



Exploring Solutions to Pinyon and Juniper Infestations Through Biomass Field Days

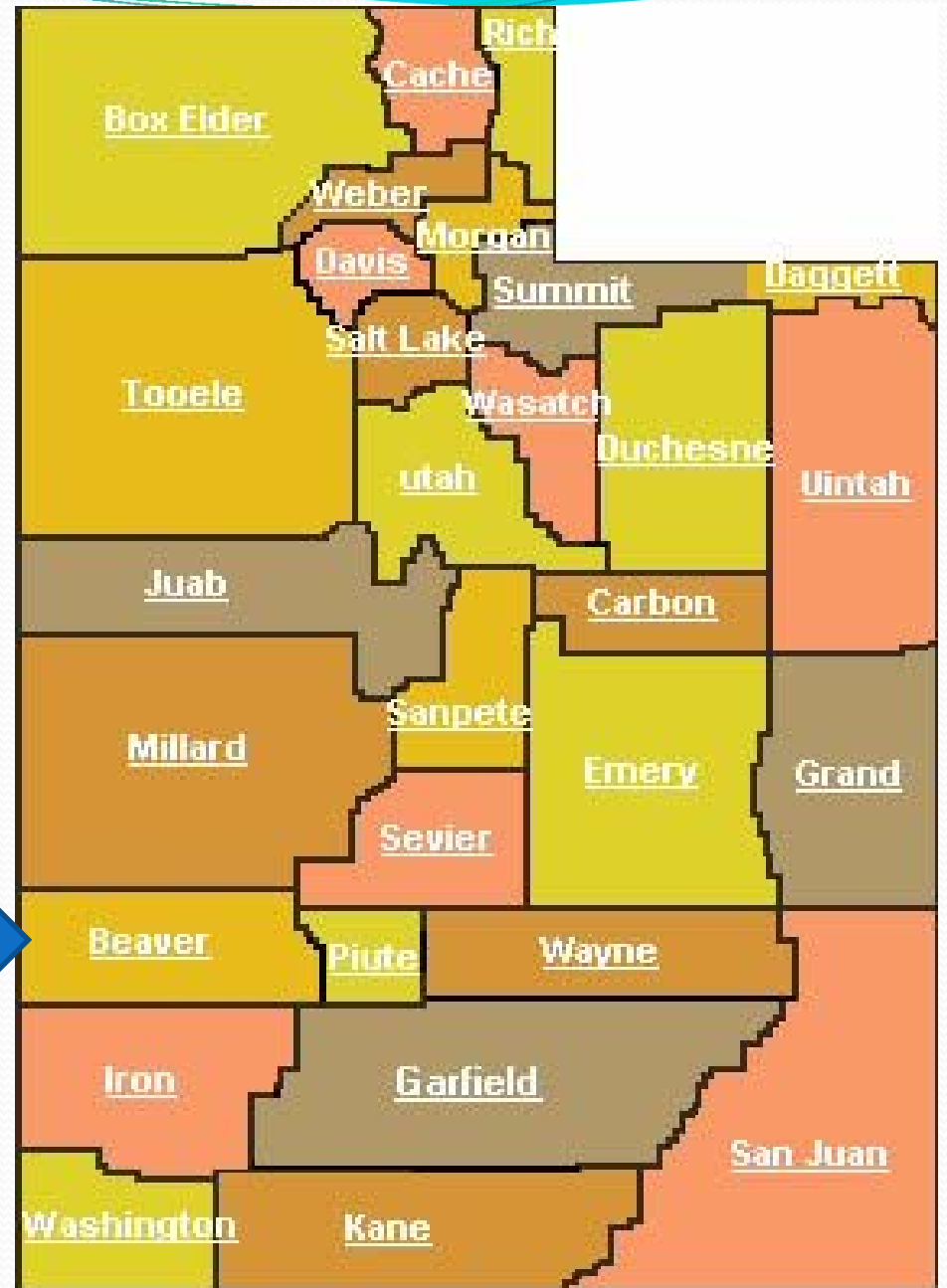
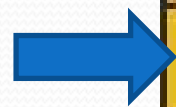
MARK NELSON
USU EXTENSION AGENT
Beaver County, Utah

BEAVER CO. EXTENSION

UtahState
UNIVERSITY

Utah

Beaver County



Currently there are nearly 50 million acres of Pinyon/Juniper woodlands across the west and more acres are being invaded each year.



Pinyon Pine

Pinyon pine is a 10 to 30 foot tall tree, growing in a pyramidal or spreading shape. It reproduces from seeds.

It usually grows on the higher elevation sites in the pinyon-juniper woodlands it occupies.

Pinyon pine is worthless as forage for livestock. Although not preferred, cattle will use pinyon needles. Pinyon needles are believed to cause abortion in cows.



Utah Juniper

The Utah juniper is usually a bushy tree in appearance, with a rounded crown and a trunk that has many forks.

