

# NUTRITIONAL ECOLOGY WORKING GROUP

## SPRING 2020 NEWSLETTER



VOLUME 2, ISSUE 2

## MESSAGE FROM THE BOARD

Hello NEWG members,

We delayed sending out our spring newsletter until the executive board of NEWG had an opportunity to discuss our response to recent civil unrest in the United States. As you may know, TWS issued a response to protests against racism and police brutality, as have various chapters and sections. We stand in solidarity with statements issued by our parent organization and have brainstormed how NEWG can help address issues of a lack of diversity and inclusion. Once we are able to host our first skills workshops, we hope to offer at least 1–2 scholarships to help minority students to attend these workshops. Additionally, we have engaged with the Diversity and Inclusion Working Group of TWS to learn how else we can help be a part of the solution and encourage you to reach out to them individually to learn what you can do to help.

Since our last newsletter, TWS has decided to change the annual meeting from in person to virtual. We understand and support the decision by TWS to cancel in-person events to help combat the coronavirus pandemic. We look forward to seeing you at our virtual NEWG meeting in autumn! For this autumn and winter, we are considering launching a series of webinars where nutritional ecology experts to share their research, but also participate in an informal Q&A where students and wildlife professionals have the opportunity to get some of their burning questions answered by the pros. Watch for more information later this summer.

Lastly, a few updates on membership. We welcome our new Treasurer, Katie Anderson at University of Alaska Anchorage, as well as a host of new members! As of June, we had 40 members, putting us close to our benchmark of 50 members by March 2022. Not everyone who attended our meeting in Reno, NV last fall has joined yet, so be sure to do that ASAP through your TWS ([wildlife.org](http://wildlife.org)) account.

On behalf of the board, please let us know how we can continue to serve you and promote and enhance the field of nutritional ecology.

Kristin Denryter

Chair, Nutritional Ecology Working Group

### EXCEUTIVE BOARD

#### Chair

Kristin Denryter

#### Secretary

Rachel Smiley

#### Treasurer

Katie Anderson

#### Newsletter editor

Taylor LaSharr

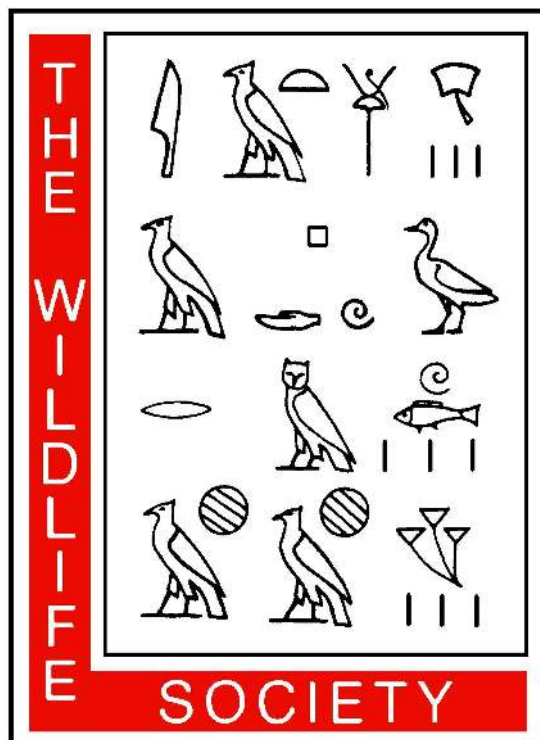
#### Website, Outreach, Communications

Dan Thompson

#### Board Members at Large

Rachel Cook

Tom Stephenson



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## ANNOUNCEMENTS & UPCOMING EVENTS



**TWS Symposium** | The NEWG-sponsored symposium *Linking Wildlife Nutrition with Population Productivity* was accepted for the 2020 TWS meeting, but we may postpone the symposium until the next in-person meeting. Details to follow.

**Wildlife Techniques Manual** | The latest volume of the Wildlife Techniques Manual will feature a highly anticipated new chapter on Techniques for Wildlife Nutritional Ecology authored by NEWG members Dr. Lisa Shipley, Dr. Rachel Cook, and Dr. David Hewitt. This 44 page chapter includes sections on measuring food abundance and quality, diet composition and selection, food intake, nutritional requirements, and nutritional condition as well as sections on calculating nutritional carrying capacity and linking nutrition to populations. The 2-volume manual is currently available for pre-order to ship in June 2020: <https://jhupbooks.press.jhu.edu/title/wildlife-techniques-manual-0>

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## VIRTUAL WEBINARS

**July 14**     **Movement, energetics, and demography of Norwegian reindeer.**

**2:00 pm**     **Caribou Ecology and Recovery Webinar Series.**

**(MDT)**     **Presented by Rebecca Viejo. Register here:**

<https://cmu.abmi.ca/about/caribou-ecology-and-webinar-series/>

**July 23**     **A tale of two species: comparing the nutritional and habitat niche of**

**2:00 pm**     **mule (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus***

**(PDT)**     ***virginianus*) in eastern Washington. Master's thesis defense for Anna Staudenmaier. Committee Chair: Lisa Shipley.**

Meeting ID:917 7570 1013Password: Anna\_1990



Tayler LaSharr

## PROJECTS IN PROGRESS

**Skills Workshop** | The Nutritional Ecology Working Group is developing a skills workshop that will be hosted as early as late 2021. The workshop will focus on sampling food abundance and quality in a 1- to 2-day workshop consisting of lectures and hands-on sampling, processing and analyzing. The location and date have yet to be determined but shortly we will be sending out a questionnaire to researchers working in this field—the goal of which is to make certain we have a workshop that will provide the most useful content and is set up to be accessible to as many folks as possible. If you have any inquiries or questions, please contact [Dr. Rachel Cook](#).

