



Typical mixed-conifer forest stand in the Pinalenos

## Forest Products form Restoration

By Craig Wilcox, Forest Silviculturist for the Coronado National Forest

The Pinaleno Ecosystem Restoration Project or PERP is a 3,000 acre forest restoration project underway here on the Safford Ranger District. It is the first Stewardship Project on the Coronado National Forest. The NEPA (National Environmental Policy Act) process was completed when Forest Supervisor Jim Upchurch signed the ROD (Record of Decision) a year ago for EIS (Environmental Impact Statement). The project is expected to provide 20,000 CCF (hundred cubic feet) of wood products and 14,000 tons of biomass over the ten year life of the project. This is equivalent to 5 MMBF of sawtimber, 10 thousand cords of firewood and 14 thousand pickup loads of green slash. So the question what can we do with all of this stuff, how can the local economy best benefit from it and what is practical given the challenges presented by the mountainous terrain?

In August the Coronado National Forest entered in to a Stewardship Agreement with

the National Wild Turkey Federation (NWTF <http://www.nwtf.org/>) who will be the primary contractor for the project. Why the NWTF? PERP is essentially a wildlife project in many regards, most, if not all, major game and non-game wildlife are expected benefit from restoring the forest habitats, the improved forest health and vigor and the decrease in risk of habitat loss from wildfire. The Gould's wild turkey and the white-tailed deer are two game species that will benefit. The Mt Graham red squirrel will also benefit due to reduced risk of wildfire and greater cone crop production from more vigorous trees.

What to do with all that wood? Wood from the mountain has historically been a valuable local resource, can it be again? Over the last year a collaborative group has been examining these questions. Our partners include local

city and county government, EAC Small Business Development Center, Gila WoodNet, the Center for Cooperative Forest Enterprises, Freeport McMoRan, Northern Arizona Wood Products Association, USFS State and Private Forestry and San Carlos Forestry. Fifty local business and wood products users attended our workshop last December and the follow-up workshop in April.



**Bulk firewood wrapped for shipment**

We have relied a lot on the experience from a similar effort in Silver City with an enterprising effort called Gila WoodNet, which has processed wood from restoration projects on the Gila since 1998. Gordon West, owner of Santa Clara Woodworks and Restoration Technologies and has been a leading champion of this effort. There they had a central wood yard where material was sorted to support half a dozen small businesses, each specializing on different slices of the pie to produce bulk firewood, handcrafted furniture, pole kits for porches, poles trusses, log cabin kits, chipcrete and mulch. Gordon has led the way with unique products and processing techniques and small scale logging applications. The Gila WoodNet effort is of interest to us because of their focus on the small trees and the biomass since this will be the most challenging aspect of marketing forest products from restoration.

Forest products can be sorted by the value of their uses especially value-added uses. High value lumber is typically what comes to mind, PERP won't provide a lot of this. It will provide logs that can be used for

house logs and vigas and architectural logs. The latter is an example of value-added products since the value of the woodworking is in addition to the value of the wood.



**Sorting forest products for products such as vigas and house logs**

Another example of value-added wood product is "Zerosion", an erosion control product made from chipped slash and wood developed by Gordon for use in mine reclamation and highway rights-of-way.

This same process can be used as another product call "Chipcrete". This can be formed into a brick or slab and used as a construction material. Mid-value products include firewood, both bulk and packaged. Mulch and compost are other possible mid-value products if packaged. Mulch from forested restoration projects are considered weed-free unlike mulch products from agricultural sources. Packaging and bulk option are available for these products as well and make a difference between mid- and low-value.



**Zerosion being used in a mining reclamation pilot project**



### Architectural Wood

Low-value products typically include energy related products. This market utilizes the vast majority of low-value woody material coming from forest restoration projects. Often these biomass uses depend on large scale factors for profitability. Cogeneration power plants and biofuels would be included in this category. Local opportunities could include heating of large building utilizing boilers, conversion of biomass to biochar or to charcoal briquettes.



**Chipcrete can be used like adobe block except that they can be cut by wood saws and are not impacted by moisture**

Typically some material goes to each of these levels of use. A 10-20% high-value, 20-40% mid-value and 40-70% low-value ratio would be a typical mix among several small businesses working from a common

source of woody material. Some high value products flow naturally, like sawtimber, if there is a saw mill within economic hauling distance. For us there is the San Carlos Timber Products Company at Cutter. This is the most likely scenario but it is not a given. Small portable sawmills could also be utilized but we would need an army of them. Hopefully some of both will work out. The high-value niche products such as zeresion or chipcrete are where we will need to put a lot of our efforts. Likewise mid-value bulk products such as developing local demand for firewood and a regional market for packaged firewood will be needed. However, it will be most critical to find markets for the low-value bulk products of biomass, since like a turkey, guts and feathers are included.

