

NUTRITIONAL ECOLOGY WORKING GROUP

FALL 2020 NEWSLETTER

VOLUME 2, ISSUE 4



Hello NEWG members and friends,

As 2020 comes to a close, we can be proud of what we have accomplished as a Working Group, especially in the face of uncertainty, unrest, and Zoom fatigue! Our Working Group continues to make progress in meeting our goals as well as annual benchmarks to pass from interim to official status within The Wildlife Society. One of the goals we were tracking most closely was membership and we have surpassed our goal (requirement) of 50 members—a goal we had three years to meet and completed in half the time allotted! We are on track to pass from interim to official status by March 2022, following the election of a new executive board in autumn 2021.

Our annual meeting was a success, even though we couldn't find a time that worked for all members. We heard numerous ideas from breakout groups of new professionals and students, academics, and natural resource managers. Students and new professionals expressed the need for more training opportunities and resources and starting a forum where working group members can get help with their nutritional ecology questions. The academic group identified the need to develop tools and resources to help wildlife professors better integrate nutrition into existing courses. Natural resource managers identified the need to incorporate nutrition into population analyses and to develop trainings to help fill knowledge gaps in nutritional ecology among agency biologists. If you are interested in participating in a committee to help address these or other issues in nutritional ecology, please reach out to us. Because the breakout groups for academics and natural resource managers did not have enough time to finish their discussions, we are aiming to host additional virtual discussions for these groups in late January and early February. If you are interested in participating in those discussions, please fill out the following scheduling poll(s):

Doodle poll for discussion among academics interested in NEWG: https://doodle.com/poll/n3t48zizszfzdeh2?utm_source=poll&utm_medium=link

Doodle poll for discussion among natural resource managers interested in NEWG: https://doodle.com/poll/vuxb7e6q6nuxzpbq?utm_source=poll&utm_medium=link

Other ideas shared during our annual meeting were to have discussion forums focused on specific topics in nutritional ecology and to have a semi-annual meeting. We are looking to plan our first virtual discussion forum in January or February regarding the role of wildlife feeding programs. Also, we will use our webinar timeslot on Wednesday, April 7, 2021 at 12 pm MT to host our semi-annual NEWG meeting—a suggestion to come out of our 2nd annual meeting in October 2020.

Lastly, thanks to our growing membership and interest in meeting working group goals, we are looking to expand our executive board, which requires an amendment to our Charter. We are working on the amendment language, which will be shared with the WG membership in the next month or two. The amendment will need to be approved by a simple majority vote, which will be facilitated electronically through TWS. Only members who are current on their TWS and NEWG dues will be permitted to vote. If you are unsure of your membership status, you can check it through your wildlife.org account or contact tws.nutritional.ecology@gmail.com and we can check your status for you.

Thank you all, and especially to the rest of the executive board, for working hard to make NEWG a success!

Kristin Denryter

Chair, Nutritional Ecology Working Group

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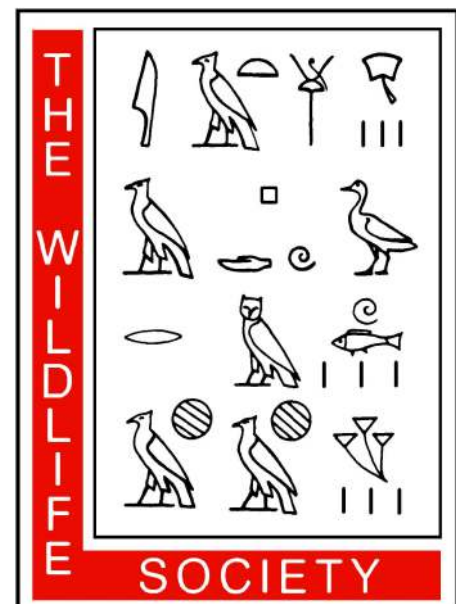


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ANNOUNCEMENTS & UPCOMING EVENTS

December Webinar | Please join us for our second webinar of the winter on **December 2nd, 12:00 MST**, hosted by David Press, Dane Horowski, Jenny Powers, Kristin Denryter, and Brandon Munk, focused on the interface of nutrition and disease in a coastal ungulate—Tule Elk, at Point Reyes National Seashore, California. Link to join: <https://uwyo.zoom.us/j/99834894546>.

