WESTERN ASPEN ALLIANCE

TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 10(4), November 2019

Partnering to preserve and restore healthy aspen ecosystems

MEMBER PARTICIPATION: The WAA is a science-based virtual community. Send us aspen items of interest and we'll help spread the word. Contact Paul Rogers, Director: p.rogers@usu.edu.

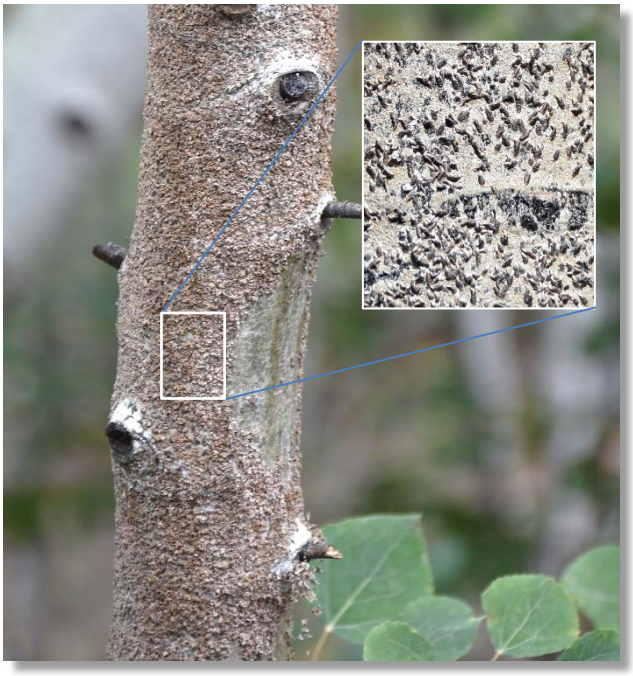
Share *Tremblings* with your friends and colleagues.

New members welcome!

WAA HAPPENINGS

We Stand on the Shoulders of Giants—Walter Frank Mueggler passed away in late summer at the age of 93. Walt holds a large place in the study of aspen ecology. Dr. Mueggler was the principal plant ecologist in the aspen research project at the Logan (UT), U.S. Forest Service Research Laboratory. There may not be an aspen researcher or manager alive who hasn't used his aspen community type publications. In 2006, the Forest Service designated a 1,268-acre portion of the Mt. Olympus Wilderness in Big Cottonwood Canyon (near Salt Lake City) the Walter F. Mueggler - Butler Fork Research Natural Area. Look for an upcoming *Tremblings* Commentary devoted to Walt Mueggler's life and work (Feb. 2020) or visit a personal remembrance here.

Pando Clone Featured in Upcoming Film—A new nature/adventure/education IMAX movie called, "Into America's Wild" ("Into Nature's Wild" outside the U.S.) will premiere at the Smithsonian Air & Space Museum Feb. 4, 2020. The producers, MacGillivray Freeman Films promise a scenery filled educational tour de force. View the trailer available at their website. Pando and WAA Director, Paul Rogers, were featured in the filming alongside numerous other locales. This promises to be a high quality visually stunning project, given the track record of this award-winning company. Check local listings for screenings in your area after the February opening (or make a showing request!).



Our recent aspen workshop on the Prescott National Forest in Arizona was dominated by discussion of the near-universal presence of Oystershell Scale (Lepidosaphes ulmi) *in aspen stands visited. The relatively recent appearance of this invasive species merits urgent research, monitoring, and restoration experimentation. Please share "success stories" among the WAA community to help us all learn faster what can be done to combat OSS in aspen (Photo: Paul C. Rogers).*

Restoration on Montana BLM Lands—What do you do when you've run out of options for preserving valuable aspen habitat? Kipper Blotkamp, BLM Forester in the Dillon, Montana Field Office, will soon find out. The story is a familiar one: dying trees and no recruitment, funding is non-existent, no commercial value, and time is running out. Read his article here.

Beaver Believers Meet Aspen Aspirers—Beaver and aspen sciences are strengthening their partnership: the WAA and Dr. Joe Wheaton's Ecogeomorphology and Topographic Analysis Lab. The WAA teamed up with ET-AL by presenting

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combined aspen-beaver workshops this year in the Black Hills and northern Utah, as well as the new WAA Brief, "Beaver and Aspen: Synergy Among Keystone Species" was published in May. Here Dr. Nick Bouwes is discussing a beaver dam analog on a field trip in the Wyoming portion of the Black Hills with workshop participants.

Send Your Flashy Photos—We'd like to post your best aspen photos on the WAA Facebook page. Send us pictures that are artistic, unique, ridiculous, or sublime.

