

Utah Forest News

Utah Forest Landowner
Education Program Newsletter

Volume 9 Number 3

EXTENSION
Utah State
UNIVERSITY
Summer 2005

European Logging Equipment Comes to Utah

Brothers Paul and Steve Wirth, owners of Specialized Forestry in Richmond, Utah, are committed to the belief that European logging methods and equipment can do great things in Utah forests their zeal for the topic is evident when they speak of their years in Germany, learning harvest methods and operating specialized equipment. The most potent demonstration of their passion for this approach to timber harvesting was recently delivered to their front yard; a set of highly advanced logging machines made by Timberjack, a company recently purchased by John Deere.



Steve and Paul Wirth point out some of the advantages of their new Timberjack Harvester.

They purchased the used Finnish-made machines in Norway, after looking at similar pieces in Germany and Denmark. Then came the seemingly endless paperwork with customs offices, but finally the machines are here.

The Timberjack Harvester is a six-wheel drive machine with a crane and a powerhead that falls

trees up to 25 inches in diameter, removes limbs, and cuts each log to a precise length, which is why this is known as a Cut-to-Length system. Then an eightwheel drive machine called a Forwarder comes along with its log-bunk and grapple crane to load the logs and carry them to a transfer area where trucks will take them to the sawmill.

One of the key differences between this and conventional logging equipment,

Paul Wirth points out, is that the logs are carried, not dragged, through the woods, minimizing damage to

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roots, soil and vegetation. He is also quick to point out that the Harvester has a 30-foot reach, so the machine is able to stay on paths it creates with a 60-foot spacing, meaning even less disturbance in the woods. When used with a Forwarder this eliminates traditional landings, which can be an eyesore if not treated carefully. Another big advantage is that this technology “keeps the men off of the ground,” where traditional logging approaches are among the most hazardous occupations to worker safety. The ergonomics and visibility designed into the equipment is impressive as well. I was amazed how such a sophisticated piece of equipment could be controlled with a joystick about the size of my index finger – it felt more like operating a computer than a piece of heavy equipment.

The Harvester has three on-board computers that tell the operator the diameter, length and quality of the log and cuts it to the optimal length. Steve Wirth points out that not only can they produce more usable volume this way, but no waste goes on the truck, which increases overall efficiency. The machine keeps track of every log it cuts and produces a daily report of the sizes and amounts of timber harvested. The Forwarder can also keep track of the amount of weight it moves each day.

Both machines run on hydrostatic drives which give the operator precise control of the equipment. The dozens of hydraulic hoses that run this system

are all tied to a central hydraulic oil tank. This means that if a hose breaks or is torn off by a branch, all the remaining oil is pumped back into the tank, minimizing ground spills. Each piece of



The Forwarder has a log bunk and a crane with a grapple, so the logs are carried out of the woods, not dragged.

equipment also has a series of on-board automatic fire extinguishers, and many other features that make them easy to run and maintain.

Paul points out the harvester-forwarder configuration reduces the number of machines in the woods when compared to a typical modern logging equipment configuration, which includes a

fellerbuncher to fell the tree, a processor to remove limbs and cut the trees to length, and a skidder to drag the tree to the landing. He says that this approach allows them to operate fewer and more fuel efficient machines, which will keep their price competitive in the wake of today’s surging fuel prices.

Competitive pricing is important to Utah landowners, and so is taking good care of their forests. By bringing this equipment to Utah, the Wirths have demonstrated an ardor for wanting to take good care of forest resources. Paul’s background includes a master’s degree in geography from Utah State University, and he held a Registered Professional Foresters License while in Germany. Steve holds a harvest operator license from Germany. If you are interested in learning more about this equipment or its availability, contact Paul Wirth at 435-258-2552, or e-mail him at forestman@pcu.net. Find related links on our Web site at extension.usu.edu/forestry.

Forest Management in Zion National Park

Although the National Park Service is best known for its “hands-off” approach to resource management, this has not always been the case nor should it be, according to Jeff Bradybaugh, resource manager for Zion National Park. Bradybaugh likes to point out that the original document that created the Park Service talked in terms of conservation, not in the terms of preservation the agency has become better known for. The distinction is an important one, Bradybaugh says “ ‘Preservation’ has often been practiced counter to nature – attempting to prevent the influence of fire and other natural events that are important to rejuvenating forest communities. ‘Conservation’ implies a degree of management. Sometimes we need to restore conditions or resources to a point where natural processes can again drive the system.”

It is this ethic of conservation that drives a project on Lava Point, part of the Kolob Plateau at an elevation of almost 8000 feet, just south of Kolob Reservoir and looking down on the famous domes of Zion Canyon. Aspen restoration and fuels reduction are the main goals of the 45-acre project that focuses on thinning overgrown stands of white fir.

