



TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 8(1), February 2017

“...partnering to preserve and restore healthy aspen ecosystems.”

NOTICE: The WAA is a user-driven organization. Please send news items and announcements, contributions, **recent reports & publications**, photos, and commentary ideas or rebuttals to Paul Rogers, Director/Editor: p.rogers@usu.edu. We encourage you to share *Tremblings* with your friends and colleagues. **New members welcome!**

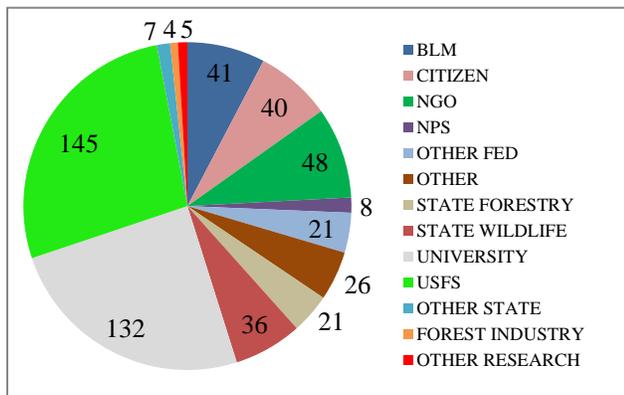
an iconic representation for larger landscapes where failing aspen communities may contribute to regional biodiversity losses.

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WAA HAPPENINGS

Aspen Artwork Requested—The WAA is looking for your creative ideas for future *Tremblings*. Contact the [WAA Director](#) if you have interest in posting brief stories, poems, paintings, photography, or other original works. See “WAA Creates” section at the end of this or previous *Tremblings* for examples.

Annual Update on Membership—The U.S. Forest Service maintains its lead as NGO and Citizen membership continues to surge. There are 534 total WAA members, largely from the U.S., but also from seven other countries.



Heavy snow envelops young aspen for extended periods during seasons such as the current one here in northern Utah. Often ramets will bear the weight of formative winters throughout their lives in the form of misshapen boles and branches. (Photo: Paul Rogers, January 2017).

Pando in the News—The 106 acre (43 ha) Pando aspen clone in central Utah has been threatened by chronic herbivory, mostly from mule deer and cattle. A recent publication by Rogers & Gale (see Recent Publications) is garnering some [media attention](#) as they describe experimental results that lend some optimism to recent regrowth patterns where temporary fencing has been erected. Pando serves as

UPCOMING EVENTS

NAFEW 2017—The University of Alberta (Edmonton) is hosting the 11th North America Forest Ecology Workshop. The conference runs from June 19-22, 2017. The theme will be: *Sustaining Forests*



TREMBLING

NEWSLETTER & BULLETIN BOARD

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from Restoration to Conservation. There will be a Special Session on the North American aspen transect, as well as many other aspen-related posters and presentations. The conference will include one-day in-conference field trips to see both natural and industrial landscapes. Further details and regular updates can be found at the [conference website](#).

Aspen Days 2017—The annual series called “Aspen Days” moves to northeast Wyoming in 2017. The WAA and Wyoming Game & Fish present a 2.5 day workshop at Buffalo, WY August 16-18. This multi-agency, NGO, and citizen event will feature aspen science, case studies, and extensive field discussions. Further information is available from [Todd Caltrider](#), Habitat Biologist, WYGF.

Alaska Aspen Workshop—The WAA will be partnering with the BLM and Alaska Department of Fish and Game to conduct our first boreal workshop September 12-14, 2017. The overarching goal will be to communicate recent science to forest and wildlife managers, while addressing local issues in field settings. The event will begin in Fairbanks with science and management presentations, then proceed to several field sites across a wider region of north-central Alaska. For further details contact [Sue Rodman](#), Alaska Fish & Game

COMMENTARY

How to maintain extensive stands of aspen in managed boreal forests

Victor Lieffers – Professor, Department of Renewable Resources, University of Alberta, Edmonton, Canada



Historically, Alberta had some of the largest expanses of aspen stands anywhere in North America. These aspen-dominated forests are the young stages of boreal forest succession; aspen stands are usually overtopped by white spruce

starting by year 60. Stands naturally transition from aspen dominated, to mixed aspen-spruce, to spruce dominated with succession. As Western Canada has frequent dry periods, large fires often restart these forests, back to aspen—regenerating mostly by root suckers. Thusly, pure aspen stands were plentiful on the landscape.

Canadian forests are almost all owned by the provincial governments and there has been much economic interest in exploiting spruce stands of these forests; but without aggressive and expensive reforestation, the natural recovery of spruce is often delayed and growth is slow. Over the past 50 years, Alberta has transferred the right to manage and harvest the timber to private companies through long term forest management agreements. The companies are responsible for ensuring regeneration and planning the timber supply for the forests. At the same time, however, the provincial government also wants to maintain enough control of the management to sustain biodiversity and the social license for the management of public forests. The government therefore demands through its regeneration standards that the proportions of aspen, mixed, and coniferous stands be sustained on the landscape.

Alberta has not developed regeneration standards using natural succession as its guide. Instead, Alberta’s management relies upon clearcutting, and the shorter rotations demand that the natural range of stand types be recovered immediately after logging. Harvested aspen stands usually regenerate back to aspen without expensive treatments. Conifer stands are redeveloped by site preparation, planting and there is usually herbicide treatment to remove most of the aspen; therefore, spruce can quickly dominate the stand. The mixed stands are recovered by planting spruce and letting the aspen sucker normally. In many cases, however, mixed stands are developed at the scale of the cutting unit by partial removal of the



TREMBLING S

NEWSLETTER & BULLETIN BOARD

Vol. 8(1), February 2017

aspen using aerial herbicide application (photo at right).



