

Utah Forest News

Utah Forest Landowner
Education Program Newsletter

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Keeping it Green Post-Harvest

An important aspect of completing a timber harvest is reseeding the landings and skid trails. Landowners can make this the responsibility of the logger in the timber sale contract or simply do it themselves. Here are some guidelines for choosing and applying a seed mixture that will help to prevent weed establishment and reduce soil erosion.

To determine what types of seed mixes to use, you will need to identify your objectives for the property and the conditions on the site. Many landowners might want to take the opportunity to entice wildlife to the area and choose to seed plants that will create an inviting place for deer and elk, while others may have serious erosion concerns that need to be addressed quickly.

Here are several things to keep in mind when choosing a proper seed mixture:

1. Use a wide variety of plant species in your mix. Soil, moisture and sunlight conditions can vary greatly over just a small landscape and a diverse seed mixture will help ensure that at least some of the species in the mix will germinate over most of the site.



Crested Wheatgrass

2. Native plants are desirable. However, refrain from choosing species simply because they are native to your location. There are a number of seed choices that are not native but may be well adapted to heavy grazing or more drought tolerant than native species.

3. Look for seed sources at reputable businesses who sell “certified seed.” The designation “certified seed” guarantees it came from a quality source and contains only the species specified on the label. Avoid purchasing leftovers from neighbors or other sources that may contain unwanted species such as weeds. For a list of seed suppliers in Utah, visit the Forestry Extension Web site at www.extension.usu.edu/forestry.

4. Aim for about three or four grass species and one or two shrubs or forbs. Avoid incorporating too many broadleaf species such as wildflowers and shrubs in your mix if you anticipate a heavy weed

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infestation. Most herbicides for invasive weeds will damage the desirable broadleaf species you've planted.

Ask neighbors and specialists in your area what species they recommend and tailor them to fit your objectives for the land. Realize that more seed per acre does not necessarily mean more plants will establish. A typical seed mix needs to be applied at about 9 lbs of pure live seed (PLS) per acre. Some species are sold on a PLS basis while others are sold in bulk and you will need to calculate the PLS to determine how much bulk seed to purchase. Use the table below, or contact your local Extension agent or seed supply store to get assistance on determining how much seed you will need.

Late fall is generally considered the optimal time for reseeded. Seeds spread just prior to snowfall will remain dormant until spring arrives and moisture and temperatures become adequate for germination.



Skid trails such as this one in the Monte Cristo area need to be seeded and water-barred at the completion of the timber sale process.

Publications specific to Utah are relatively scarce when it comes to information for seed mixes and reseeding methods on forested land. One particularly useful publication by USU Extension is the Planting Guide for Utah. In this extensive guide, you will find recommendations for nearly all ecosystems and erosion control situations. It can be found on the USU Extension Web site at extension.usu.edu/files/agpubs/ag433.html.

If you have concerns about sod-forming species such as smooth brome interfering with forest regeneration, consider using less dominant grass species such as bunchgrasses that won't compete as heavily

with young trees. Seeding is almost always worth doing. A good reseeding plan is a critical component for disturbed land and should be incorporated into any timber harvest.

The tables on the following page are some suggested species to use in Utah forest types depending on the average annual precipitation for the site.

by Morgan Mendenhall, Extension Forestry Educator

Sample Wildlife Seed Mix

<u>Species</u>	<u>Pounds of Pure Live Seed/Acre</u>
Orchard grass	2
Meadow brome	3
Mountain brome	3
Sweetanise	1
Woods rose	1

Sample Greening-up & Erosion Control Mix

<u>Species</u>	<u>Pounds of Pure Live Seed/Acre</u>
Mountain brome	4
Slender wheatgrass	2
Smooth brome	3
Lewis flax	1

clip and save

Species for Seeding in Mixed Conifer and Aspen Forest Types 25-35+ inches average annual precipitation

<u>Common Name</u>	<u>Scientific Name</u>	<u>Characteristics</u>
<u>Grasses</u>		
Mountain brome	<i>Bromus carinatus</i>	recommended for weedy openings and timber burns
Slender wheatgrass	<i>Elymus trachycaulus</i>	salt tolerant; good for erosion control
Smooth brome	<i>Bromus inermis</i>	sod-forming grass good for weed suppression and erosion
Orchardgrass	<i>Dactylis glomerata</i>	good for wildlife; less competitive with tree seedlings
<u>Forbs</u>		
Alfalfa	<i>Medicago sativa</i>	moderately shade tolerant; excellent for wildlife
Sweetanise	<i>Osmorhiza occidentalis</i>	does well in high elevation forests; good for wildlife
<u>Shrubs</u>		
Snowberry	<i>Symphoricarpus</i> species	enhances soil stability, good for aspen and conifer forests
Woods rose	<i>Rosa woodsii</i>	good for heavily disturbed soils; heavily used by wildlife

Species for Seeding in Pinyon-Juniper Woodlands 12-14+ inches average annual precipitation