This is not the first time trees have been cut on this plateau. Stumps left by early pioneers, from before the park was established, can still be seen on Lava Point. Now the park officials are cutting trees, partly in an effort to conserve the little bit of aspen that remain. Cutting trees encourages aspen to send

up new sprouts called suckers and gives them the necessary sunlight for the aspen clones to expand.

Under natural conditions, occasional fires would have killed many of the white fir trees seen across portions of the Kolob Plateau today, including Lava Point, allowing for a more diverse patchwork of aspen, fir and ponderosa pine growing together. Instead the shade-tolerant white fir has filled in the once open spaces, resulting in an overly dense forest that carries with it a significant fire hazard.

The hazard is not only to forests and park

visitors on Lava Point, but also to the surrounding forests and communities. Just beyond the park boundary are many small cabins sprinkled through the woods, in addition to a church camp, which are at significant risk in a wildfire situation. The park is attempting to protect its neighbors and itself by reducing the chances of a fire crossing between the park boundary and the residential and private recreational areas.

The project began last August and continues today, on a contract with Redeye, a fuels reduction company based in Tremonton, Utah. The 45 acres is divided into five different treatment areas, and the park managers emphasize the experimental nature of their approach and that they are trying to learn as much as possible from the project. There is a significant research component to the project, with measurements scheduled for several different variables.



Jeff Bradybaugh points out the reopened views from Lava Point.

Some of the treatment areas have also been fenced to exclude browsing by elk and deer at least until aspen regeneration has been established, and the fencing is scheduled for removal. In an unforeseen project setback, some of the “snow proof” fencing was prematurely taken down by last winter’s record snow pack. Bradybaugh described the difficulty in getting the posts to sink into the lava rock soils a sufficient depth last fall, only to return in the spring to find that the weight of the snow had driven the posts down another eight inches, while doing considerable damage to the fencing.

A large tub-grinder will be used to treat much of the slash, and chips hauled out of the park for landscaping material. Several loads of logs may also be hauled to

a sawmill.

Lava Point remains open to park visitors and return visitors will notice a more opengrown appearance and a view of the overlook. Portions of the project

may also be treated with fire in the future. The park used the expertise of individuals from the Southwest Area office of the Division of Forestry, Fire, & State Lands, and the Dixie National Forest. The agencies hope local landowners will consider a similar approach where fire hazards exist on their lands. For more information on this project, contact David Eaker at

435-772-7811 or Jeff Bradybaugh at 435-772-0208.

Thanks to John Schmidt for suggesting this article.



Looking north from Lava Point onto the Kolob Plateau. Many white fir trees are infested with fir engraver beetles; private cabins can be seen in the distance.

Firewise Landscaping for Utah

USU Forestry Extension announces the availability of a new publication, “Firewise Landscaping for Utah.” Extension Forester Dr. Mike Kuhns and Extension Forestry Assistant Barbara Daniels authored the 34-page full-color publication that not only explains how a wildfire can threaten your home, and steps you can take to reduce the hazard around your home, but recommends grasses, ground covers, perennial plants, shrubs and trees to plant around Utah homes. Clear graphics and dozens of photographs are used to help homeowners choose their landscaping materials with fire hazard and beauty in mind. The publication is available for a nominal fee through USU Forestry Extension. See page 7 for contact information.



Wildfire Potential in Spruce Beetle Killed Forest

On portions of the Sanpete Ranger District 90 percent of the large trees were killed in a spruce beetle epidemic in the mid 1980s. What is the likelihood that large wildfires will result from the spruce beetle epidemic?

That question is addressed in the research paper, “Revalidation Case Study: Stand-Replacing Fire in Spruce Beetle Mortality on the Wasatch Plateau” recently published by USDA Forest Service Fire Ecologist Michael Crawley of the Manti-La Sal and Ashley National Forests.

Although downed woody fuels (logs) could rise to more than 100 tons per acre over the next century, studies from other forests indicate that 20 to 25 years after spruce beetle infestations, 70 to 80 percent of the trees are still standing, indicating that a very large build up of surface fuel is still decades away.

The paper points out the fact that widespread fire tends to be a rare event in spruce forest types, largely due to the rainfall that accompanies summer thunderstorms. The author also observed that there are tremendous differences in flammability before and after the needles fall off the trees, which generally takes 2-3 years. There is an increase in the flammability while the needles are still on, but as the needles fall, so does the relative flammability of the trees.

The potential problem comes later when many large diameter logs litter the ground, logs that can hold smoldering fire for long periods. Should high winds occur, persistent smoldering can be fanned into a fast moving wildfire.