Annual Meeting | The 2020 Nutritional Ecology Working Group Annual Meeting was held via Zoom in October 2020. This meeting was recorded, if you are interested in viewing the recording, please send us an email (tw.s.nutritional.ecology@gmail.com) for a link to the recorded meeting.





NUTRITIONAL ECOLOGY WEBINAR SERIES!

Our webinar series is officially underway! Our first webinar, hosted by Dr. Scott McWilliams, was a huge success! You can view the webinar [here](#).

Webinars will take place the first Wednesday of every month over the winter of 2020-2021 (December-April). If you are interested in hosting a webinar, please contact Dan Thompson at tw.nutritional.ecology@gmail.com for more information. Webinars will be 1 hour long, and we encourage you to present your current research in nutritional ecology and engage the audience. Format is open, this can be a principal investigator giving an overview of their research, to several graduate students presenting ongoing research for a university lab.

LAB ANALYSES FOR NUTRITION WORK

We are still looking for tips and suggestions for our comprehensive list of analyses for nutrition work! We are close to finishing our preliminary 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.

If you have some good tips on where you've sent forage samples, please email us at tw.nutritional.ecology@gmail.com and we'll add them to our list.

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



PROJECTS IN PROGRESS

Skills Workshop | The Nutritional Ecology Working Group is planning to host its first skills workshop in August 2021 (assuming in-person gatherings are safe by this date). This 2-3 day workshop will be conducted in Pullman, WA through a course offering from University of Idaho and will be focused on sampling food abundance and quality for herbivores. The workshop will provide a mix of lectures, hands-on sampling/processing/analyzing, and problem solving exercises. College credit and/or continuing education credits may be available and we will be offering scholarship positions for minorities. More details on the agenda, cost, dates, and workshop duration should be available by the end of 2020. If you have any inquiries or questions in the meantime, 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. We also are looking for some help with this project so please email us if you are interested!

UPDATE OF NUTRITIONAL ECOLOGY WORKING GROUP CHARTER

The Nutritional Ecology working group has been operating for over a year, and we've grown in our membership, and our goals. In response to this growth, we are updating our charter to increase our board member capacity. We currently have two board members serving on the executive board, and are increasing the board to include a third member. Additionally, we are working to establish several committees within the Nutritional Ecology Working Group. Membership involvement in the working group is critical to our ability to drive the field of nutritional ecology forward. If you're interested in becoming a board member or joining one of the below committees, please send us an email (twvs.nutritional.ecology@gmail.com).

Membership Committee—this committee shall work to promote membership in the Working Group to all members of the Society and other wildlife professionals interested in the role of nutritional ecology in the management, conservation, and recovery of wildlife and their habitats and the technical application of methods for research related to nutritional ecology of wildlife.

Outreach and Communications Committee—this committee shall facilitate communication among the Working Group's membership through a newsletter, meeting announcements, computer bulletin boards, electronic mail, or other means. This committee also may provide information to journalists, government officials, other organizations, and the general public concerning the role of nutritional ecology in the management, conservation, and recovery of wildlife and their habitats and the technical application of methods for research related to nutritional ecology of wildlife, in general, and the Working Group's activities, in particular.

Annual Meeting Technical Session Committee—this committee shall be appointed to work with the Society's Annual Meeting Program Committee to develop a technical session, workshop or other activity concerning the role of nutritional ecology in the management, conservation, and recovery of wildlife and their habitats and the technical application of methods for research related to nutritional ecology of wildlife for the Society's Annual Meeting.

Audit Committee—this committee shall review the financial records and support documents maintained by the Treasurer at least annually to ensure that the Working Group's funds are being managed in a fiscally responsible manner and to make recommendations for procedural changes to the Executive Board, where appropriate.

We will solicit a vote from all members on our updated charter, which you can view [here](#). We will be in contact via email with all members to vote on this in the coming month.

FEEDBACK WANTED!

During our annual meeting, we had several engaging discussions among academics, managers, and students. Given time limitations, we were not able to finish some of the conversations, and we want to continue these discussions—if you are interested in joining a meeting to further discuss the needs and challenges of academics and managers in the field of nutritional ecology, please fill out the relevant doodle poll below to attend. If you have any questions, please send us an email (tw.s.nutritional.ecology@gmail.com).

