

NUTRITIONAL ECOLOGY WORKING GROUP

SPRING 2021 NEWSLETTER

VOLUME 3, ISSUE 1



Hello NEWG members and friends,

It is hard to believe that it has been approximately two years since the Nutritional Ecology Working Group was approved for interim status by Council. With the exception of holding our first elections in Year 3 (which began 4 March 2021) and a letter petitioning Council to promote us from interim to official status, we have met all the requirements needed to reach official status as a working group within TWS! This wouldn't have been possible without all of you and without the commitment of our executive board. I know many of our members have helped in supporting roles as well and we are so incredibly grateful to everyone who has contributed to making our first two years such a success!

Our executive board deserves so much more recognition than can be squeezed into a newsletter, but I felt it was important to share a little more with all of you about the behind-the-scenes efforts of each member of the executive board:

Our Secretary, Rachel Smiley, has helped us stay on top of things with her mastery in getting our agendas together and maintaining meeting minutes. Katie Anderson, our Treasurer, has figured out innovative ways for NEWG to accept monetary donations and payments that will help expand opportunities for NEWG to meet its goals now and in the future. Tayler LaSharr, our Newsletter Editor, has produced our eye-catching newsletters and has scheduled and helped facilitate our NEWG meetings over Zoom. Dan Thompson has led the development of promotional materials to let people know we're here and has been integral to the webinars. Our two board members, Tom Stephenson and Rachel Cook, have provided incredible knowledge and guidance to the board and have been integral to the development of symposia, workshops, and targeted discussions with members to get at the heart of what our membership needs. They've all done an incredible job and I'm so grateful to have the opportunity to work alongside each one of them over the last year and a half!

In other big news, our bi-annual meeting is just a few weeks away. It will be hosted virtually on Wednesday, April 7, 2021 at noon MT. The first meeting invitation was sent out in early March and the Zoom link and draft agenda also are provided elsewhere in this newsletter. We are excited to share with you some of the resources we've been developing over the last year and a half and look forward to a robust discussion regarding priorities for the NEWG for the next year. In advance of the meeting, we also will be sharing a short report on the collective needs of our members in academia and natural resource agencies as they pertain to the goals of the NEWG. These needs were identified at our bi-annual meeting in October 2020 and were refined through some follow up discussions over the winter. We ask that all members review this short report and come to the bi-annual meeting in April ready to discuss which of these needs should be prioritized by the NEWG over the next two years.

Finally, as we begin our third year as a working group, we need to be thinking about filling committees and the next generation of leadership for our working group. Please see the meeting agenda for a list of some of the committees we need to fill and if you have ideas for another committee that could support meeting the goals of the working group, consider reaching out to us at or ahead of the bi-annual meeting. One of our imminent needs is to appoint a three-person nominating and elections committee to begin compiling a slate of candidates for our first election, which will be held this fall and all positions on the executive board will be up for election. This is an exciting time and opportunities abound!

On behalf of the executive board, we hope you all are well and look forward to seeing all of you at the bi-annual meeting next month!

Kristin Denryter

Chair, Nutritional Ecology Working Group

EXECUTIVE BOARD

Chair

Kristin Denryter

Secretary

Rachel Smiley

Treasurer

Katie Anderson

Newsletter editor

Tayler LaSharr

Website, Outreach, Communications

Dan Thompson

Board Members at Large

Rachel Cook

Tom Stephenson

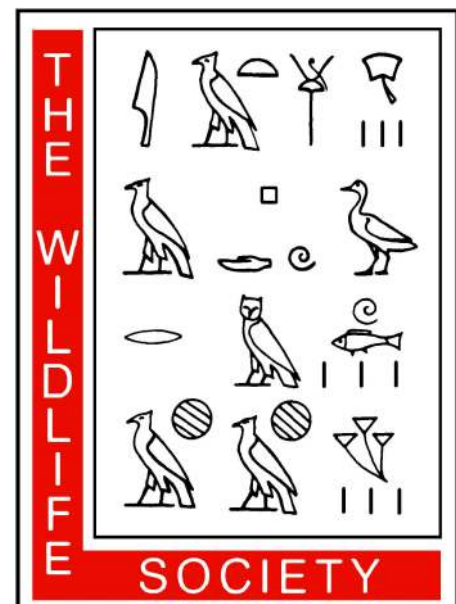


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ANNOUNCEMENTS & UPCOMING EVENTS