UPCOMING EVENTS

Conservation Biology Conference—The North American Congress for Conservation Biology will hold their annual conference in Denver, Colorado July 26-31, 2020. The conference theme is "Crossing Boundaries: Innovative Approaches to Conservation" and promises to be an engaging event covering a range of topics surrounding social, political, and ecological boundaries with a focus on the Rocky Mountain West.

Natural Areas Conference, Aspen Session—Planning is already underway for the Natural Areas Association conference in Reno, NV Oct. 2020. Organizers have approached the WAA to head-up a Special Session addressing quaking aspen issues in the West. Stay tuned as details emerge in upcoming *Tremblings* issues.

Aspen Workshops 2020—Proposed, but *not finalized yet*. We'd like to hear of your interest in these workshops or desire to host one in your area.

- **Wyoming Aspen Days:** Cody or Baggs, Wyoming?
- **Markleeville, CA Aspen Workshop:** This was canceled in fall 2019, but we are searching for summer 2020 dates now to reschedule. Contact Coreen Francis, NV/CA Forestry Lead for BLM.
- **SW Montana:** Sponsored by USFS, WAA, BLM, and others.
- **Other Mentions:** Colorado, Alaska, and Idaho have made murmurings, but nothing firm yet.
- **Other Aspen Events in Your Area?** Contact the WAA Director and let us know your plans.

COMMENTARY

Aspen Success Hinges on Innovative Technique

Shelly Deisch and **David Mallett** - Wildlife Habitat Biologists, South Dakota Department of Game, Fish and Parks, Rapid City

In searching for an aspen topic yet to be covered in Tremblings, we arrived at the restoration practice called "hinging," which appears to be most widely practiced in the South Dakota portions of the Black Hills.

Aspen stands in the Black Hills are relatively small and disjointed compared to many western settings. A block of 100 acres of aspen would be considered large and exceptional. The combination of small blocks of aspen that are heavily used and easily accessed makes for highly impacted stands. The Black Hills were shaped by natural disturbances which have largely been mitigated or suppressed through post-European settlement practices. Smokey the Bear overdid his job, livestock and wild ungulates easily contribute to excessive and repeated browsing, and the economic and social values of harvesting ponderosa pine tends to favor management for commodity outputs. Dr. Dale Bartos (USFS Research, retired) estimated that South Dakota's Black Hills have lost 60% of historical aspen.

Holistic aspen stewardship includes working with hormonal stimulation, environmental conditions such as precipitation and clonal traits, and various forms of

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browsing protection. Options for aspen management in the Black Hills tend to be controversial (e.g., changing location and number of browsers) and/or expensive (exclusionary fencing). And, 'hands off' approaches such as letting wildfires burn or not mitigating to reduce insect outbreaks, are not feasible in the Black Hills' relatively small footprint which is intertwined with private inholdings and towns.

One tool we employ in South Dakota is "hinging" to protect aspen regeneration. This technique involves back-cutting <15" (38 cm) dbh conifers and leaving a hinge of wood which keeps the bole attached to the stump (Kota and Bartos 2010; photo 1). Felling can be done strategically, depending on tree lean and size, to help cover aspen regeneration with branches which makes large herbivore access difficult (photo 2). This method removes competing conifers and provides a suspended, horizontal barrier to wild and domestic browsers.

Benefits of hinging are that the manager uses on-site materials to protect aspen regeneration to allow aspen shoots to grow out of reach of hungry mouths and it is cost effective. It has been shown to be more effective than piling slash that has been taken down to <15" (38 cm) height. A less desirable outcome is that it may not be aesthetically pleasing to some visitors or managers. Pre-treatment communication is necessary to convince fire officers that a short-term fuel load is outweighed by aspen's long-term fire reduction benefit.

