The Utah Biomass Resources Group (UBRG) held Utah’s first-ever wood powered concert on Wednesday, September 19, in Beaver, Utah. Utah State University’s mobile gasification demonstration unit, dubbed the Dragon Wagon, supplied power for the concert (for more on the Dragon Wagon, see UFN Winter 2012). The Muddy Boots Band played country rock for 150 people while USU Beaver County Extension Agent Mark Nelson cooked burgers for the crowd. This was part of the third annual Southern Utah Biomass field days (http://utahbiomass.com/) which were geared toward educating professionals and the public about woody biomass utilization. The field days were co-hosted by Southern Utah Biomass, USU Beaver County Extension and the UBRG.

The field days featured three full days of biomass-related learning opportunities. The first day’s event was the Biomass Summit, which included presentations from invited biomass specialists from around the West. The summit was held at Eagle Point Resort in the Tushar Mountains east of Beaver. With the quaking aspen in full color, the views were spectacular. Presentations covered the history of pinyon juniper expansion, wildlife impacts due to expansion and what is happening in Utah and other states in biomass utilization. The editor of The Source, a national forestry newspaper, delivered a national perspective on woody biomass issues. Plenty of social time was built into the agenda and good food was served, providing a quality atmosphere to develop relationships between interested players in the fledgling biomass industry.

Steve Walker runs the Dragon Wagon, which supplied power for Utah’s first-ever wood powered concert at a barbecue and social at the third annual Southern Utah Biomass field days.

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Wednesday featured equipment demonstrations on state land at a site adjacent to I-15 south of Beaver. Manufacturers sent an assortment of equipment to demonstrate state-of-the-art harvesting and processing methods. Regional representatives from Idaho, Nevada, California and Arizona joined Utah in presenting information to the audience of students, contractors and land managers, interspersed with live demonstrations.

After a day in the sun, it was fun to retire to the pavilion on Main Street in Beaver to see the Dragon Wagon provide power for the Muddy Boots Band. There were other demonstrations of more user-accessible woody biomass utilization gadgets, including the Biolite Stove. This is a small camp-stove, about the size of a quart bottle, that can not only cook your dinner using a small wood fire inside the device, but can also charge your cell phone at the same time. Using a thermoelectric generator, the stove makes electricity from the heat and boils water in just a few minutes.

For demonstration purposes that night we powered a string of LED lights and a small fan, but I have used it to charge my phone as well. The Kelly Kettle was also demonstrated as an efficient way to boil water with small amounts of wood. Students from the progressive renewable energy classes at Milford High School not only attended the equipment demonstrations but also used their thermal imaging video camera to document the activities of the smaller biomass burners at the BBQ.

The third and final day of the field days featured the pinyon juniper Restoration Tour, led by retired USFS District Ranger Dayle Flanigan. After a career of caring for the PJ resource, Dayle has a wealth of knowledge to share and led and encouraged discussions throughout the day as a variety of sites were visited south of Beaver. These sites had received an assortment of treatments from chainsaw thinning projects, mastication and biomass removal and prescribed fire at different points in time. Dayle’s knowledge of the history of how and when each treatment was implemented provided the participants an unusual look at how the landscape came to appear as it does today. Again, the participants represented a wide range of viewpoints from local range students to the national biomass lead from the Bureau of Land Management.

It must be said that the great success of the field days is almost entirely due to the dedication, enthusiasm and hard work of Lance and Michelle Lindbloom, creators of the event and of Southern Utah Biomass. The Lindblooms lived in Southern Utah for several years and made an impressive impact on the biomass community in Utah and the local community of Beaver. After nine years in the biomass field, Lance has taken a sabbatical that will allow him to pursue other opportunities in the natural resources field.

by Darren McAvoy
The City of Escalante, Utah, is seeking proposals regarding establishment of a Future Escalante Log Home Business to assist the city in rebuilding a forest products enterprise with needed jobs and employment in Eastern Garfield County.

The city is actively seeking to attract individuals or firms with experience and proficiency in forest products marketing, manufacturing capabilities, including technological skills, previous work experience, ability to attract necessary capital to effectively start up and maintain a log home and fiber (shavings) manufacturing business in Escalante, Utah.

The City of Escalante, Utah, at 56 N 100 W, Escalante, Utah 84726 will receive responses until 4:00 p.m. on Friday, January 19, 2013, for Future Escalante Log Home Business Proposals.

A Feasibility Plan, which forms the basis for this Request for Proposals, may be obtained or examined upon request from the City of Escalante’s offices at 56 N 100 W, Escalante, Utah 84726 (435) 826-4644, free of charge. Please forward e-mail requests to vickieschulkoski@yahoo.com.