Bi-Annual Meeting | The 2021 Nutritional Ecology Working Group meeting will be held on April 7th at 12:00 MST. If you would like to attend the meeting, please send us an email (tws.nutritional.ecology@gmail.com). We encourage all of you to please come, get involved, and make your voice heard!





NUTRITIONAL ECOLOGY WEBINAR SERIES!

Our webinar series has just wrapped up! And over the past few months, we've had the opportunity to hear from a wide variety of researchers working on myriad of different animals and ecosystems. If you missed any of the presentations, they are recorded below:

[November Webinar](#)—Nutritional and Physiological Ecology of Migratory Bird presented by Dr. Scott McWilliams.

[December Webinar](#)—The Interface of Nutrition and Disease in a Coastal Ungulate - Tule Elk at Point Reyes National Seashore, California presented by members of California Fish and Wildlife and the National Park Service.

[January Webinar](#)—Nutrient Balancing in African Monkeys and Apes presented by Dr. Jessica Rothman.

[February Webinar](#)—Sugar Metabolism in Hummingbirds and Bats presented by Dr. Morag Dick.

[March Webinar](#)—Winter Diet and Food Selection by Collared Pikas in Changing Alpine Ecosystem of Alaska presented by Dr. Katie Christie.

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.





SKILLS WORKSHOP

Mark your calendars for **August 17th - 19th!** The TWS Nutritional Ecology Working Group, in collaboration with University of Idaho and Washington State University, are pleased to announce their first skills workshop focused on measuring forage quantity and quality for herbivores. This 2.5 day, \$400 workshop will be held in Pullman, WA and will be a mix of lectures taught by a diverse panel of instructors, hands-on exercises in the laboratory and in the field, and interactive group problem solving sessions. As we continue to navigate in a COVID restricted world, we have delayed opening registration until May in order to better evaluate if the workshop can occur this year and if so, what restrictions may be in place. If you have questions about the workshop, please contact Rachel Cook (rachierae@gmail.com).

UPDATE OF NUTRITIONAL ECOLOGY WORKING GROUP CHARTER

The Nutritional Ecology working group has been operating for two years, 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 have expanded our board members to include a third member at large. 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. Additionally, we will be holding elections this year for all board member positions. If you're interested in becoming a board member or joining one of the below committees, please send us an email (tws.nutritional.ecology@gmail.com). Please consider getting more involved in the working group!

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.

CHALLENGES IN NUTRITIONAL ECOLOGY

During our annual meeting in 2021, we had several engaging discussions among academics, managers, and students. Following that meeting, we have continued discussions, and collated a list of concerns and challenged to academics and managers in the field of nutritional ecology. That list should be available to membership in the next few weeks, and we are hoping to discuss some potential solutions to overcoming obstacles in this field during our biannual meeting. Keep a look out for that list soon!



