



TREMBLINGS

NEWSLETTER & BULLETIN BOARD

Vol. 13(1), February 2022

Partnering to preserve and restore healthy aspen ecosystems

MEMBER PARTICIPATION: The WAA is a virtual science-based community. Send us aspen-related publications, management plans, and media mentions 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! [Sign up here](#)

WAA HAPPENINGS

Oystershell Scale in the News—A timely and thorough article addressing oystershell scale (OSS) was recently published in the [Arizona Republic](#). The article interviews several WAA members and gives us an update on status of the outbreak, as well as some of the current science behind OSS so that we (hopefully) can conduct effective mitigation. If you have seen OSS in your area please contact Connor Crouch (connor.crouch@nau.edu) and include a GPS location, photo, and host species (there are 100+ trees and shrubs that host OSS). You can learn more about OSS and the threat it poses to aspen [here](#).

Aspen Graduate Student Opening—Utah State University's Department of Environment & Society is opening a funded master's degree (MS) position investigating the intersection of social and ecological sciences at a popular recreation area in northern Utah. We are looking for an experienced student with interdisciplinary interests, plus strong research and writing experience, to take on this 2.5-year project while earning a graduate degree. Applicants should submit a cover letter and resume/CV to Drs. [Mariya Shcheglovitova](#) and [Paul Rogers](#). The successful candidate will later apply to USU's Graduate School.

WAA Director Email Change—WAA Director, Paul Rogers, will have a new email address beginning May 2022. Due to a policy change at Utah State University (WAA home base), "aggiemail" accounts in gmail will be suspended. If Paul is in your address book, please change his email contact information to: p.rogers@usu.edu.



Let's not forget why we love aspen environments. Winter, sunshine, blue skies, and big smiles. A winter recreationist treks through an aspen forest near Fish Lake, Utah (Photo: Paul Rogers).

UPCOMING EVENTS

Online Aspen & Biodiversity Talk—Teton Plants, a chapter of the Wyoming Native Plant Society, will be hosting a presentation by WAA Director Paul Rogers titled, "Aspen Biodiversity: Seeing an old friend with new eyes." The talk will be live via zoom on Feb. 22 from 6-7 p.m. Mountain Time. Find details about this event at the [Teton Plants](#) website.

Plans Change: 13th NAFEW—The North American Forest Ecology Workshop has made the difficult decision to switch to an online video format only. The workshop dates are June 19-23, 2022. However, the online venue will be an opportunity for some folks; there’s still time to submit a presentation abstract! In that vein, the *WAA is planning to host a virtual Social Hour* during NAFEW (date/time TBD). NAFEW is intended as a bridge between science and practice, conservation and utilization, old-timer and newcomer. The theme for NAFEW 2022 will be, “Turning Ecological Answers into Forest Management Actions.” Details concerning oral and poster abstract submission, as well as other conference information, may be found at the [NAFEW website](#).

NACCB is on for 2022—The North American Congress for Conservation Biology is holding their biennial meeting July 17-21 in Reno, Nevada, USA. The conference provides a forum for discussing new research, developments, and strategies that will inform policy changes and conservation practices. “[Restoring Connections and Building Resilience in a Changed World](#)” aims to address conservation science, climate disruptions, and social equity within our respective professions, as well as society at large. NACCB has extended the abstract submission deadline to Feb. 18.

Summer 2022 Aspen Workshops:

- The 10th Annual Aspen Days will be held near Hoback Junction, Wyoming July 13-15, 2022. Contact [Chelsea Ramage](#) about reservations.
- The Colorado Aspen Summit will take place Aug. 9-11, near Grandby, Colorado. Contact [Gloria Edwards](#) if interested.
- No final decision has been made on a joint Nevada-California aspen workshop in the Sierra Nevada region. Stay tuned.

Finally, we’re always open to bids for aspen workshops in your area. Please contact [WAA Director Paul Rogers](#).

COMMENTARY

Aspen: A Reason for Hope

Robert A. Andrus, School of Environment, Washington State University



Tens of millions of trees have died in recent decades in subalpine forests in the western US. Much of this tree mortality has been caused by two natural disturbances—wildfires and outbreaks of native insects (i.e., bark beetles). The loss of so many trees has left us wondering what is next for these areas. Will they return to forest and if so, what will they look like?

Our [recent research](#) highlights that aspen is a key reason why some subalpine forests are recovering from these disturbances. Understanding aspen’s importance in forest recovery requires a quick lesson about which tree species are affected by bark beetles. We conducted our research in the San Juan Mountains (CO) where recent outbreaks of bark beetles only affected Engelmann spruce and subalpine fir, not aspen. Mortality of Engelmann spruce from bark beetles is particularly severe in the San Juan Mountains, often approaching 90% of spruce trees; ~800,000 acres (323,748 ha) of spruce forest were affected from 2005-2017. With the loss of conifers came an opportunity for aspen. In areas where aspen was present prior to outbreaks, large aspen trees now form an important part of the forest canopy and small aspen trees are thriving among dead conifers. Though it may take up to a century, mature aspen surrounded by conifer and aspen regrowth are evidence that former bark beetle outbreak sites appear to be recovering.

Subsequent burning of these areas can, however, significantly reduce chances for forest recovery. In 2012 and 2013, wildfires burned ~140,000 acres (56,656 ha) of subalpine forest previously affected by beetle infestations in this region. These fires created burned patches of hundreds to thousands of acres/hectares with 100% tree mortality, which is characteristic of fires in subalpine forests and particularly problematic for conifer recovery. In our 2019 investigation, we found that no conifers were recovering in areas previously affected by bark beetle

outbreaks, but aspen were regenerating prolifically where they were present pre-fire.