Academics: https://doodle.com/poll/n3t48zizsfzdeh2?utm_source=poll&utm_medium=link

Managers: https://doodle.com/poll/vuxb7e6q6nuxzpbq?utm_source=poll&utm_medium=link



RECENT AND RELEVANT LITERATURE

Bender, Louis C., and Octavio C. Rosas-Rosas. In press. "Actual precipitation, predicted precipitation, and large herbivore condition in arid and semi-arid southern New Mexico." *Journal of Arid Environments* 185: 104378.

Bistline-East, Allison, Christopher D. Williams, and Michael J. Gormally. "Nutritional ecology of predaceous *Tetanocera elata* larvae and the physiological effects of alternative prey utilisation." *BioControl* (2020): 1-12.

Campos, Patricia, and Luis Cardona. "Trade-offs between nutritional quality and abundance determine diet selection in juvenile benthic green turtles." *Journal of Experimental Marine Biology and Ecology* 527 (2020): 151373.

Capuska, Gabriel E. Machovsky, et al. "Linking cadmium and mercury accumulation to nutritional intake in common dolphins (*Delphinus delphis*) from Patagonia, Argentina." *Environmental Pollution* (2020): 114480.

Chung, Seung Ho, et al. "Host and symbiont genetic determinants of nutritional phenotype in a natural population of the pea aphid." *Molecular Ecology* 29.4 (2020): 848-858.

Crumière, Antonin JJ, et al. "Using nutritional geometry to explore how social insects navigate nutritional landscapes." *Insects* 11.1 (2020): 53.

de Sousa Rangel, Bianca, et al. "Neonatal nutritional strategy of a viviparous elasmobranch with extremely low reproductive output." *Marine Ecology Progress Series* 638 (2020): 107-121.

Denryter, Kristin, German, David W., Stephenson, Thomas R., and Kevin L. Monteith. State- and context-dependent applications of an energetics model to free-ranging bighorn sheep. *Ecological Modelling* (2020), 440, 109349.

Engl, Tobias, et al. "Metabolic Cost of a Nutritional Symbiont Manifests in Delayed Reproduction in a Grain Pest Beetle." *Insects* 11.10 (2020): 717.

Gazzola, Andrea, and Alessandro Balestrieri. "Nutritional ecology provides insights into competitive interactions between closely related *Martes* species." *Mammal Review* 50.1 (2020): 82-90.

Jahnes, Benjamin C., and Zakee L. Sabree. "Nutritional symbiosis and ecology of host-gut microbe systems in the Blattodea." *Current Opinion in Insect Science* 39 (2020): 35-41.

Johnson, Scott N., Jamie M. Waterman, and Casey R. Hall. "Increased insect herbivore performance under elevated CO₂ is associated with lower plant defence signalling and minimal declines in nutritional quality." *Scientific reports* 10.1 (2020): 1-8.

Le Gall, Marion, et al. "Linking land use and the nutritional ecology of herbivores: A case study with the Senegalese locust." *Functional Ecology* 34.1 (2020): 167-181.

RECENT AND RELEVANT LITERATURE CONTINUED

Le Gall, Marion, et al. "Linking land use and the nutritional ecology of herbivores: A case study with the Senegalese locust." *Functional Ecology* 34.1 (2020): 167-181.

Li, Huan, et al. "Rumen microbiome and metabolome of Tibetan sheep (*Ovis aries*) reflect animal age and nutritional requirement." *Frontiers in Veterinary Science* 7 (2020).

Machovsky-Capuska, Gabriel E., and David Raubenheimer. "The nutritional ecology of marine apex predators." (2020).

Machovsky-Capuska, Gabriel E., Ryan Andrades, and Robson Guimarães Santos. "Debris ingestion and nutritional niches in estuarine and reef green turtles." *Marine Pollution Bulletin* 153 (2020): 110943.

Newby, J. R., and N. J. DeCesare. "Multiple nutritional currencies shape pregnancy in a large herbivore." *Canadian Journal of Zoology* 98.5 (2020): 307-315.

Poissonnier, Laure-Anne, et al. "Regulation of macronutrient intake in termites: A dietary self-selection experiment." *Journal of Insect Physiology* 120 (2020): 103983.

Vaudo, Anthony D., et al. "Pollen protein: lipid macronutrient ratios may guide broad patterns of bee species floral preferences." *Insects* 11.2 (2020): 132.

Wei, Sun, et al. "Effect of Long-Term Experimental Warming on the Nutritional Quality of Alpine Meadows in the Northern Tibet." *Journal of Resources and Ecology* 11.5 (2020): 516-524.

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

