

Utah Forest News

Utah Forest Landowner
Education Program Newsletter

EXTENSION

Utah State
UNIVERSITY

Volume 7 Number 4

Fall 2003

Four Corners Sustainable Forests Partnership Supports Forest Product Businesses

Communities and lives are changing in the Four Corners region and other areas of the West. Resource extraction, including timber production, is no longer the economic driving force it once was, and inhabitants are less tied to the land. Some practitioners feel this is a time of unhealthy forests in these ecosystems as many trees are disease and fire prone. In addition, fire danger has gone up, as has the cost of suppression.

The Four Corners Sustainable Forests Partnership has come up with a progressive way of dealing with these concerns, concentrating on a safer wildland-urban interface, more community partnerships, increased ecological stewardship, and a focus on resource sustainability. The approach they have promoted seeks to renew the connection between the community and the forest. If a restoration-minded method can be used at a community level, the resulting benefits will be seen in both the community and the forest.

They have sought to bring this task of sustainable development into the hands of local residents, who can then become involved in the areas of land management that

affect their lives. This style of proactive management has been successful when government agencies work in conjunction with communities to accomplish mutual goals.



Dr. Sam Burns speaking at the Four Corners Sustainable Forests Workshop

By involving communities in managing the land they depend on for their livelihood, forest health can come when the forest is viewed as more than just a place to extract wood. The value of a forest can also include a productive watershed, reduced fire danger, sustainable forest products, and aesthetic qualities.

Communities may face significant barriers to promoting forest health, and some of the biggest are often economic in nature. In the Four Corners states there is

(continued on following page)

INSIDE THIS ISSUE:

- Duff Moisture Meter
- Spruce Management Past and Present
- How Much is Your Timber Worth?
- Biltmore Sticks Available
- Forestry Extension Web Site Search Options

(continued from previous page)

an abundance of small diameter trees, which can be costly to harvest and transport. Other hurdles include high labor costs and the lack of sawmills or markets in this area.

The challenge that the Four Corners Sustainable Forests Partnership has is how to develop an infrastructure not based on the large-diameter, large-volume timber sales that have been so prevalent in the past. There are new methods and innovations that utilize small-diameter timber while providing benefits such as forest thinning to reduce fire danger. At the October 2003 Four Corners Workshop, Dr. Sam Burns of Ft Lewis College (Durango, CO) mentioned that the key to utilizing these methods rests more in the minds of the community members. Innovative and adaptive entrepreneurship is needed among those affected by these various issues.

Four Corners Sustainable Forests Partnership can provide, and has provided, valuable support at this community level. Many resources have been made available, including leadership for the cause, a route for communication, business support, and networking at a business and personal level among members.

The Four Corners Sustainable Forests Partnership is also looking ahead. There are some desired conditions they hope to be realized in the coming years, with an expectation that there will be a strengthening of ground-level groups until

there are statewide networks at all levels. They foresee that as projects planned at a community level do exceptionally well, the scope and scale of those projects can increase.



Participants at the October 2003 Four Corners Sustainable Forests Partnership Workshop.

With planning and involvement, communities can work with forest plans and other agency regulations, increase advocacy with policy makers, and thus influence decisions which may affect the community.

*By Justin Black
Forestry Extension
Assistant*

Much of the information in this article was taken from a keynote presentation by Dr. Sam Burns at the Four Corners Sustainable Forests Partnership Workshop, October 16, 2003. For a full text version of his presentation, go to <http://extension.usu.edu/forestry/links/FCSFPKeynote.pdf>.

Grants and Resources Available

A new addition to our Forestry Extension Web site is a section on grants and resources available for forest product businesses and forest dependent communities and counties. This information is on our Web site at http://extension.usu.edu/forestry/Links/Links_Grants.htm.

Duff Moisture Meter Helps Managers Anticipate Prescribed Fire Effects

A cooperative research agreement between scientists at the privately owned Campbell Scientific Inc. (CSI), based in Logan, and the USDA Forest Service has resulted in a new tool that can help wildland fire managers more accurately predict prescribed fire effects on the forest floor.

Jim Bilskie, Ph.D., soil physicist with CSI, has been working with Peter Robichaud, Ph.D., research engineer with the Rocky Mountain Research Station in Moscow, Idaho, to create the DMM600 Duff Moisture Meter.

Weighing less than four pounds, the DMM600 is a fully portable field tool about the size of a half-gallon jug, with a sturdy metal case. A nine-volt battery provides enough power to measure the water content of over 2000 duff samples.

