR) office is interested in utilizing them for their projects as well.

The 5th District Juvenile Court was also pleased with the project. Other tasks the crews have been assigned to have included cleaning gutters at retirement homes and stocking shelves at Deseret Industries. The rehabilitation project stood out as a larger scale effort that the kids could return to in five years and see the difference they made.

Moore noted, “Conservation projects like large scale plantings take an immense amount of time and resources. Without the help of these crews, this work just wouldn’t get done. This seemed like a great way to meet our conservation goals and provide these kids with a meaningful way to work off their hours. The improved water quality downstream means that we will all be able to enjoy the positive effects of their work for the rest of our lives.”

by Patrick Moore and Olivia Salmon

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**New Web Site Launched**

Families facing the challenge of passing their properties and land-based businesses from one generation to the next have access to a helpful new resource. The Ties to the Land Web site will help guide family landowners through ownership transition. Developed to address the needs of forest landowners, the site has relevance for families with agricultural or other land-based businesses as well. The Web site includes streaming video clips, excerpts from the Ties to the Land workbook, a calendar of events and links to other relevant sites. The site will be expanded, and new features added, to meet users’ emerging needs.

Visit the site at [www.familybusinessonline.org/resources/ttl/home.htm](http://www.familybusinessonline.org/resources/ttl/home.htm).
Portable Sawmills - A Valuable Asset for Small Woodland Owners

When nearby commercial mills close, a landowner’s ability to profitably harvest timber is threatened due to the high cost of shipping logs to increasingly distant sawmills. Natural disasters are another threat to the profitability of a woodland, forcing immediate action to recover remaining value from storm or insect-damaged trees. In the past, options for recovering timber from these lands has been limited, but landowners today are finding a viable solution in portable, thin-kerf band sawmills.

In Utah, Chip Turner uses three Wood-Mizer portable thin-kerf band saw mills to process trees in an area where there are no longer any “big” mills in operation. In addition to meeting the lumber demand of local building supply outlets, Chip’s thin-kerf mills provide woodland owners in the Heber City region with a wood-processing method that is actually more profitable than traditional mills.

Like the Utah residents Chip services, woodland owners nationwide are finding portable sawmills to be an effective management tool that optimizes resource utilization, enhances the environment, and increases revenue.

Profits for the Small Woodland Owner

When first introduced on a commercial basis about 25 years ago, portable thin-kerf sawmills drew little attention from the commercial forest industry. However, the low cost of the units combined with their capacity to produce fine quality lumber led to their enthusiastic acceptance by hobbyists, farmers, and others wanting to saw relatively small quantities of inexpensive lumber to support their needs.

The availability of this new technology provided a tool to profitably turn previously “useless and worthless” trees into valuable lumber with an initial investment less than the cost of a small tractor. The highly portable mills can be operated by a single operator to produce quality lumber from logs conventional sawmills cannot or will not accept. For instance, Dan Cassens, a landowner with a 200-acre woodlot near Lafayette, Indiana, discovered a “woolly” poplar tree on his property soon after he purchased a portable mill. Recognizing that the tree’s many limbs ruled out any commercial value, Dan removed the tree and milled it with his Wood-Mizer band saw. Although the 26-inch diameter trunk had only produced one 12-foot log before he encountered large knots, Dan was able to saw boards from the tree and sell it for $1 per board foot after he dried it in his small dehumidification kiln. Dan says, “The portable...
sawmill allowed me to improve my stand and realize a profit from an essentially worthless tree.”

The profitability of these mills is also enhanced by their thin kerfs. “Kerf” is the thickness of the cut a saw blade makes as it passes through wood fiber. The ratio of usable lumber to sawdust generated in sawmill operations has a direct relationship to kerf. Thin-kerf mills use blades as thin as .045 inch (compared to the .250 kerfs of traditional circle saw mills), resulting in better value and higher profit margins. The band saw design also allows users to evaluate and turn each log to obtain the highest value grade lumber from each block.

Further profits can be realized from portable thin-kerf sawmills when owners expand into custom sawmilling for their neighbors. Simon Petree and an associate near Nooksack, WA operate two thin-kerf Wood-Mizer sawmills and frequently do work for their neighbors. Simon explains the value his customers gain from his service: “A mill may pay $1400/thousand board feet for premium cedar logs per scale. I often produce twice as much lumber as a scale would indicate, and the resulting lumber is worth $2 per board foot. The log owner can get $1,400 from the mill (less transportation costs) or they can pay me $400 to mill the same logs, get 200 percent overrun, and have $4,000 worth of ready to use lumber.”

Sawmill portability allows the mill to come to the logs, thereby minimizing transportation costs. The mill can be easily towed behind a pickup truck to remote locations. Set up time is usually less than 20 minutes, even on uneven ground.