It has an extensive root system that enables it to vigorously compete for moisture.

Mature trees are usually less than 30 feet high. Utah juniper can live to be 650 years old.





- The risks presented by expanding and overstocked Pinyon/Juniper woodlands are cause for major concern
- The impacts include ecosystem biodiversity, wildlife habitat and water quantity and quality.



- The Milford Flat Fire burned over 300,000 acres of range land in Beaver and Millard Counties in 2007

Beaver County is 87% publicly owned

Proactive
management can
provide positive
use of (PJ) fuels
while reducing fire
suppression and
restoration costs.



Southern Utah Woody Biomass Field Days





- Many different groups and agencies are involved in planning our Biomass Field Days including Blooming Ranch Service, BLM, Forest Service, USU Extension, Western SARE, and the Utah Biomass Resources Group and others.

The BLM has contracted with different private contractors to conduct thinning of the Pinyon/Juniper while still leaving some Pinyon trees for wildlife.



- The contracts also calls for removing excess slash from the treated area.
- In order to make this economical other uses for the harvested trees need to be identified.



- The first Southern Utah Biomass Field day was held south of Beaver, on October 18, 2010.
- Over 200 people from across the U. S. and China attended the field day.





- The purpose of the field day was to demonstrate what biomass harvesting is all about and the state-of-the-art equipment that is available.

- The CVI Magnum Force 6400 demonstrated how quickly it can fill a trailer with chips as participants observe the equipment in action





- Many expensive pieces of equipment were brought to the field day at the owners expense

Feed them and they will come



- Thanks to donations from many different businesses and agencies lunch was fed to all the participants

Another purpose of the field day was to try to find markets for the materials that are being harvested.

Some of the end products include firewood and wood pellets, livestock bedding, landscaping mulch and fuel for power plants



Second Annual Southern Utah Woody Biomass Field Day June 3-4, 2011



The second field day focused on Biomass education and utilization. Over 250 attend the two days of demonstrations and speakers



The biomass field day demonstrated innovations in equipment that harvests, transports, and processes pinyon-juniper biomass.





Traditionally much of the biomass associated with thinning or fuels reduction has been burned, scattered, or chipped because of the expense of handling it.

Utah Biomass Resources Group

- The mission of the Utah Biomass Resources Group (UBRG) is to assist in building a sustainable biomass utilization industry in Utah.
- Utah State University Extension coordinates, facilitates and manages the UBRG.



Producing energy or other products from woody biomass offers an opportunity to decrease costs associated with forest health and fuels reduction treatments, while stimulating economic growth through its utilization.



BioMax Biomass Generator



- One highlight of the 2011 field day was a demonstration of gasification provided by the University of Montana's BioMax biomass generator

BioMax Biomass Generator

Brian Kerns of the University of Montana spoke about the potential uses biomass in generating energy.

The BioMax's gasification technology creates combustible gasses from a woody feedstock.

The BioMax provides a model of one way to convert local renewable resources into useful products, effectively turning waste into energy.



Other equipment that was demonstrated
include the Biobaler



The Fecon RTC did a good job of chopping up the Junipers



The Woodmizer was used to demonstrate how
lumber can be cut into boards in the field



A number of speakers spoke of the importance of thinning the PJ stands in order to restore ecosystem health and prevent catastrophic wildfires.



Over \$4.5 million in equipment has been brought to southern Utah to demonstrate and exhibit.





Over 450 people
from 18 states,
Canada and China
have attended these
field days

Since the 2011 field day other equipment has been brought in and tested to see how it works on Pinyon/Juniper

The Ponsee forwarder works well to haul and pile cut PJ

The forwarder can haul a lot of trees in each load



Private contractors continue to cut trees in Beaver County



Is the PJ Treatment Making a Difference

Before Treatment



After Treatment



**The 3rd Annual
Southern Utah
Biomass Field Day
will be held
September 18, 19 &
20, 2012 in Beaver
County, Utah.**



Advertisement for the 2012 Field Day

By working with the Beaver County Travel Council we are currently able to advertise our next field day on their billboard.

This billboard is located on the I-15 interstate near Beaver City. Thousand of cars and trucks go past the sign everyday.

This field day is a great example of how many different groups ,both public and private can work together to make a program successful.



It's the people...

From inception, Southern Utah Biomass has been about bringing people together to further the advancement in biomass restoration issues.

Science and technology may further biomass in the laboratory, but it will be the small businesses, the rural communities and contractors that push this agenda forward.

The field days are about bringing all entities involved in biomass restoration together.





Summary

- Pinyon/Juniper woodlands are invading western ranges at an alarming rate.
- Proactive management can provide positive use of (PJ) fuels while reducing fire risk and restoration costs.
- It is expensive to harvest Pinyon/Juniper stands.
- There are possible markets for the harvested materials.
- The public needs to be made more aware of the PJ problem and possible solutions.

Questions

Mark.nelson@usu.edu