**Online Resources** | The Nutritional Ecology Working Group is currently working on organizing resources related to lab analyses, foundation papers, and additional resources on nutritional ecology. We are excited to be able to put these resources in a central location for the working group to access. We are currently collating papers that represent some of the foundational work in nutritional ecology. If there is a paper that you think is seminal to the field of nutritional ecology, please add that information to [this document](#). We hope to have these resources available by early 2021.

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## LAB ANALYSES FOR NUTRITION WORK

Have you ever struggled to determine where to send your forage samples for analyses of nutritional quality and wished there was a place you could check to see what your options are? You're not alone. Few labs in the USA complete all nutritional assays for ruminants and these assays though similar in name can vary from lab to lab. We're working to compile a comprehensive list of laboratories in the USA and Canada that offer *in vitro* digestibility assays, bomb calorimetry and sequential fiber analysis, tannin precipitation, etc. and provide a key to help you determine which assays you need and which labs can perform those assays. Have some good tips on where you've sent forage samples? Email us at [tws.nutritional.ecology@gmail.com](mailto:tws.nutritional.ecology@gmail.com) and we'll add them to our list.



**Above:** Sampling forage quality at Starkey Experimental Forest and Range. Photo: Jennifer Merems.

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## MISSION STATEMENT: CALL FOR FEEDBACK!

We are still looking for additional feedback on our mission statement. If you have any thoughts, ideas, or contributions to the below statement, please email us at [tw.s.nutritional.ecology@gmail.com](mailto:tw.s.nutritional.ecology@gmail.com)!

**Mission Statement** – Nutrition is vitally important for every life process of every living creature from optimizing growth and reproduction to decreasing susceptibility to disease, predation, and death. The science of nutritional ecology links food resources available to an animal with individual- and population-level performance and involves data collected on nutritional requirements, food availability and quality, foraging and life history strategies under different environmental conditions, and body mass and condition. When links between the food resource and the population are made, managers can predict how changes in one will impact the other – thus providing a clear path for managing food resources in a way that optimizes population performance, or alternatively, for managing animal populations to optimize the health of ecosystems. As global issues such as climate change, loss of habitat, and the spread of disease and parasites are increasingly impacting wildlife populations, the need for understanding the degree to which populations are limited by nutrition, and how we can best manage for nutrition, is increasing as well.

The Nutritional Ecology Working Group aims to serve as a forum to facilitate communication and exchange of information related to advancing the science of nutritional ecology as it pertains to conservation and management of wildlife populations. Though the goals of this group may morph and grow over time, increasing education through symposiums, sampling workshops, online classes, development of university curriculum, providing mentors for graduate students, and providing online resources for benchmark papers, lab work, and vegetation databases will be critically important.

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## RECENT & RELEVANT LITERATURE

Merems, Jennifer, Lisa Shipley, Taal Levi, Hoel Ruprecht, Darren Clark, Michael Wisdom, Nathan Jackson, Kelley Stewart, and Ryan Long. (2020). Nutritional-Landscape Models Link Habitat Use to Condition of Mule Deer (*Odocoileus hemionus*). *Frontiers in Ecology and Evolution*. 8(98).

Proffitt, Kelly M., et al. (2019). "A century of changing fire management alters ungulate forage in a wildfire-dominated landscape." *Forestry: An International Journal of Forest Research* 92.5. 523-537.

Shively, R. D., J. A. Crouse, D. P. Thompson, & P. S. Barboza. (2019). Is summer food intake a limiting factor for boreal browsers? Diet, temperature, and reproduction as drivers of consumption in female moose. *PLoS ONE*, 14.

Smiley, R. A., C. D. Rittenhouse, T. W. Mong, & K. L. Monteith. (2020). Assessing Nutritional Condition of Mule Deer Using a Photographic Index. *Wildlife Society Bulletin*. In press.

Watter, K., G. S. Baxter, T. Pople, & P. J. Murray. (2019). Effects of wet season mineral nutrition on chital deer distribution in northern Queensland. *Wildlife Research*, 46(6), 499-508.

Smythe, S. E., D. M. Sanchez, & C. W. Epps. (2019). "Contrasting Winter Moose Nutritional Carrying Capacity Models on a Dynamic Landscape." *Journal of Fish and Wildlife Management* 10.1. 163-179.

Schrempp, T. V., J. L. Rachlow, T. R. Johnson, L. A. Shipley, R. A. Long, J. L. Aycrigg, & M. A. Hurley. (2019). Linking forest management to moose population trends: The role of the nutritional landscape. *PLoS One*, 14(7).

Kautz, T. M., J. L. Belant, D. E. Beyer, B. K. Strickland, & J. F. Duquette. (2020). Influence of body mass and environmental conditions on winter mortality risk of a northern ungulate: Evidence for a late-winter survival bottleneck. *Ecol Evol*. 00: 1– 12.

Schepker, T. J., T. LaGrange, & E. B. Webb. (2019). Are waterfowl food resources limited during spring migration? A bioenergetic assessment of playas in Nebraska's Rainwater Basin. *Wetlands*, 39(1), 173-184.

Have you recently published on nutritional ecology? [Send us a link](#)  
to your article to be included in the next newsletter!