The lack of conifer regeneration and abundant aspen regeneration can be explained by the species affected by the bark beetle and differences between conifer and aspen regeneration strategies. Most conifer seeds are produced by the largest trees and the largest spruce trees were killed by bark beetles prior to the fire, leaving relatively few seeds to support recovery. Additionally, seeds of conifers are dispersed by wind but can't fly much further than ~500 ft. (150 m). This severely limits dispersal into large areas with complete mortality. In contrast to conifers, aspen can regenerate by resprouting from roots which often survive forest fires. Where aspen existed prior to fire, we found abundant aspen regeneration, often so thick it was hard to traverse. Additionally, aspen seeds can travel much further than conifer seeds (multiple miles/km) and true aspen seedlings are commonly found after high severity fires. Newly regenerating aspen stands have threats of their own, such as elk herbivory and climate change, but high abundances of small aspen indicates that we should expect aspen forests in these locations in the future. Next time a fire or bark beetles affects your favorite hiking area, go have a look for newly regenerating aspen the following summer.

Consider a tax deductible
[DONATION](#)
to nourish the WAA's roots!

WAA Creates

"WAA Creates" requests geographically diverse artistic aspen-related contributions. We encourage fiction, folklore, poetry, drawings, paintings, photography, and other artistic expressions. [Send your stuff](#) to share with WAA readers.

Summer Shimmer II (oil on canvas)



Lori Leachman
Durham, NC/Sedona, AZ

From the artist: *The Ladies of the Pando (to compliment the male reality) that you see here are dancing and undulating in all manner of daylight and season. They are dressed (with leaves) and undressed, alone or in groups. They are a tribute to the raw beauty to be found in nature. They are magnificent in their gnarly, exotic 'skin.' They are rushing to our rescue.*

Visit Lori Leachman [here](#) for works and events.

RECENT ASPEN PUBLICATIONS

A word on Open Access: The Western Aspen Alliance strongly supports open access publishing (CC-BY). Articles with hyperlinks below are available for download and sharing following [Creative Commons](#) rules for attribution.

- Blonder, B., P. G. Brodrick, J. A. Walton, K. D. Chadwick, I. K. Breckheimer, S. Marchetti, C. A. Ray, and K. Mock. 2022. Remote sensing of cytotype and its consequences for canopy damage in quaking aspen. *Global Change Biology* <https://doi.org/10.1111/gcb.16064>
- Brice, E. M., E. J. Larsen, and D. R. MacNulty. 2022. Sampling bias exaggerates a textbook example of a trophic cascade. *Ecology letters* [25:177-188](#).
- Curzon, M. T., R. A. Slesak, B. J. Palik, and J. K. Schwager. 2022. Harvest impacts to stand development and soil properties across soil textures: 25-year response of the aspen Lake States LTSP installations. *Forest Ecology and Management* 504:119809.
- Deighton, H. D., A. Groot, N. Thiffault, and M. Rice. 2021. Twenty-six years of aspen regeneration under varying light conditions in a boreal mixedwood forest. *The Forestry Chronicle* 97:1-13.
- Dettlaff, M. A., N. Erbilgin, and J. F. Cahill Jr. 2021. An invasive grass and litter impact tree encroachment into a native grassland. *Applied Vegetation Science*:[e12618](#).
- Enayetullah, H., L. Chasmer, C. Hopkinson, D. Thompson, and D. Cobbaert. 2022. Identifying Conifer Tree vs. Deciduous Shrub and Tree Regeneration Trajectories in a Space-for-Time Boreal Peatland Fire Chronosequence Using Multispectral Lidar. *Atmosphere* [13:112](#).
- Smith, C. W., S. K. Panda, U. S. Bhatt, and F. J. Meyer. 2021. Improved Boreal Forest Wildfire Fuel Type Mapping in Interior Alaska Using AVIRIS-NG Hyperspectral Data. *Remote Sensing* [13:897](#).
- Trepanier, K. E., L. Manchola-Rojas, and B. D. Pinno. 2022. Effects of Buried Wood on the Development of *Populus tremuloides* on Various Oil Sands Reclamation Soils. *Forests* [13:42](#).
- Tullus, T., R. Lutter, T. Randlane, A. Saag, A. Tullus, E. Oja, P. Degtjarenko, M. Pärtel, and H. Tullus. 2022. The effect of stand age on biodiversity in a 130-year chronosequence of *Populus tremula* stands. *Forest Ecology and Management* 504:119833.

CONTACT WAA:

Paul C. Rogers, Director, Western Aspen Alliance, Utah State University, Logan, UT: [Email](#)

Emmon H. Rogers, *Tremblings* Reviewer/Editor, Kitsap Regional Library, WA

Website: <http://www.western-aspen-alliance.org/>



Prostrate in Pando

Whispering notes
In alien time across
Eons of life
Under legions of stems
Marching as one

As one I commune
As one I witness
As one they flutter
As one I question
As one we connect

Linking limbs
Searching roots
Plaited sustenance
First soft, then loud
Under *terra firma*

A mystery is speaking
Language of challenge
Language of learning
Language of linking
Language of love
Language of Earth

White stalks prop green flags
Into blue skies
Skimmed by cotton clouds
Oh, gentle giant
Pando I lie with thee

Paul C. Rogers, Summer, 2021