RECENT AND RELEVANT LITERATURE

- Westover, M. L., Lizewski, K. A., Klingler, K. B., & Smith, F. A. (2020). Isotopic niche of the American pika (*Ochotona princeps*) through space and time. *Canadian Journal of Zoology*, 98(8), 515-526.
- Skalos, D. A., Eadie, J. M., Yparraguirre, D. R., Weaver, M. L., Oldenburger, S. L., Ely, C. R., ... & Fleskes, J. P. (2021). Body Condition of Wintering Pacific Greater White-Fronted Geese. *The Journal of Wildlife Management*.
- Takahashi, Maressa Q., et al. "Daily protein prioritization and long-term nutrient balancing in a dietary generalist, the blue monkey." *Behavioral Ecology* (2020).
- Maduro, A. H. P., da Silva, V. M. F., Oliveira, R. P. M., & Barbosa, P. S. (2020). Metabolic profile of captive Amazonian manatee calves (*Trichechus inunguis*), fed different substitutes for maternal milk. *Arquivo Brasileiro de Medicina Veterinária e Zootecnia*, 72(5), 1830-1838.
- Rodrigues, F. M., Marin, A. K. V., Rebelo, V. A., Marmontel, M., Borges, J. C. G., Vergara-Parente, J. E., & Miyagi, E. S. (2021). Nutritional composition of food items consumed by Antillean manatees (*Trichechus manatus manatus*) along the coast of Paraíba, Northeastern Brazil. *Aquatic Botany*, 168, 103324.
- Campos, P., & Cardona, L. (2020). Trade-offs between nutritional quality and abundance determine diet selection in juvenile benthic green turtles. *Journal of Experimental Marine Biology and Ecology*, 527, 151373.
- Gazzola, A., & Balestrieri, A. (2020). Nutritional ecology provides insights into competitive interactions between closely related *Martes* species. *Mammal Review*, 50(1), 82-90.
- Jin, L., Wu, D., Li, C., Zhang, A., Xiong, Y., Wei, R., ... & Zou, L. (2020). Bamboo nutrients and microbiome affect gut microbiome of giant panda. *Symbiosis*, 80(3), 293-304.
- de Sousa Rangel, B., Hammerschlag, N., & Moreira, R. G. (2021). Urban living influences the nutritional quality of a juvenile shark species. *Science of The Total Environment*, 146025.
- Huus, K. E., Bauer, K. C., Brown, E. M., Bozorgmehr, T., Woodward, S. E., Serapio-Palacios, A., ... & Finlay, B. B. (2020). Commensal bacteria modulate immunoglobulin A binding in response to host nutrition. *Cell host & microbe*, 27(6), 909-921.
- Jagielski, P. M., Dey, C. J., Gilchrist, H. G., Richardson, E. S., & Semeniuk, C. A. (2021). Polar bear foraging on common eider eggs: estimating the energetic consequences of a climate-mediated behavioural shift. *Animal Behaviour*, 171, 63-75.

RECENT AND RELEVANT LITERATURE CONTINUED

Florko, K. R., Thiemann, G. W., & Bromaghin, J. F. (2020). Drivers and consequences of apex predator diet composition in the Canadian Beaufort Sea. *Oecologia*, 194(1), 51-63.

Génier, C. S., Guglielmo, C. G., Mitchell, G. W., Falconer, M., & Hobson, K. A. (2021). Nutritional consequences of breeding away from riparian habitats in Bank Swallows: new evidence from multiple endogenous markers. *Conservation physiology*, 9(1), coaa140.

Morales, A., Frei, B., Leung, C., Titman, R., Whelan, S., Benowitz-Fredericks, Z. M., & Elliott, K. H. (2020). Point-of-care blood analyzers measure the nutritional state of eighteen free-living bird species. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 240, 110594.

Machovsky-Capuska, G. E., von Haeften, G., Romero, M. A., Rodríguez, D. H., & Gerpe, M. S. (2020). Linking cadmium and mercury accumulation to nutritional intake in common dolphins (*Delphinus delphis*) from Patagonia, Argentina. *Environmental Pollution*, 263, 114480.

Grainger, R., Peddemors, V. M., Raubenheimer, D., & Machovsky-Capuska, G. E. (2020). Diet composition and nutritional niche breadth variability in juvenile white sharks (*Carcharodon carcharias*). *Frontiers in Marine Science*.

Fowler, D., Webb, E., Vrtiska, M., & Hobson, K. (2020). Winter carry-over effects on spring body condition driven by agricultural subsidies to Lesser Snow Geese (*Anser caerulescens caerulescens*). *Avian Conservation and Ecology*, 15(2).

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