The NWTF received a Graham County Community Investment Grant to prepare a financial feasibility analysis and to assist with a collaborative effort in developing this wood users community. Initial steps are underway with the Center for Cooperative Forest Enterprises to do this. We are very interested in local leadership with this project. Interested people can contact Craig Wilcox at [cpwilcox@fs.fed.us](mailto:cpwilcox@fs.fed.us) or 928-348-1961. with the Coronado National Forest.



**Robert Porter, GWP newsletter editor, is an Engineer with Souder Miller and Associates, and is a past board chair.**

### EDITOR'S

**NOTE:** Our November Speaker will focus on a project to improve the health of the Coronado National Forest. Craig Wilcox and Gordon West will enlighten us about an effort by the Safford Ranger District. I think it is

wonderful that the Forest Service, Environmental Groups, citizens, and local businesses are finding ways to restore the health of our national forests.

**Robert L. Porter, Editor**

# Project and Program Status Report

**AWPF Eagle Creek Riparian Restoration at Filleman Crossing Project** – Souder, Miller & Associates (SMA) contacted the U.S. Fish and Wildlife Service in August 2012 to begin informal consultations regarding possible threatened and endangered species that could be affected by the project. SMA is working on the 404 permit Pre-Construction Notification Letter to the Army Corps of Engineers. SMA has completed a draft of the Project Assessment Report for review, and have completed the field surveying of the channel crossing. Construction of the project is tentatively planned to begin on April 1, 2013 with completion by May 1, 2013.

**The USFW and Bat Conservation International Syfert Wildlife Watering Facility** – A contract has been signed with Crystal Noland at Rough Country Construction to move the solar panels, well pump and pipe system to bring water to the newly created wetland pond. This is the final stage of the project and a wildlife camera will be added so a future report can include photos of wildlife visitors.

**ADEQ Education Master Watershed Steward Program, Phase II** – They are in week nine of the course. The last class Dr. Barron Orr and Denise Garcia presented technologies used in managing a watershed. The class project is proceeding with Deborah Mendelsohn and Denise Garcia collecting sediment control structure data from agencies and developing the data base. In this week's class Dr. Phil Guertin discussed the erosion in the watershed. The class took a field trip to Bonita Creek to view the Safford Water System, the riparian area and native fish, Safford wastewater treatment and the San Jose Diversion and the irrigation system in the Gila Valley. Field trip speakers included Eric Buckley, Heidi Blasius, Phil Curtis and Bill Brandau.

**The AWPf Gila River Water Conservation Education Program** – The Water Counts Program has applied for and received additional funds from the United Way, for this program. There will be an expansion of residential and business analysis and public awareness opportunities.

**The WFF Upper Gila Watershed Riparian Restoration Project** – We have recently been awarded a grant from the Walton Family Foundation for restoration efforts on the 120 miles of the upper Gila River above the San Carlos Reservoir, and the lower 40 miles of its major tributary, the San Francisco River.

The project will include high-resolution topographic (LiDAR) and orthorectified color and multi-spectral imagery of the entire project area to provide information on the present state of the river corridor. Stillwater Sciences has been hired to perform an Ecohydrological Restoration Action Feasibility Assessment, which will include hydrology, geomorphology, vegetation, soil conditions and salinity, and wildlife information. This information along with local social and economic factors will be used to select appropriate restoration areas within 70 miles of the Safford basin of the Gila River. To grow out plants needed for restoration efforts, the Gila Watershed Partnership will be establishing a native plant nursery, which will include a greenhouse, plantation plantings, shade houses, and coppice fields. On-the-ground restoration will begin in late 2013 or early 2014.



