TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 4(3), August 2013

"…partnering to preserve and restore healthy aspen ecosystems."

NOTICE: The WAA is a user-driven organization. *Tremblings* will attempt to capture the greater aspen user group's wants and needs. Please send news items and announcements, contributions, **recent reports & publications**, photos, and commentary ideas to Paul Rogers: p.rogers@usu.edu. We encourage you to share *Tremblings* with your friends and colleagues. **New members welcome!**

WAA HAPPENINGS

Moving on—Long-time Aspen Ecologist **Dale Bartos** has retired from the US Forest Service's Rocky Mountain Research Station after 41.5 years of service (see **Commentary**). Dale's contributions to the aspen sciences, as well as being a founding member of the WAA, are deserving of the highest commendation. Another founder of the WAA, **Ron Ryel**, is also leaving his post for greener pastures. As a plant physiologist at Utah State University, Ron published widely on plant-environment relations before undertaking efforts to integrate aspen sciences for land managers. Both of these individuals have been instrumental in WAA organizational efforts and plan to stay involved as advisors in the future.

The WAA Roster: There have been several changes in both the Steering Committee and Science Advisory Panel over the past six months. We are very grateful to those that have served and moved on, as well as those who remain to help guide the WAA. Here is a listing of current committee members:

Steering Committee:
Paul Rogers, Utah State University (Chair)
Dale Bartos, USFS (retired)
Robert Campbell, USFS (retired)
Liz Davy, USFS, Caribou-Targhee NF
Mary Lou Fairweather, USFS, SW Region
Bobette Jones, USFS, Lassen NF
Steve Kilpatrick, Wyoming Wildlife Federation
Ronald Ryel, (formerly) Utah State University
Channing Swan, BLM, Idaho

Science Advisory Panel:
Dominik Kulakowski (Chair), Clark University
Jessica Clement, Wyoming Game & Fish
Cristina Eisenberg, Oregon State University
Rick Lindroth, Univ. of Wisconsin-Madison
Mary Manning, USFS, Northern Region
Karen Mock, Utah State University
Paul Rogers, Utah State University
Cindy Swanson, USFS, Research (Montana)

An aspen root sucker (at left) next to an aspen seedling at the site of a New Mexico wildfire. Once thought rare, seedlings are now found commonly after wildfires in western North America. Seedlings commonly emerge in the second year after a stand-replacing forest fire (Photo: Paul Rogers).

UPCOMING EVENTS

Restoring the West **Conference Features Aspen**—As a follow-up to the 2012 "**Resilience in Quaking Aspen**" symposium, the WAA is co-sponsoring the annual **Restoring the West** conference at Utah State University, October 16-17, 2013. Many of the same

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aspen topics published in the July 2013 edition of *Forest Ecology and Management* will be covered here, but geared for a broader land manager audience. This year's RTW theme is, "Change Agents and Managing for Forest Resilience". The **WAA WILL HOST A WELCOMING RECEPTION** on October 15 at 5:30 p.m. at the Caine House adjacent to Utah State University. All speakers and current WAA members are encouraged to attend, discuss aspen issues, and enjoy free refreshments.

COMMENTARY

Thoughts on 41.5 years of Forest Service Aspen Research

Dale L. Bartos, Aspen Ecologist (retired), US Forest Service, Rocky Mountain Research Station

On June 28, 2013, I retired from the US Forest Service's Rocky Mountain Research Station after 41.5 years of service. The bulk of my Forest Service career has dealt with the ecology and restoration of aspen landscapes. In January of 1972, I joined the Forest Service Research's Aspen Ecosystem Project in Logan, Utah. This project studied aspen systems exclusively and consisted of 4 scientists (Bill Laycock, George Schier, Walt McDonough, and myself). Norb DeByle joined the project later. Forest Service Research funded this aspen project with Range Management funds. At that time it was felt that aspen systems were an exclusive range issue; therefore, support from other disciplines never materialized.