As an alternative, management could be patterned more after natural succession, by letting aspen recover follow logging and spruce could be re-established from seed trees or from planting immediately after logging or under-planting 30 or more years later. The aspen could be cut at its maturity and the partially-grown spruce could be 'protected' by careful logging techniques to allow transition to spruce dominance (photo below).



Provided that managers ensured that spruce was established in most of the young aspen stands, the overall production of spruce volume could be maintained. Barriers to change, however, come from entrenched policies both at the government and industry levels. Secondly, reluctance to change results from insufficient information on growth and yield of spruce and aspen in these types of mixtures and management. By emulating natural succession, more extensive areas of aspen could therefore be maintained, thereby sustaining a more natural forest landscape and its biodiversity.

WAA Creates

"WAA Creates" showcases creative aspen-related contributions. We encourage fiction, folklore, poetry, drawings, paintings, photography, and other artistic expressions that may be captured in a brief-form newsletter. Please [contact the Director](#) with suggestions or feedback on this feature.

Populus aenigmas

I am ancient, but afraid. I invade, but stay in place.
Who am I?

.

The frost-free season is for suckers. Extending my tired arms, I've embraced all-frozen soils. I'm wearier, pock-marked, and inter-digitated over uncounted centuries epochal climates and megafaunal extinctions.

I grow best in the past tense. I once burst my pink pods on humid, clement winds float my strange sons and daughters to any

distant receptive friend. Perhaps she too had sister chromatids too close to let go.

But since, impotence. and instead, a slow yawn through the subterranean, periscoping to the sun. This strange incest engendering myself, changes accumulated but few lessons learned.

My fate is not determined. Expanse testifies my resiliency. Centurial changes enclose my heights and my branches, but, with tenacity, I spread.

Amy Flansburg, University of Wisconsin-Madison, Forestry



TREMBLING S

NEWSLETTER & BULLETIN BOARD

Vol. 8(1), February 2017

RECENT ASPEN PUBLICATIONS

- Ackerman, D., and A. Breen. 2016. Infrastructure Development Accelerates Range Expansion of Trembling Aspen (*Populus tremuloides*, Salicaceae) into the Arctic. *ARCTIC* 69:130-136.
- Alexander, H. D., and M. C. Mack. 2016. A Canopy Shift in Interior Alaskan Boreal Forests: Consequences for Above- and Belowground Carbon and Nitrogen Pools during Post-fire Succession. *Ecosystems* 19:98-114.
- Bandau, F., B. R. Albrechtsen, R. Julkunen-Tiitto, and M. J. Gundale. 2016. Genotypic variability in *Populus tremula* L. affects how anthropogenic nitrogen enrichment influences litter decomposition. *Plant and Soil* 410:467-481.
- Biggs, J. R., D. M. VanLeeuwen, J. L. Holechek, S. L. Sherwood, and R. Valdez. 2016. Characteristics of browsed aspen forests following wildfire and implications for management: a case study. *Journal of Plant Ecology*: rtw101. DOI: 10.1093/jpe/rtw101
- Brough, A. M., R. J. DeRose, M. M. Conner, and J. N. Long. 2017. Summer-fall home-range fidelity of female elk in northwestern Colorado: Implications for aspen management. *Forest Ecology and Management* 389:220-227.
- Bretfeld, M., S. B. Franklin, and R. K. Peet. 2016. A multiple-scale assessment of long-term aspen persistence and elevational range shifts in the Colorado Front Range. *Ecological Monographs* 86:244-260.
- Caudullo, G., and D. de Rigo. 2016. *Populus tremula* in Europe: distribution, habitat, usage and threats. *European Atlas of Forest Tree Species*. Publ. Off. EU, Luxembourg, pp. e01f148. [Download here](#)
- Chhin, S., and G. G. Wang. 2016. Climatic Sensitivity of a Mixed Forest Association of White Spruce and Trembling Aspen at Their Southern Range Limit. *Forests* 7:235.
- Curzon, M. T., S. C. Baker, C. C. Kern, B. J. Palik, and A. W. D'Amato. 2017. Influence of Mature Overstory Trees on Adjacent 12-Year Regeneration and the Woody Understory: Aggregated Retention versus Intact Forest. *Forests* 8:31. [Download here](#)
- Dhar, A., C. Baker, H. Massicotte, B. Palik, and C. Hawkins. 2016. Response of overstory and understory vegetation 37 years after prescribed burning in an aspen-dominated forest in northern Minnesota, USA—A case study. *Plant Biosystems*:1-10. [Download here](#)
- Endress, B. A., B. J. Naylor, B. K. Pekin, and M. J. Wisdom. 2016. Aboveground and belowground mammalian herbivores regulate the demography of deciduous woody species in conifer forests. *Ecosphere* 7. [Download here](#)
- García, O. 2017. Cohort aggregation modelling for complex forest stands: Spruce–aspen mixtures in British Columbia. *Ecological Modelling* 343:109-122.
- Klaptosky, J. 2016. The plight of aspen: emerging as a beneficiary of wolf restoration on Yellowstone's Northern Range. *Yellowstone Science* 24:65-69.
- Latutrie, M., Y. Bergeron, and F. Tremblay. 2016. Fine-scale assessment of genetic diversity of trembling aspen in northwestern North America. *BMC Evolutionary Biology* 16:231.
- Rogers, P. C., and J. A. Gale. 2017. Restoration of the iconic Pando aspen clone: emerging evidence of recovery. *Ecosphere* 8:e01661. [Download here](#)

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