Portable mills can handle logs as large as 36 inches in diameter and up to 21 feet in length. Some mills are equipped with hydraulic lifting arms, clamps, and log turners which reduce the labor of milling logs. In addition to hydraulics, portable sawmills are equipped with a variety of optional features that enhance their usability, such as computerized controls, debarkers, lubrication systems, automatic clutches and attachments to cut shakes or beveled siding. Burt Harker, a 65-year-old Idaho woodlot owner who purchased a LT40 hydraulic mill six years ago says, “The hydraulic log lifting and turning features take the heavy lifting out of portable sawmilling. The only labor is in removing the sawn boards from the bed.”

Environmental Benefits

In addition to their economic benefits, portable sawmills can also play an important role in reducing the carbon emissions associated with global warming.

Portable sawmills often utilize raw materials that would otherwise be left to continue on next page
rot, burned, or turned into chips – all processes that eventually release significant amounts of carbon into the atmosphere. When these materials are converted into lumber, the resulting durable wood products sequester (trap) the carbon and minimize contributions to atmospheric greenhouse gasses. Also, the lumber recovered from this type of material reduces the need for additional harvest from standing forests. The forests allowed to remain standing continue to “scrub” carbon from the air and release oxygen, further reducing emissions.

Portable thin-kerf mills also encourage good forestry. In a commercial environment, a significant number of trees must be harvested to make harvests financially feasible. Portable mills, by contrast, allow landowners to remove and mill trees that improve the future of their stand, rather than being forced to produce a minimum volume to pay for logging and shipment to mills.

A further environmental benefit is realized by portable mills through reduced transportation needs. When only the finished product is hauled out of the woods, it can easily be transported by farm trucks, pickups, or trailers, all of which use far less fuel than an 18 wheeler.

**Thin-Kerf Mills Have a Successful Record**

With perhaps 50,000 or more thin-kerf units operating worldwide today, portable sawmilling has demonstrated its viability both in environmental enhancement and as a business tool. For small woodland owners, portable thin-kerf sawmills provide flexibility in management. Harvesting decisions can be geared more toward long term forest health than is possible with standard commercial harvests, and greater yields can be realized from trees harvested. Above all, portable thin-kerf mills provide options, allowing landowners to choose the best methods to maximize profitability and forest health.

Portable mills range in cost from $2,500 for a low tech model to $35,000 for the more automated models. Primary vendors include Wood-Mizer (www.woodmizer.com), Enercraft Baker Sawmills (www.baker-online.com), TimberKing (www.timberking.com), Timber Harvester (www.timberharvester.com), and Cook (www.cooksaw.com).

**by Jeff Mullins**

*Jeff Mullins is an Oregon Small Woodlands Association member who pastors a rural church in northwest Oregon where he lives with his wife and children. He is a regular contributor to a number of forest and timber publications and recently purchased a portable sawmill.*
Missing Fires DVD Available

Why are federal land managers intentionally burning thousands of acres each year? Prescribed fire can be beneficial to plants, animals, and people and can even reduce the threat of unwanted wildfire. Discover why many scientists and natural resource managers believe that removing all fire has led to some very costly and dangerous consequences.

This 22 minute DVD, produced and directed by Darren McAvoy, is designed to help you better understand wildland fire use and the importance of replacing those Missing Fires. Featuring impressive wildfire footage, music of the Grateful Dead, and interviews with seasoned professionals, The Missing Fires is an entertaining and informative look at one of the most powerful forces in nature.

To obtain a free copy, contact Darren McAvoy at 435-797-0560 or darren.mcavoy@usu.edu.

Forest Grazing Fact Sheet

A new fact sheet about forest grazing is available from USU Forestry Extension. The fact sheet gives an overview of the relationships between trees and forage and provides suggestions on managing your land for forest grazing. If you would like a copy mailed to you, please contact Olivia Salmon at 435-797-8116 or olivias@ext.usu.edu. It can also be viewed online at www.extension.usu.edu/forestry/reading. Click on Utah Forest Facts to access the fact sheet.

Subscribe to Forest Products Equipment Magazine for Free!

This monthly trade publication focuses on the machinery, equipment, and technology associated with harvesting timber. To subscribe for free, visit their Web site at www.mrpllc.com and click on Forest Products Equipment.

For more information regarding any of the information presented in this newsletter, please call Darren McAvoy at Utah State University, 435-797-0560, write to him at 5230 Old Main Hill, Logan, UT 84322-5230, or email darren.mcavoy@usu.edu.

The Utah State University Forestry Extension Web site, found at http://extension.usu.edu/forestry, is an excellent source of technical forestry information for woodland owners. Check the “What’s New” section periodically for new postings.

State of Utah Division of Forestry, Fire and State Lands (DFF&SL) service foresters for your area can be contacted by calling 801-538-5555.

Ideas and written contributions to this newsletter are encouraged. Send your contributions or comments to the return address above or call 435-797-0560, or email darren.mcavoy@usu.edu.
COMING EVENTS

Forestry Research and Management on the Utah State University Forest: July 13-14, Bear Lake, UT. Field meeting and review of research and active forest management activities on the TW Daniel Experimental Forest. Visit www.usu.edu/saf for more information.


These Engelmann Spruce were marked as “leave trees” before the surrounding trees were harvested last fall on the T.W. Daniels Experimental Forest (Wasatch-Cache National Forest)