Duff consumption is an important component of a successful prescribed burn. Too much duff consumed and you risk losses in soil fertility and stability; too little duff burned and you do not get the desired seedling regeneration. Never before has there been a tool to provide quick and accurate measurement of duff moisture in the field.

When a burn boss is making the final decision to proceed with a prescribed fire, they have typically been thinking and planning for many months in advance.

Several variables are considered and measured before the first drip torch is lit. Temperature, relative humidity, wind speed and direction, and fuel moisture are a few of the considerations, and for each of these there is a simple tool that allows managers to accurately measure each different variable.

Still, the classic scene at the beginning of a burn is for the burn boss to walk into the proposed burn area, pick up and snap a few sticks to test their relative dryness—are they dry enough to snap easily or do they just bend? The burn boss might then pick up a handful of duff and squeeze it in his/her hands to gauge the relative moisture content of material on the forest floor. Part of what they are doing is checking their gut instincts to determine if the time is right to proceed, and this will probably never change. But with the new DMM600, one more piece of data is available to help provide a clearer picture of how the scene will appear when the smoke clears.



Dr. Jim Bilskie with the DMM600 Duff Moisture Meter.

Robichaud first realized the need for such an instrument about seven years ago when he was trying to study the relationship between burn severity and erosion. His research required burns with varying amounts of duff consumption and bare mineral soil; some units needed to be cooked, exposing all of the bare mineral soil, while another needed only 40 percent of the duff to be burned. At that time it took two or three days to get a duff sample to a laboratory, dried, and measured. Due to changing

(continued on following page)

(continued from previous page)

weather conditions, this time lag made duff moisture measurements impractical or impossible to obtain.

Reduction in duff thickness and the corresponding effects on the percent exposed mineral soil have tremendous implications for forest regeneration, soil health and stability. Duff moisture is also a variable that plugs directly into the fire effects computer models that fire mangers are using today, such as FOFEM; the First Order Fire Effects Model.



Predicting duff consumption is an important part of prescribed fire.

Robichaud started by making rough prototypes, and about three years ago CSI began to apply the collective skills of their research scientists, mechanical engineers, and shop technicians toward the goal of producing a practical instrument.

The “concept to product” capabilities of CSI are part of what makes their company so effective, says Austin

McHugh, sales engineer at CSI. Having all of these skills beneath one roof creates a useful feedback loop within the company that results in a solid product. McHugh

traces the self sufficient attitude of the company to the family roots of the company founders and many current employees; they come from a local farming background and were raised in an environment of “make it, do it, build it yourself.”

CSI specializes in creating rugged precision instruments that operate in harsh and remote environments. They

are perhaps best known for their instrumentation commonly used in remote weather stations that collect observations from mountaintops and remote sites around the world.

By Darren McAvoy

Duff Definition

Duff is the partially decomposed organic material of the forest floor beneath the litter of freshly fallen twigs, needles, and leaves.

From The Dictionary of Forestry by John Helms

Spruce Management Past and Present

A recurring question asked at the recent timber harvest tour was, "How much of a pure spruce stand should be removed in a selective harvest operation?" The answer often depends on the landowners' objectives, beetle concerns, etc., but more than one forester recommended taking no more than 1/3 of a stand at one time. This advice is as old as forestry in the United States; the reference below is taken from the concluding remarks of a report published in 1910 by the USDA Forest Service, titled *Engelmann Spruce in the Rocky Mountains*.

The Engelmann spruce type is distinctly a protection forest, and should be managed with the view of keeping the forest cover as complete as possible. In many cases, especially on steep slopes and near timber line, if the trees are of poor quality and of slow growth, there should be no cutting. At least two thirds of the stand should be reserved for protection purposes, and heavy cuttings avoided at all times.

Alpine fir is the strongest competitor, because it is less exacting as to seed-bed conditions. This species should be cut as small as the market for logs

justifies, in order to check an increase in the proportion of alpine fir to Engelmann spruce.

Lodgepole pine associated with Engelmann spruce represents a transition stage in the development of the forest on ground which should have a permanent spruce type. The cutting in this mixture should therefore favor the spruce. In Douglas-fir-Engelmann spruce mixtures, the fir should be favored because of its greater economic value.

With few exceptions, brush left from logging in the Engelmann spruce type should be lopped and scattered.

On dry south exposures Engelmann spruce reproduction may be almost entirely lacking. It is possible, therefore, that seed-bed conditions and not light conditions explain the abundance of alpine fir seedlings at the expense of Engelmann Spruce.