Some of the early work by the project involved ground breaking research on aspen restoration via burning and cutting. Major efforts were made to restore aspen on the landscape by fire in western Wyoming and by clear-cutting in northern Utah. One of the first attempts at burning aspen for restoration purposes occurred in the upper Gros Ventre River drainage east of Jackson, WY. The premise of this effort was to restore decadent aspen stands using fire on sites in close proximity to large numbers of wild ungulates—primarily elk. In the fall of 1974 approximately 1200 acres of aspen and sagebrush were burned within a mile of an elk winter feed ground. 10,000 to 15,000 suckers/ac resulted from this burn. However, many of these suckers were consumed by ungulates and thus resulted in several aspen stands being eliminated. One of the lessons learned was that these burns were too small to disperse large numbers of wild ungulates. Additional smaller stands of aspen were burned in the mid-1970 in northwest Wyoming and most successfully restored aspen on this landscape. These sites were more isolated and large ungulates had less of an impact. In these studies, I was responsible for monitoring forage production and suckering response for many years. A series of permanent transects were established and have been monitored for aspen sucker response off and on for the past 38 years---the last time in the fall of 2012. Overall most of the treated sites were successful; however, a few sites were eliminated from the landscape.

A clearfell-coppice aspen treatment was implemented on Davis County Experimental Watershed above Farmington, UT later in the 70's. Paired watersheds were monitored to determine water quantity and quality. One of the watersheds had numerous patches in it where the aspen were totally removed and the other watershed was left as a control. Separate streams out of the treated and the control were monitored to determine the effect of a partial removal of aspen on water dynamics. These streams had been monitored for numerous years before treatment to serve as a baseline. Response of aspen to cutting (both undergrowth and suckers) was monitored and it was found that cutting was one way of successfully restoring aspen. However, it must be said that this area had been closed to grazing by domestic livestock since the early 1900's and the number of wild ungulates was not excessive. Results showed that removal of $\leq$ 20% of the forested canopy did not cause a detectable change in stream flow or water quality.

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This research (in the 1970's) and additional research throughout the years served as a base for extensive transfer of technology by me and others associated with the aspen research project. Starting in 1995, a major effort started to share aspen restoration efforts with numerous natural resource managers in the western U.S. via meetings and field trips. Interest in aspen sciences has only intensified among Forest Service and BLM managers to the present. I see this interest continuing into the future and intend to continue involvement with these efforts both personally and in conjunction with WAA.

To my knowledge, there is currently no one in FS Research in the western U.S. who is dedicated to addressing quaking aspen issues. Since retirement, I have become a volunteer with the Forest Service and can be reached at dalelbartos@fs.fed.us.

SPECIAL FEATURE

Aspen Fiction: How Aspen Came to Be

Leidy Hedrich Rogers, High School Student, Logan, Utah, USA

One day a greedy mountain decided he should be more beautiful than all the other mountains. He thought and thought about how to accomplish this feat, and finally he came up with a plan. He created for himself a tree with snow-white bark and green leaves that shimmered when the wind blew.

"Now I am the most beautiful mountain," thought the greedy mountain. And, for a while, he was pleased with the other mountains' jealous glances. Soon, however, the other mountains stopped paying attention and carried on with their own business. The greedy mountain noticed and, craving the envy of the other mountains, he began to think about how to *truly* become the most beautiful mountain. After some deliberation, he struck upon a satisfactory plan. He made all of the shimmering green leaves of his tree a bright and glorious yellow.

"This time," he thought, "I will have the full attention of every mountain." And he did.

The greedy mountain adored this new addition to his little tree. And as time went by, he grew to love the tree itself. To show his unending affection towards it, he reshaped the trees leaves into hearts. He decided to call the tree Aspen, which was the sound the wind made when it rushed through its delicate leaves.

And the greedy mountain felt happy.