<u>Common Name</u>	<u>Scientific Name</u>	<u>Characteristics</u>
<u>Grasses</u>		
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	drought tolerant; poor for heavily grazed areas
Crested wheatgrass	<i>Agropyron cristatum</i>	some varieties drought tolerant; good for erosion control
Dryland orchardgrass	<i>Dactylis glomerata</i>	this “dryland” variety is somewhat drought tolerant
Russian wildrye	<i>Psathyrostachys juncea</i>	drought tolerant; good for alkaline soils
<u>Forbs</u>		
Lewis flax	<i>Linum lewisii</i>	prefers open areas; does well on heavily disturbed sites
<u>Shrubs</u>		
Bitterbrush	<i>Purshia tridentata</i>	provides good cover and forage for animals
Winterfat	<i>Krascheninnikovia lanata</i>	does well on alkaline soils; nutritious winter browse

Wood for Wildlife

When foresters talk about leaving organic debris, they often focus on feeding forest soils, minimizing fire risk, and avoiding bark beetle problems. But if they are looking at broader ecosystem functions, they will also look at organic debris for wildlife. Many forest owners value wildlife for their own sake, but even where their management focus is primarily on timber, wildlife can still contribute to a healthy forest. For example, the owls that use snags left on a site will prey on pocket gophers – a chief nemesis of tree planters everywhere.

For the most part, wildlife biologists looking at organic debris concentrate on material larger than three inches in diameter, known as coarse woody debris (CWD). Slash (organic debris smaller than three inches in diameter) ultimately helps wildlife to the extent it enriches forest soil, which in turn feeds the plants, trees, and fungi that wildlife depend on. Slash piles may also shelter small mammals. But inadequate coarse woody debris is often more limiting to wildlife. Species ranging from bears to rubber boas use CWD for many purposes.

For example:

- both birds and mammals use CWD as a place to forage for insects or fungi;
- martens, fishers, bobcats, and black bears use CWD for dens and shelter;
- small mammals also use logs as runways;

- many small mammals use CWD for hiding cover and protection;
- many amphibians benefit from CWD because it provides cooler, moister habitat with more stable



Downed logs from this timber sale in the Duck Creek area provide cover and forage for a variety of critters.

- temperatures for breeding and other activities;
- birds use CWD for lookout posts and reproductive displays; and
- predators such as martens and weasels use CWD for access under snow to their prey.

Managing CWD for forest nutrition is relatively straightforward. Determine how many tons of CWD you need per acre and when and

how to treat it to minimize insect and fire concerns. Managing CWD for wildlife is more complicated. The size, distribution, and orientation of logs are more important than quantity. Also, different wildlife species have different habitat needs, some of which may conflict. For example, heavy log concentrations may be good for small mammals but limit elk movement. Since many, if not most, wildlife species of interest cross property boundaries, you also have to factor in what needs are being met by nearby forests. More research is needed, but some general strategies for managing CWD for wildlife can be grouped into three categories: snags, size and characteristics, and arrangement.

Snags. The primary focus in this article is logs on the ground. But before a tree can become log habitat, it must die. Sometimes green trees are blown down

by the wind and immediately provide CWD, but more commonly, the dead trees remain standing for decades. Dead, standing trees is called a snags. They are a valuable resource for a host of wildlife species and are often the first thing that biologists look for when evaluating forest wildlife habitat quality. For a good summary on snags, read *Managing Small Woodlands for Cavity Nesting Birds*, downloadable at www.woodlandfishandwildlife.org.

Coarse Woody Debris Size and Characteristics.

Wildlife biologists often emphasize large pieces of organic debris for wildlife, as they can benefit a wider range of species. For example, black bears can den in the stump of a large windthrown tree. Obviously, bears cannot use a 6-inch tree for the same purpose. But those small logs still benefit other

species – maybe even bears, if they can forage grubs from the decayed log. Longer pieces of CWD are also preferred because they provide a wider range of diameters, in turn benefitting a wider range of wildlife species.

Hollow logs (formed by stem decay fungi such as Indian paint fungus that decay the tree’s heartwood while it is still standing) are particularly useful to many wildlife species.

Downed logs provide the widest variety of habitat if the bark is attached, as some wildlife species or their prey will live in the space between the wood and the bark as the latter starts to loosen. Try not to roughen up downed logs any more than you have to if you want to keep that habitat.

Coarse Woody Debris Arrangement. Arrangement of fallen logs is critical to some species, particularly small mammals and their prey. For example, martens and fishers like logs that are “jackstrawed” or loosely piled across the forest floor. When these log piles are covered by snow they create a complex of snow-free spaces and runways that provide protection and foraging.

Log orientation matters, too. Logs lying parallel to slope contours may be used more by wildlife than logs oriented up- and down-hill, especially on steep slopes. Arranging logs this way also allows soil to accumulate on the uphill side, which traps moisture, hastens decay and reduces fire risk.

Balancing Competing Objectives. Several researchers have pointed out that the species that depend on CWD in forests managed for timber are currently relying on material left in historical logging. This often involved cutting in older forests that had more stem-decayed wood. Current harvests in second growth stands often do not have as much malformed wood and are made for markets that take logs down to a smaller top



This snag was intentionally left standing to provide habitat for birds and other wildlife species.

