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## Tremblings, August 2024

Western Aspen Alliance

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# TREMBLINGS

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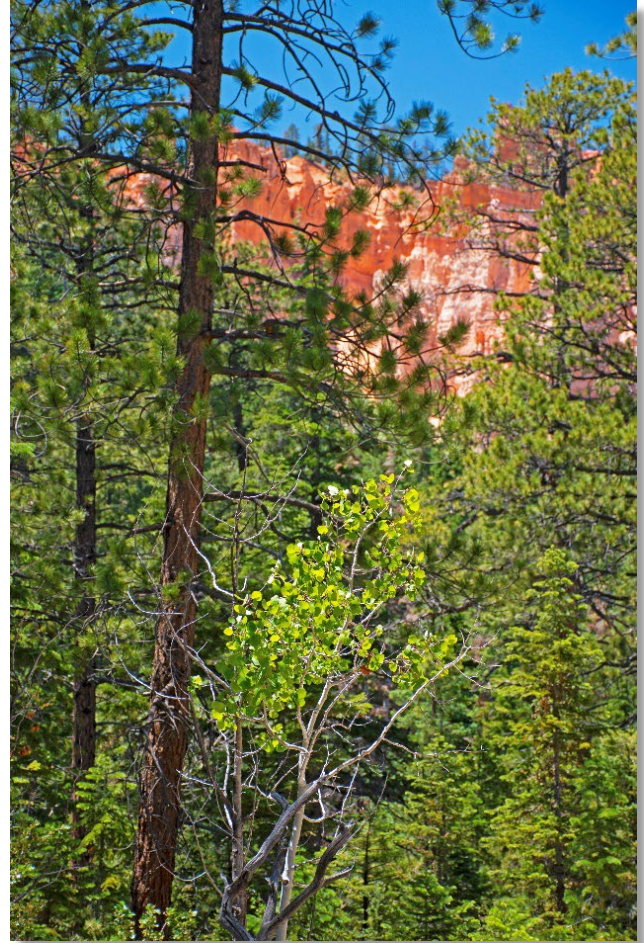
## *Partnering to preserve and restore healthy aspen ecosystems*

**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](mailto:p.rogers@usu.edu).

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addresses Georgie's research on impacts to an aspen stand in a high-use recreation area (see Corkery et al. in Recent Aspen Publications).



*This summer we are making repeat visits to the backcountry of Bryce Canyon National Park seeking out sometimes elusive aspen forests below the rim the majestic pink cliffs. These small aspen localities perform a vital role as biodiversity islands in a sea of conifers (Photo: Paul Rogers).*

### WAA HAPPENINGS

**The WAA, It's You!**—Periodically we need to remind folks receiving this newsletter that we depend on you all to broaden our reach. Let us know what aspen activities, plans, publications, events, and news items are happening in your reach. For instance, aspen management plans (not just peer-reviewed publications) greatly increase the value of the WAA Bibliography, in addition to being useful to other land/wildlife professionals. Send any/all such items to the [WAA Director](#) and let us expand their reach. It helps us and it helps you get the word out!

**Two New WAA Briefs Available**—By request of users, the WAA has now completed Briefs #9 & 10, providing state-of-the-science overviews of aspen use as a firebreak near developed areas and aspen-climate conservation science, respectively. You can see these new Brief offerings in Recent Aspen Publications or download them at the [WAA Briefs webpage](#).

**New Book: The West in the Age of Limits**—This publication, titled "A Watershed Moment: the American West in the Age of Limits" (University of Utah Press) is due to be published October 1, 2024. While not directly addressing quaking aspen, the book takes on many of the key issues affecting citizens living in this region with a place-centered focus on compelling narratives. An overview of the publication can be found [here](#).

**Aspen Trembling on the Airwaves**—Recent Utah State University masters graduate Georgie Corkery teamed up with WAA Director Paul Rogers in a public [radio interview](#) at Park City Utah's KPCW. The conversation

### UPCOMING EVENTS

**Coming Soon, Montana Focus on Aspen Habitat:** The Montana Natural Heritage Program anticipates

publishing “Montana Native Plant Conservation Strategy” in the coming weeks. This ambitious publication examines key plants, their habitats, and strategies for conserving them. Among many topics, the Strategy highlights the key role of aspen ecosystems in preserving biological diversity. [Andrea Pipp](#) is the lead editor and source for further information.