The City of Escalante reserves the right to reject any or all proposals and to waive any or all defects, errors, omissions, irregularities or informalities in any proposal.

*by Jerry Taylor, Mayor, Escalante City*

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**Pinyon Juniper Forwarder Study Results**

Researchers from the USFS Southern Research Station recently published a study that examined the efficiency and productivity of the Ponsse Buffalo King 20-ton forwarder. A forwarder is a machine that carries trees or logs from the stump to the roadside. The study was conducted south of Beaver, Utah, at a Bureau of Land Management pinyon juniper treatment site.

The study recorded 47 loading and forwarding cycles. The forwarder was able to treat an average of 3.2 acres of land per day and was productively operated for on average 7.6 hours per day. A skid steer was used to cut and occasionally gather felled trees into piles for the forwarder to load.

The study found that the forwarder hauled an average of 5.08 green tons of biomass per cycle and hauled only a quarter of its potential weight capacity. The time spent in the field was dominated by loading. By bunching the logs before loading, the forwarder was able to decrease the time spent loading. With a production rate of 0.42 acres treated per hour, the transportation cost from the woods to the roadside was calculated at $218 per acre. With a production rate of 12.1 green tons of payload per hour, the transportation cost of forwarding the material was $7.56 per ton.

The study also involved a soil survey which measured the amount of soil disturbance present in the area. The results of the soil survey show that the forwarder traveled in just over 60 percent of the area. Soil from this area was classified as “trafficked with litter in place” and “trafficked with mineral soil exposed.”

Shiitake Mushroom Cultivation in Utah

At a small backyard urban farm near the foothills of Layton, Utah, Jared Brown has developed a hobby shiitake mushroom operation. Nearly 700 four- and five-foot long logs are arranged, racked in a tent-like formation, under a canopy of spindly oak brush. These logs serve as the medium for the mushroom spores to produce their fruit, edible shiitake mushrooms.

Shiitake mushrooms have been cultivated for centuries in Japan and are valued for their meat-like texture, savory flavor and nutritional benefits. Traditional shiitake cultivation took place on oak logs in areas with plentiful rainfall and high humidity. More recent research suggests that shiitake mushrooms are also suited to growing on other hardwood trees, such as beech, maple and trees of the poplar family.

Brown uses native Gambel oak (Quercus gambelii) rather than using imported red or white oak. Brown harvests the Gambel oak from mountain property that he holds. “I tried to research to see if there had been anybody who had actually used Gambel oak,” Brown said. “I couldn’t find anybody that had done it.”

Growing shiitake mushrooms involves watchful care and considerable patience. First, six- to ten-inch diameter logs are harvested in late winter or early spring. Then the logs are left for six to eight weeks before they are inoculated with shiitake spawn.

Shiitake spawn, a live fungal culture, is usually purchased from suppliers in the form of a small wooden plug or dowel.

Brown uses a pressed sawdust spawn with a Styrofoam plug. Small holes are drilled in the logs; then the spawn is pushed into the holes and sealed inside, either with wax or with Styrofoam. Then comes a long wait – Brown’s first crop took two years to emerge. Once the logs produce, they can continue producing for several years. According to Brown, growers can expect about one year of production for each inch of log diameter.

The logs and mushrooms require fairly wet conditions, partial shade and mild temperatures in order to be productive. Brown waters his setup daily, using an overhead sprinkler line. The logs’ position in a small grove of trees is an ideal setting. “You have to duplicate a forest setting,” Brown said. “When you have all the leaves on these trees, it creates a microclimate.”
While Brown cultivates his mushrooms for his household’s use, he is confident that a large-scale shiitake operation could flourish in Utah. He cites the abundance of Gambel oak and the rising prevalence of farmers markets as boons to potential shiitake growers in Utah. He recommends that commercial growers consider controlling growing conditions by using shade cloth, a greenhouse setting and effective watering systems. “The bad news is that it takes time to figure stuff out,” Brown said.

Selling oak-grown shiitakes at local farmers markets could be a good business strategy, according to Brown. He suggests providing a taste comparison between store-bought and cultivated shiitakes. “There’s a big difference between these and any store-bought mushroom,” Brown said. “I mean, the taste of them is way better.” With a savvy sales position, Brown predicts that commercially grown shiitakes could fetch $20 or $25 per pound.

Brown is modest about his experiments. “I’ve scratched the surface of it,” he said. “It’s kind of exciting to see that something I have noticed that nobody else has done.”