The author uses computer modeling to create alternatives for treatment options. The author concludes from the outputs of these models that “the

most responsible course is to reduce potential (fire) severity by reducing total fuel load... through mechanical means such as tractor, skyline or helicopter yarding, as well as through prescribed fire.” The reasoning is that “We might not be able to control or affect large fires start or extent under extreme weather conditions, but we can control the amount of fuel loading, which may

reduce potential severity of any fire that occurs.”

Crawley concludes with a warning: “Treatments undertaken should be done for the right reasons, with thoughtful analysis, and not out of panic or paranoia that we will experience huge, destructive fires based solely on the observation of large amounts of potential fuels.”

For the full text of this study, see the What’s New section of our Web site extension.usu.edu/forestry.

Thanks to Chad Reid for suggesting this article.



Dead spruce on the Dixie National Forest.

Team Studies Cedar Mountain

For eleven years Dr. Jim Long, silviculture professor at USU, has been teaching Continuing Education in Ecosystem Management (CEEM) to mid-career natural resource professionals. Long helped develop the intensive eight-week course that involves class modules at Colorado State University, Northern Arizona University, and at USU.

The final two-week module is a chance for the students, who are resource managers from all over the West, to implement their skills on a specific landscape. Cedar Mountain is the landscape chosen for this year's CEEM class, thanks to the efforts of Southwest Area Forester Clint Reese, with the Division of Forestry, Fire, and State Lands.

Cedar Mountain is an area of high-elevation forest and woodland southeast of Cedar City that is 87 percent privately held. This is the first time that a CEEM class has applied its skills to private lands. Previous CEEM courses focused on federal and tribal lands only.

The team of eleven professional resource managers spent two weeks in Cedar City studying the social, biological and physical features of Cedar Mountain as part of their CEEM training. They spent time on

the mountain and conducted 42 interviews of local individuals in an attempt to capture ecological and social trends. On the evening of July 7 they presented their findings to more than 60 people at a dinner meeting hosted by USU Forestry Extension with the help of USDA Forest Service, State and Private Forestry.

Three main themes emerged from their analysis: changing demographics, development and aspen decline. Demographic changes include a

decrease in agriculturally dependent communities and an increase in small lot and recreational homeowners. The forests and woodlands of southern Utah are currently home to 14,000 building lots. Development issues include community planning, water use and other natural resource impacts. The aspen decline on Cedar Mountain documented by the team has been a significant source of landowner concern. The assessment concludes with suggestions for future management alternatives.

The team also produced a series of high quality maps that are layered into a geographical information system, and a 122-page report entitled "Cedar Mountain Landscape Assessment." Visit our Web site at extension.usu.edu/forestry under What's New to see the maps and report.



Declining aspen stands on Cedar Mountain.

SAF Honors Dr. Jim Long

USU Silviculture professor Dr. Jim Long was recently awarded the Barrington Moore Memorial Award



by the Society of American Foresters. The award recognizes outstanding achievement in biological research leading to the advancement of forestry. Long will be formally recognized at the SAF National

Convention in Ft. Worth, Texas, in October.

UPFA Announces Website

The Utah Forest Products Association announces its new Web site, hosted by USU Forestry Extension. The page offers an introduction to the UFP, membership applications, articles of incorporation and bylaws, meeting minutes and contact information for its officers. See it under the Forest Products Businesses section of our Website at http://extension.usu.edu/forestry/Business/FPB_UFPASite.htm.

Dr. Nat Frazer New CNR Dean

College of Natural Resources announces Nat B. Frazer has been appointed the new dean of the

College of Natural Resources at Utah State University. Frazer currently serves as professor and chair of the Department of Wildlife Ecology and Conservation at the University



of Florida – Gainesville Frazer. is originally from Georgia, and holds a bachelor's degree in history from the University of Georgia, a master's degree in history and public affairs from the University of Illinois at Springfield, and a doctorate in ecology from the University of Georgia's Institute of Ecology. He will assume his new post on Jan. 1, 2006.



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.

State of Utah Division of Forestry, Fire & 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.

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Utah State University is an affirmative action/equal opportunity institution.
This newsletter is partially funded by the USDA Forest Service State and Private Forestry

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COMING EVENTS:

- **Inland Empire Kiln Drying Workshop**
- October 3-6, Moscow, ID
Addresses the science and profession of lumber drying, with hands-on experience offered. Contact Jan Pitkin at (208) 885-WOOD or jpitkin@uidaho.edu or Joey Pavia at pavi9093@uidaho.edu.
- **2005 Society of American Foresters National Convention**
- October 19-23, Fort Worth, TX
- **Human Dimensions of Natural Resources in the Western United States Conference**
- October 27-29, Park City, UT
- **Fifth Natural Resource Extension Professionals Conference**
- May 14-17, 2006, Park City, UT



Alpine school district teacher Ms. Nielsen leads the Clear Creek Summer Camp Program through exercises on tree and plant identification at the base of a timber sale near Clear Creek, south of Scofield Reservoir.