### Summer 2024 Aspen Workshops:

Interested in hosting an aspen science-management workshop near you? We can help! Please note, a new model for such events requires identifying support funding sources up front rather than the previous ad hoc approach. Please contact [WAA Director](#) Paul Rogers about potential workshops.

- Gunnison, Colorado, August 28-29: This aspen workshop will explore climate-smart management and tribal co-stewardship, focusing on climate/genetics/fire science. Day 1: Facilitated open discussions, breakout themes, and tribal exchanges. Day 2: Field-based talks and synthesis. Registration and housing free to participants; some travel support available. [Additional details here.](#)
- Etna, California, October 23-24: The inaugural in-person meeting of the California Aspen Working Group will entail classroom and field discussions addressing aspen community health and resilience. We will examine current science, issues of concern, monitoring methods, and adaptive management approaches in aspen forests of the area. Contact [Lacey Hankin](#), USFS Region 5 Assistant Regional Ecologist for additional information.

### COMMENTARY

#### Function over form: the benefits of aspen for Greater Sage-grouse

**Michel T. Kohl**, Associate Professor of Wildlife Management and Wildlife Extension Specialist, University of Georgia

**David Dahlgren**, Associate Professor and Rangeland Wildlife Extension Specialist, Utah State University



Sage-grouse, and their elaborate spring-time breeding displays, are an icon of Western landscapes. Yet, sage-grouse (a sagebrush obligate species) have been facing decades-long declines due to the loss of habitat. Historically, the species ranged across 13 western states and two Canadian provinces. Today, they occur across < 50% of that range, and abundance has declined 80% since 1965 and almost 40% since 2002. Despite this, it was determined in 2015 that the sage-grouse did not warrant Endangered Species protection due to the strength of wide-spread collaborative conservation actions.

Maintaining long-term viability of sage-grouse populations requires innovative ideas and management activities, particularly in the face of new and increasing conservation threats such as climate change. For example, research has shown that long-term persistence is largely tied to the presence of wet meadows that provide critical resources for chicks. In fact, these sites are so important that sage-grouse will leave sagebrush dense areas in favor of these wet areas. An instance of such behavioral modification has recently been observed whereby sage-grouse are utilizing quaking aspen as an upland surrogate for wet meadows (In review: *Ecosphere*). Such aspen stands are common among upper elevation sagebrush communities and provide relatively moist environments known to support high biodiversity. Heretofore, aspen have been overlooked as beneficial to sage-grouse due to a commonly held precept that trees contribute to increased predation from raptors.

Parker Mountain, Utah supports one of the largest contiguous tracts of sagebrush in Utah as well as robust sage-grouse populations. With no wet meadows and ample aspen, our research group wanted to understand sage-grouse habitat selection and brood survival of sage-grouse in this ecosystem.

What we found is both exciting and novel within the sage-grouse and aspen literature. Results suggest sage-grouse females with broods selected for aspen stands; however, their resource selection patterns were strongly tied to drought and seasonality. During extremely dry conditions, sage grouse selection for aspen stands was greatest at the start of the brood-rearing season and decreased as the season progressed. We hypothesize that

this is likely due to higher moisture provided from winter snowpack or early-season precipitation. In contrast, sage-grouse selection for aspen stands during wetter years was low at the start of the brood-rearing season but increased later as vegetation desiccated, likely because these areas held moisture for longer into the summer. Most importantly, these behavioral decisions had no effect on brood survival, which together demonstrated the positive impacts of aspen on sage-grouse in this population.

What do these results suggest for future wildlife-vegetation management? Aspen on Parker Mountain are threatened by drought-induced mortality and intense ungulate browsing which can severely impede recruitment. When combined with climate-induced aspen range contraction, this sage-grouse population may be facing a critical long-term conservation challenge. Regionally, this underscores the importance of identifying other areas where aspen provides important habitat for sage-grouse. With broad warming, wet meadow sites traditionally used by sage-grouse are dwindling; thus, aspen may serve as a climatic buffer to sage-grouse declines. This novel finding may be added to the long-list of biodiversity benefits of aspen communities throughout the Rocky Mountains.