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diameter (e.g., down to a 4-inch top rather than an 8-inch top). These harvests do not leave as much CWD as past timber harvests.

So with the varied habitat needs of different wildlife species, plus all your other forest management objectives, how do you make decisions that benefit wildlife? Unfortunately, there is not much authoritative research that gives precise recommendations of how much and what kinds of CWD to leave for specific species of wildlife. Barring more prescriptive research results, the best strategy may be to leave a variety of species, degrees of decay, and distributions of CWD to benefit a broad range of species. How much depends on your other objectives, but wildlife biologists rarely talk about a site having too much CWD.

At a minimum, pay closer attention to leaving low value (cull) pieces of stem wood out in the woods rather than burning them in one big pile, or worse yet, hauling them to a mill that won't pay you for them. Also remember, the only sizes of woody debris that fire managers measure in assessing fire hazard are those smaller than three inches in diameter.

For more information on CWD, see *Trees and Logs Important to Wildlife in the Interior Columbia River Basin* available at www.fs.fed.us/pnw/pubs/gtr391 and *Proceedings of the Symposium on the Ecology and Management of Dead Wood in Western Forests* available at www.fs.fed.us/psw/publications/documents/gtr-181.

by Chris Schnepf, University of Idaho Extension Forestry, Couer d'Alene, Idaho

Timber Sale Contract Fact Sheet Available

Any timber sale should be executed through a timber sale contract to protect the rights of both the seller and the buyer. *Preparing a Timber Sale Contract* is Utah Forest Facts Rural/Conservation Forestry Fact Sheet NR/FF/013, the latest fact sheet produced by USU Forestry Extension. This fact sheet explains why a contract is important for both sellers and buyers of timber, and includes a sample contract.

Preparing a Timber Sale Contract was co-authored by Barbara Daniels, Darren McAvoy, and Michael Kuhns, and was reviewed for legal content by Robert Barclay, Assistant Attorney General for Utah assigned to Utah State University. The authors and reviewer attempted to create a comprehensive and accurate contract; however, any contract you use should be reviewed by an attorney who is representing you.

A link to a printable version of the fact sheet is on our Web site at <http://extension.usu.edu/forestry/Reading/FFIndex.htm>. If you would prefer a copy mailed to

you, contact Darren McAvoy through the contact information listed on the next page.



The contract for this timber sale near Scofield identified where the logs went, how they were scaled, what they were worth, who was paid, and more.

Southwest Community Forestry Caucus Formed

The Southwest Community Forestry Caucus (SCFC) recently evolved from the Four Corners Sustainable Forests Partnership that existed from 1999 to 2005.



Sam Burns

The SCFC, under the direction of Dr. Sam Burns at Ft. Lewis College, Durango, Colorado seeks to build upon and enhance the work done by the Four Corners Partnership by continuing the knowledge-building process about community forestry. It also seeks to establish a supportive communication system in Arizona, Colorado, New Mexico and Utah, in order to build knowledge about community forestry to serve active practitioners and communities.

Including members from each state, the Caucus acts as a coordinated communication network that is capable of gathering and transferring knowledge about community-based forestry. Goals of the Caucus include economic investment and entrepreneurship for timber harvesting and wood products businesses and providing a social support network among forest-related communities.

An immediate goal of the Caucus is to identify a group of “supporting members” in each of the four states of Arizona, Colorado, New Mexico and Utah. The role of a “supporting member” is to provide a communication contact and leadership for the Caucus in their state, as a special means of increasing dialogue, knowledge transfer and identifying topics for intensive study and practice improvement.

Membership in the Caucus is open to anyone who seeks to increase the dialogue about community forestry, forest restoration, ecosystem health improvements, sustainable community economies and related topics. All members are encouraged to share their experiences, knowledge and questions in ways that improve the practices of community forestry, especially in the southwestern United States.

For more information contact Sam Burns at 970-247-7193 or email Burns_s@fortlewis.edu. The Caucus Web site is <http://ocs.fortlewis.edu/swcommunityforestry/>.

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 www.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.

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COMING EVENTS

- **Utah Envirothon** – May 12-13, 2006: Camp Fife, Fielding, Utah. Natural resource competition for high school students. 2006 issue is “water stewardship in a changing climate.” For more details go to www.utahenvirothon.org.
- **Association of Natural Resource Extension Professionals (ANREP)** – May 14-17, 2006: Park City, Utah. Finding the “Ability” in Sustainability. Conference sessions, posters, field trips. For more details visit www.anrep2006.org.
- **Wildland Shrub Symposium** – June 6-8, 2006: Cedar City, Utah. Shrublands Under Fire: Disturbance and Recovery in a Changing World. Concurrent sessions, posters, field trips. For more information contact Stan Kitchen at skitchen@fs.fed.us or 801-356-5109.



USU Extension Agent Jody Gale welcomes over 100 attendees to the first Utah Forest Products Association Conference held in February in Price.