**Robert Porter, GWP newsletter editor, is an Engineer with Souder Miller and Associates, and is a past board chair.**

## EDITOR'S NOTE:

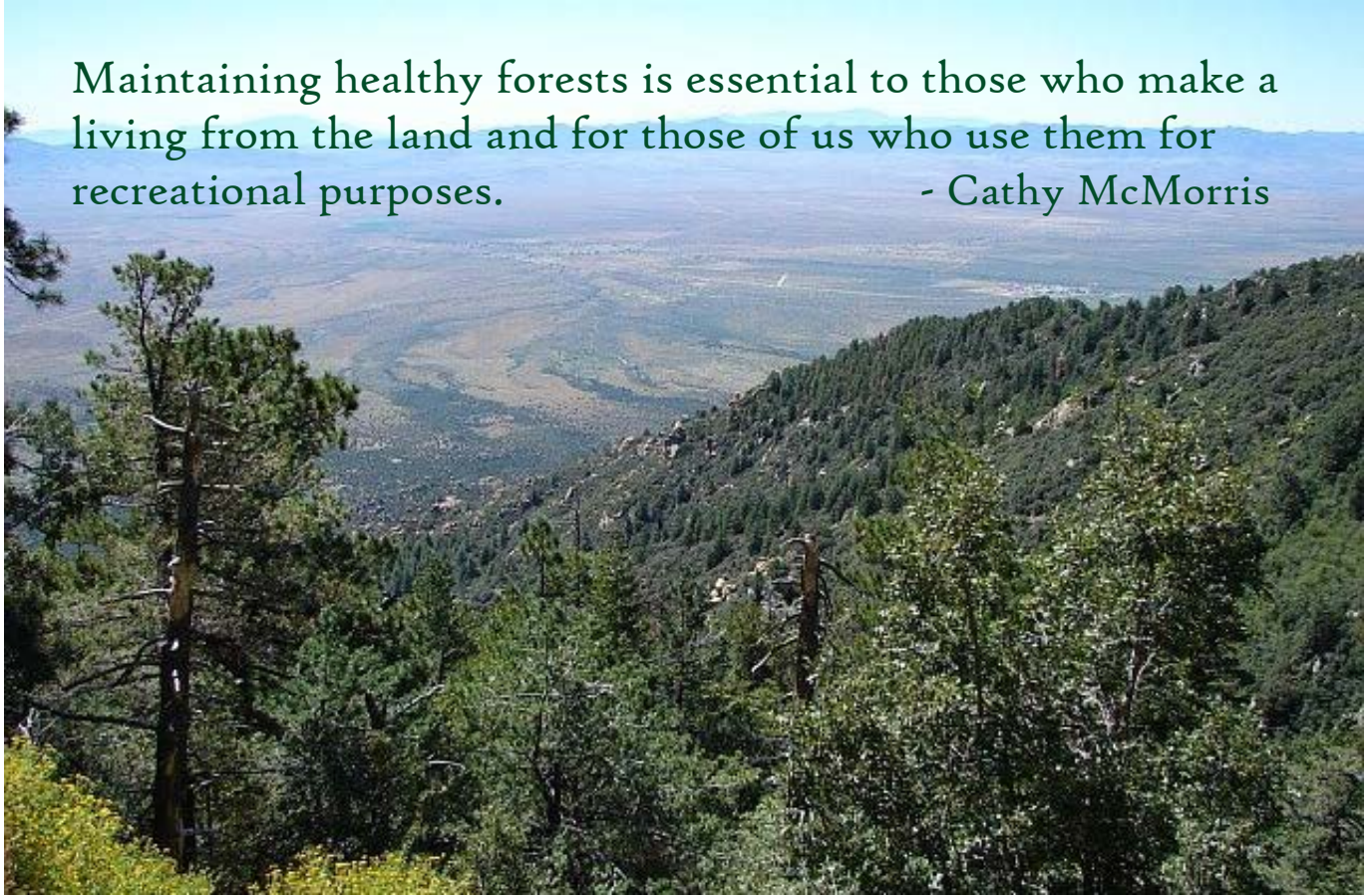
Our November Speaker will focus on a project to improve the health of the Coronado National Forest. Craig Wilcox and Gordon West will enlighten us about an effort by the Safford Ranger District. I think it is wonderful that the

Forest Service, Environmental Groups, citizens, and local businesses are finding ways to restore the health of our national forests.

**-Robert L. Porter, Editor**

Maintaining healthy forests is essential to those who make a living from the land and for those of us who use them for recreational purposes.

- Cathy McMorris



Taken from Mount Graham looking west, taken during Bill and Bonnie Mullin's Mt. Graham Arizona visit.

**Calendar of Events**

**Wednesday, November 14, 2012 @ 7 p.m.** – Gordon West will be discussing Forest products and economic opportunities from the Pinaleno Restoration project

**Wednesday, December 12, 2012 @ 7 p.m.** – Susan Syfert gives us a report on the Water Conservation Education Project. In addition, we will have an update on the Apache Grove Project, and the new challenges that Larry Barney is facing.

**Our partners include:**

- |   |   |
|---|---|
| Arizona Department of Agriculture           | Eastern Arizona College                     |
| Arizona Department of Environmental Quality | Farm Bureau                                 |
| Arizona Department of Transportation        | Freeport McMoRan Copper and Gold Inc.       |
| Arizona Department of Water Resources       | Graham County                               |
| Arizona Game and Fish Department            | Greenlee County                             |
| Arizona Geological Survey                   | Gila Valley Irrigation District             |
| Arizona State Land Department               | Natural Resource Conservation Service       |
| Bureau of Land Management                   | University of Arizona Cooperative Extension |
| City of Safford                             | University of Arizona NEMO Project          |
| Town of Thatcher                            | U.S. Fish and Wildlife Service              |
| Town of Pima                                | U.S. Forest Service – Apache                |
| Town of Clifton                             | Sitgreaves and Coronado Forests             |
| Town of Duncan                              | U.S. Bureau of Reclamation                  |
| Gila Valley NRCD                            | And many community members                  |

**Get involved in your watershed**

For more information, contact Jan Holder at the Gila Watershed Partnership, 711 S. 14th Avenue, 85546, 520-419-0374, email-watershedholder@gmail.com