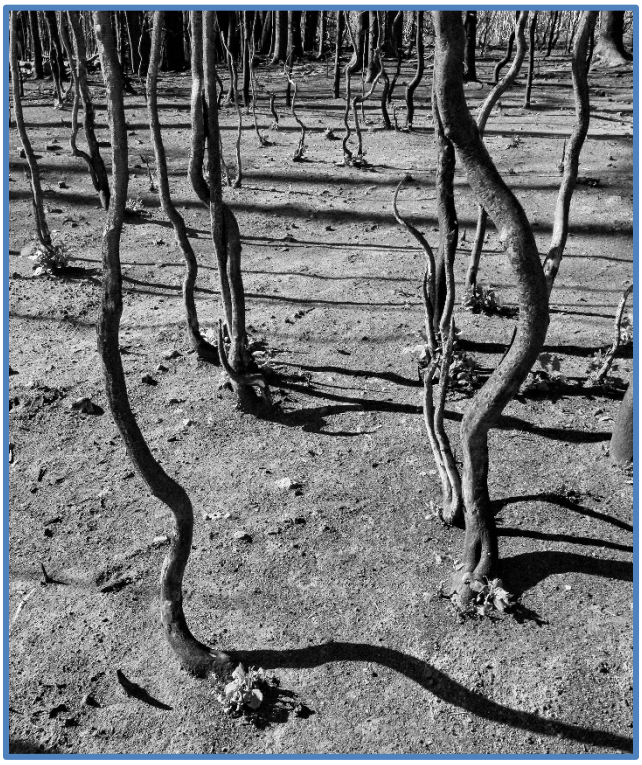
Hinging requires a skilled sawyer to cut the conifer at approximately a 4-5' (1.2-1.5 m) height in a manner that it doesn't break off the hinge. Winter hinging can be done, but is not as successful as when sap is flowing. Sap allows flexibility that alleviates most stem breakages upon felling. A good "hinger" is both artist and engineer, but we've found that training pays off in the form of successful aspen recruitment within the bounds of reasonable expenditure.

Kota, A.M.; Bartos, D.L. 2010. Evaluation of techniques to protect aspen suckers from ungulate browsing in the Black Hills. West. J. Appl. For. 25:161-168.

WAA *Creates*

"WAA Creates" showcases artistic aspen-related contributions. We encourage fiction, folklore, poetry, drawings, paintings, photography, and other artistic expressions. Send your stuff to share with WAA readers.

Charred
(B&W photo)



Doug Page
Cedar City, Utah

Near the Sidney Valley Overlook and just weeks after the Brian Head Fire and substantial rains, all that remains are charred aspen stems and ash with some new aspen sucker regeneration. Deer browsing is evident. The crooked sapling remains are an indicator that the prior stand was struggling, in this case with animal depredation and overhead competition from subalpine fir for light.

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Date: 2017-08-01
Camera: Canon EOS 60D; Lense:Canon EF17-40mm f/4L
Settings: ISO 200, f/22, 1/40 sec, exposure -0.67 eV, Jpg format

RECENT ASPEN PUBLICATIONS

Boucher, D., S. Gauthier, N. Thiffault, W. Marchand, M. Girardin, and M. Urli. 2019. How climate change might affect tree regeneration following fire at northern latitudes: a review. New Forests: 1-29.

Foster, A. C., A. H. Armstrong, J. K. Shuman, H. H. Shugart, B. M. Rogers, M. C. Mack, S. J. Goetz, and K. J. Ranson. 2019. Importance of tree-and species-level interactions with wildfire, climate, and soils in interior Alaska: Implications for forest change under a warming climate. Ecological Modelling 409:108765.

Millstein, R. L. 2019. Types of experiments and causal process tracing: What happened on the Kaibab Plateau in the 1920s. Studies in History and Philosophy of Science Part A. doi.org/10.1016/j.shpsa.2019.04.001

Morris, J. L., R. J. DeRose, T. Brussel, S. Brewer, A. Brunelle, and J. N. Long. 2019. Stable or seral? Fire-driven alternative states in aspen forests of western North America. Biology letters 15:20190011.

Porter, A. 2019. The Role of Wildfire and Topography in Shaping Aspen Regeneration after the Hayman Fire, CO, USA. Colorado State University. [Thesis].

Premer, M. I., R. E. Froese, and E. D. Vance. 2019. Whole-tree harvest and residue recovery in commercial aspen: Implications to forest growth and soil productivity across a rotation. Forest Ecology and Management 447:130-138.

Robertson, J. M., A. R. Cahlander-Mooers, C. H. Summers, and M. D. Dixon. 2019. Population Condition of Populus× smithii, a Pleistocene Relict Aspen of the Niobrara River Valley, Nebraska, USA. Natural Areas Journal 39:286-296.

Shinneman, D. J., and S. K. McIlroy. 2019. Climate and disturbance influence self-sustaining stand dynamics of aspen (Populus tremuloides) near its range margin. Ecological Applications 29:e01948.

Singer, J. A., R. Turnbull, M. Foster, C. Bettigole, B. R. Frey, M. C. Downey, K. R. Covey, and M. S. Ashton. 2019. Sudden Aspen Decline: A Review of Pattern and Process in a Changing Climate. Forests 10:671.

Whitman, E. 2019. Burn severity and fire history in the northwestern Canadian boreal forest: drivers and ecological outcomes. University of Alberta. 114 p. [Dissertation]

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