For more information about shiitake mushroom growing, please see this report: http://www.fpl.fs.fed.us/documents/pdf1982/leath82a.pdf

by Rose Long, Extension Assistant
Forest Stewardship Achievement Award

Jason Barto was nominated by PJ Abraham (FFSL Northeastern Area Forester) and recognized through the Division of Forestry, Fire & State Lands’ Forest Stewardship Coordinating Committee as a successful nominee for the 2012 Forest Stewardship Achievement Award.

Through his hard work and countless hours spent working with communities along the Wasatch Back, Jason has boosted the Kamas Valley community forestry program to new levels. Jason has coordinated the establishment of three Tree City USA communities from beginning to end. He is currently working with several other cities on the requirements to establish their Tree City designation.

His efforts continue to inspire community members throughout the Wasatch Front to be active stewards of their own community forests. Jason has led the way with numerous community forestry tree planting projects throughout the Kamas Valley. He raises awareness and provides education and technical assistance to the local communities. Through his efforts, numerous volunteer groups such as the high school 4-H, Boy Scouts of America, Kamas Valley Lions Club and the general community come together to learn about the importance of their community forests. Jason is also currently working toward establishing numerous community tree farms. He is also very active in many community forestry programs.

Jason fills a vital niche for the Division of Forestry, Fire and State Lands as well. Jason has been successful in securing multiple grants to support a number of special projects. Through Jason’s expertise and willingness to jump in and help out, urban forestry programs are thriving. This helps the Division report progress and in turn generates more federal grant dollars for the statewide program. The momentum generated from Jason’s efforts is unmatched and we are lucky to have him working for the statewide urban forest needs. Jason’s professionalism, enthusiasm and leadership skills make him an excellent recipient for this award.

Forest Landowner of the Year

Marcia White, Greg Larsen and Pam Phillips were nominated by PJ Abraham (FFSL Northeastern Area Forester) and recognized through the Division of Forestry, Fire & State Lands’ Forest Stewardship Coordinating Committee as a successful nominee for the 2012 Forest Landowner of the Year Award. The family’s property is located 30 miles south of Evanston, WY, along the Mirror Lake Highway (Hwy 150) within the homeowners associations of Manor Forestry, Fire and State Lands Recognizes Landowners, Forester

photo by PJ Abraham

Jason Barto (right) receives the 2012 Forest Stewardship Achievement Award from Dick Buehler, Director of the Utah Division of Forestry, Fire and State Lands.
and Uinta Lands. Their property is 80 acres in size and consists of lodgepole pine, aspen and some sub-alpine fir.

In 2010, the family decided through recommendations from their stewardship plan to implement a timber harvest on the property to reduce the fire hazard and promote forest health and vigor. The family’s attentiveness for prevention, preserving and protecting lands through this activity has benefited them with increased aesthetics and natural vegetation. It has also protected the surrounding communities from future fire danger. Their eagerness also encouraged other adjacent landowners to participate in the timber sale as well.

In 2011, the family applied for and was successful in obtaining a fuels reduction project using Natural Resources Conservation Service (NRCS) EQIP funding. The objective of the 18-acre project was to remove dead and downed debris and to decrease the understory density of sub-alpine fir. This year, the family was successful in obtaining another EQIP contract to carry out an additional 28 acres throughout their property.

As a concerned landowner, the family has always been willing to listen to new ideas about land management. Marcia, Greg and Pam continually share ideas with adjacent landowners and other members of the community, trying to help them understand the importance of being good stewards of the land.

The family’s property is a great example of what can be done when the property is managed with a concerted effort and a good plan within the Mirror Lake Highway area. The family will remain active with implementation of their Forest Stewardship Plan and is committed to making improvements that will benefit wildlife, forest health, range and water quality on their property. Their enthusiasm, motivation and willingness to be stewards of their land makes them excellent recipients for this award.

by PJ Abraham, FFSL Northeastern Area Forester
COMING EVENTS

Great Basin Consortium: January 14-16, University of Nevada, Reno, NV. See environment.unr.edu/consortium/ for more information.

Utah Green Industry Conference and Trade Show: January 28-30, South Towne Center, Sandy, UT. “Plant Wise Utah” is the conference’s theme. See www.utahgreen.org/events.htm for more information.


The USU Botanical Center Tree Evaluation Project Webinar: January 22, noon until 1 p.m. (MT). Go to this link and log in as a guest: https://connect.usu.edu/r7mpq5cdtu9/

Dick Buehler (left), Director of the Division of Forestry, Fire and State Lands, leads the 11th Annual Timber Harvest Tour in the La Sal Mountains near Moab, Utah.