### Nova

(Textured Acrylic on Canvas)



**Niki Gulley**  
Dallas, Texas

From the artist: “*Inspired by this gorgeous aspen grove, I wanted to capture the magical morning light casting its warm glow on the forest. Peaceful and mysterious, the sun’s rays peek through the knotted trunks causing the landscape to dance with light and awaken with autumn’s kaleidoscope of colors. Loaded with texture and layers and layers of paint, the forest shimmers with hope and discovery for the new day.*”

See more of Niki’s work at [Niki Gulley.com](https://www.nikigulley.com)

### WAA Creates

“WAA Creates” requests diverse aspen-related art from across our membership. We encourage fiction, folklore, poetry, drawings, paintings, photography, and other artistic expressions. [Send your stuff](#) to Tremblings.

### 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.W. 2024. Why are triploid quaking aspen (*Populus tremuloides*) common? American Journal of Botany: [e16325](#).

- Carter, S. 2024. Occurrence, distribution, and driving environmental factors of quaking aspen regeneration by seed in the Cameron Peak fire burn scar. Colorado State University, Fort Collins, Colorado, USA. [MS Thesis].
- Corkery, G. 2024. Socially valued, ecologically in decline: place attachment influences support for management actions in a quaking aspen forest impacted by recreation, soil contamination, and ungulates. Utah State University, Logan, Utah, USA. [MS Thesis].
- Corkery, G., A. B. Miller, and P. C. Rogers. 2024. Quaking aspen in a high-use recreation area: challenges of people, ungulates, and sodium on landscape resilience. *Land* 13:1003.
- Darquié, L., P. Raymond, and A. DesRochers. 2024. Retaining the largest aspen stems during motor-manual release allows to control aspen suckering in young mixedwood stands. *Forest Ecology and Management* 555:121703.
- Dias de Andrade Silva, R. 2024. Genetic variability and drought responses of young and mature aspen in Alberta. University of Alberta, Edmonton, Alberta, Canada. [MS Thesis].
- Harris, M. P. 2024. Aspen Impedes Wildfire Spread in the Southwestern United States. Western Colorado University, Gunnison, Colorado. [MS Thesis].
- Krasnow, K., and P. C. Rogers. 2024. Aspen as firebreaks at the development fringe. Western Aspen Alliance, Utah State University, Logan, Utah. [WAA Brief #9](#). 2 pp.
- Mantero, G., N. Anselmetto, D. Morresi, F. Meloni, P. Bolzon, E. Lingua, M. Garbarino, and R. Marzano. 2024. Modeling post-fire regeneration patterns under different restoration scenarios to improve forest recovery in degraded ecosystems. *Forest Ecology and Management* 551:121520.
- Marchais, M., D. Arseneault, and Y. Bergeron. 2024. Forest roads act as habitat corridors for *Populus tremuloides* in the boreal forest of eastern Canada. *Frontiers in Ecology and Evolution* 11:1336409.
- Marshall, M. 2024. Assessing the effects of genotype in determining the relationship between nonstructural carbohydrate reserves and the induced chemical defense response of *Populus tremuloides* against the invasive herbivore, *Lymantria dispar*. University of Wisconsin, Madison, Wisconsin, USA. [MS Thesis].
- Mu, D., C. Ding, H. Chen, Y. Li, and E. M. Raley. 2024. Developing tree improvement strategies for challenging environmental stresses under global climate change: a review from traditional tree breeding to genomics of adaptive traits for the quaking aspen. *The Poplar Genome*:153-182.
- Semper, C. 2024. Stand dynamics and stand development of conventional and mixedwood aspen systems in northern Minnesota. University of Minnesota, Minneapolis, Minnesota, USA. [MS Thesis].
- Shinneman, D. J., S. K. McIlroy, and P. C. Rogers. 2024. Climate considerations for quaking aspen conservation. Western Aspen Alliance, Utah State University, Logan, Utah. [WAA Brief #10](#). 2 pp.
- Turna, İ., and F. Atar. 2024. Stand Analysis and Distribution Areas of European Aspen (*Populus tremula* L.) Forests in Türkiye. *SilvaWorld* 3:15-27.
- Walton, J. A. 2024. Environmental factors associated with triploid aspen occurrence in Intermountain West landscapes. Utah State University, Logan, Utah, USA. [MS Thesis].

### CONTACT WAA:

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**Emmon H. Rogers**, *Tremblings* Reviewer/Editor, Lewis & Clark Co. Library, MT

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