By Darren McAvoy



A spruce forest on the Wasatch Plateau

How Much Is Your Timber Worth?

Landowners typically receive differing prices for the timber taken from their property. That price varies according to the size, quantity, and quality of the wood removed, the harvesting methods and equipment used, and the hauling distance to the mill. The following figures are a rough estimate of stumpage values in Utah. They are based on the average high-bids received in USDA Forest Service tractor-logged timber sales for mixed live conifer species in Utah. Stumpage is the net value of the sawlogs, or the total value at the mill minus logging and hauling costs. Remember that this number is based on averages, and your stumpage value may be higher or lower. A timber appraisal conducted by a professional forester is required to determine an accurate value for your timber. These prices were effective 9/12/2003. Current stumpage values will be available quarterly on our Web site at http://extension.usu.edu/forestry/Management/Timber_TimberWorth.htm.

Type of Wood	Price per mbf (thousand board feet)*
Mixed live conifer (not spruce)	\$122.87/mbf
Spruce (live)	\$256.30/mbf
Spruce, mixed conifer (dead; house logs)	\$117.76/mbf
Subalpine fir	\$103.70/mbf
Aspen	\$9.26/mbf

* To convert to approximate price per ton, divide by six

Utah Forest Practices Act Operator Registration Database

A list of registered loggers in the State of Utah is now available on our Web site at http://extension.usu.edu/forestry/Business/BU_RegisteredOperators.htm. The inclusion of a logger on this Operator Registration Database means they have notified the Utah Division of Forestry, Fire, and State Lands that they are currently operating in the state.

Utah State University Forestry Extension does not endorse any specific loggers on this list. Because they are on this list does not guarantee a quality timber harvest; it

only indicates they have notified the Utah Division of Forestry, Fire, and State Lands that they are currently operating.

For more information on choosing a logger, please see *Timber Management for Private Forest Landowners* in the *Forest Management* section at http://extension.usu.edu/forestry/Management/MA_Timber.htm or call USU Forestry Extension at 435-797-0560. You can also contact your Division of Forestry, Fire, and State Lands forester.

Utah Forest News



Biltmore Sticks Available

As a promotion for Utah State University Forestry Extension and Utah State Division of Forestry, Fire, and State Lands, Biltmore sticks are available to interested parties for a nominal fee. Biltmore sticks, dated to the mid-18th century, are used for measuring tree diameter and height. These values can then be converted to board

feet, cubic feet, and tonnage using the conversion chart on the back of the stick. Instructions are available both in print and on our Web site. For more information, go to <http://extension.usu.edu/forestry/Management/BiltmoreStick.htm> or contact Justin Black at 435-797-8116 or jub@cc.usu.edu.



Do you have a forest resource you would like to sell? Are there specific timber resources you would like to buy? Do you offer services useful to forest landowners? If so, this is the place to advertise, for free. If you would like to place an ad, call Justin Black at 435-797-8116 or email jub@cc.usu.edu.



Forestry Extension Web Site Search Options

Our Web site has several options available for searching. A recent addition is a Google search engine that searches specifically in our Forestry Extension Web Site. This feature makes it possible to find exactly what you are looking for, every time.

Another search feature is the Forestry Extension Web Site Index. Try this feature if you are interested in browsing our site, but don't want to dig through every section individually. The entire site is presented in an outline format, organized into topic and sub-topic areas, with a link to every page.

Our Web address is <http://extension.usu.edu/forestry/>

E X T E N S I O N

Utah State
UNIVERSITY

Forest Landowner Education Program
College of Natural Resources
5230 Old Main Hill
Logan, UT 84322-5230

NON-PROFIT ORG.
U.S. POSTAGE PAID
LOGAN, UTAH
PERMIT NO. 1

Utah Forest News

For More Information:

Please contact Darren McAvoy regarding any of the information presented in this newsletter. Call him 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 comments to the return address above or call 435-797-0560, or email darren.mcavoy@usu.edu.

COMING EVENTS:

• **Human Dimensions of Family and Farm Forestry** March 29-April 1, 2004, at Washington State University, with the International Union of Forest Research. This symposium brings together scientists and practitioners. For information go to www.familyforestrysymposium.wsu.edu

• **Managing Aspen in Western Landscapes** September 21-23, 2004, Cedar City, UT. This conference is organized by USU Forestry Extension and the USDA Forest Service, designed for landowners, agency personnel, and others, with one day of indoor sessions and two days of field tours. Contact Darren McAvoy at 435-797-0560 or darren.mcavoy@usu.edu