But soon he noticed that many of the leaves of his little Aspen had fallen to the ground. The tree was exhausted with its own efforts at beauty. It tried with all its might to hold on to the remaining leaves, but one by one, the leaves fluttered to the ground. When the last leaf was dropped, Aspen fell into a deep sleep. The greedy mountain felt very lonely and his slopes shook with sobs. Soon it was winter, and the sky filled with cold flecks of snow, coating the mountains. The tree would not wake. The mountain no longer cared what the other mountains thought of him. Instead, he used all of his energy to will the little Aspen to wake up. By the time the snow began to melt, the mountain lost all hope of his little friend ever recovering and he fell farther into his deep, reclusive sadness. Just as the mountain surrendered his last ounce of hope to despair, little Aspen gave itself a timid shake and awoke. The greedy mountain was overjoyed. The small tree began to sprout back its heart shaped green leaves, displaying it's love for the mountain in return.

From then on, year after year, Aspen would sprout its heart shaped leaves in early spring. The leaves would shimmer all summer long, and turn a cheerful yellow in autumn. By first snowfall, the tree had dropped its burdening

leaves, and was so fatigued it slept all winter long. When Aspen died, the (no longer) greedy mountain created many more trees just like it. He gave them to the surrounding mountains, who, in turn, passed some onto the mountains near them. On it went, until there were Aspen trees spread throughout the mountain range, and to others beyond.

RECENT ASPEN PUBLICATIONS

Anyomi, K. A., F. Raulier, Y. Bergeron, and D. Mailly. 2013. The predominance of stand composition and structure over direct climatic and site effects in explaining aspen (*Populus tremuloides* Michaux) site index within boreal and temperate forests of western Quebec, Canada. Forest Ecology and Management **302**:390-403.

Bork, E. W., C. N. Carlyle, J. F. Cahill, R. E. Haddow, and R. J. Hudson. 2013. Disentangling herbivore impacts on *Populus tremuloides*: a comparison of native ungulates and cattle in Canada's Aspen Parkland. Oecologia:1-10. DOI 10.1007/s00442-013-2676-x

Callahan, C. M., C. A. Rowe, R. J. Ryel, J. D. Shaw, M. D. Madritch, and K. E. Mock. 2013. Continental-scale assessment of genetic diversity and population structure in quaking aspen (*Populus tremuloides*). Journal of Biogeography **40**:1780–1791.

Berrill, J.-P. and C. M. Dagley. 2012. Geographic patterns and stand variables influencing growth and vigor of *Populus tremuloides* in the Sierra Nevada (USA). ISRN Forestry **2012**. DOI 10.5402/2012/271549

Gardener, R. S. 2013. Clonal diversity of quaking aspen (*Populus tremuloides*): How multiple clones may add to the resilience and persistence of this forest type. Utah State University, Logan. [MS Thesis] 77 p.

Guedo, D. D. and E. G. Lamb. 2013. Prescribed Burning Has Limited Long-Term Effectiveness in Controlling Trembling Aspen (*Populus tremuloides*) Encroachment into Fescue Grassland in Prince Albert National Park. The Canadian Field-Naturalist **127**:50-56.

Leidolf, A. and R. J. Ryel. 2013. Avian response to frost-damaged aspen in northern Utah. Western North American Naturalist **73**:98-106.

Man, R., P. Lu, S. Colombo, J. Li, and Q.-L. Dang. 2013. Photosynthetic and morphological responses of white birch, balsam poplar, and trembling aspen to freezing and artificial defoliation. Botany **91**:343-348.

Popp, J. N., D. N. McGeachy, and J. Hamr. 2013. Elk (Cervus elaphus) Seasonal Habitat Selection in a Heterogeneous Forest Structure. International Journal of Forestry Research **2013**. http://dx.doi.org/10.1155/2013/415913

Strong, W. L. and T. S. Jung. 2013. Stand-level Attributes of Snowshoe Hare (*Lepus americanus*) Habitat in a Post-Fire Trembling Aspen (Populus tremuloides) Chronosequence in Central Yukon. The Canadian Field-Naturalist **126**:295-305.

Victor, J. and U. Erb. 2013. Influence of Weather Conditions on the Surface Morphology and Wetting Behaviour of Superhydrophobic Quaking Aspen Leaves. American Journal of Plant Sciences **4**:61-68.

Wagner, D. and P. Doak. 2013. Long-term impact of a leaf miner outbreak on the performance of quaking aspen. Canadian Journal of Forest Research **43**:563-569.

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