

Olga Elizabeth Helmy

Science Delivery Specialist

Aldo Leopold Wilderness Research Institute
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I specialize in creating clear, concise, and accessible science communication materials for broad audiences. In my current position, at the Aldo Leopold Wilderness Research Institute, I strive to facilitate understanding and dialogue between scientists, managers, and the public by combining my academic background and professional experience as a research scientist, with practical outreach applications through direct education, graphic design, scientific illustration and writing, and digital-media arts.

EDUCATION

2008-2012 Post-graduate studies, University of Montana Wildlife Biology Program
1999 M.A., Entomology, University of Kansas, Lawrence, Kansas
1996 B.S., Zoology, Southern Illinois University, Carbondale, Illinois

RECENT PROFESSIONAL EXPERIENCE

Science Delivery Specialist 2022-Present
Aldo Leopold Wilderness Research Institute
I facilitate communication between ALWRI research staff and managers-in-the-field, helping to clarify the research needs of managers for our staff scientists, while assuring that our research products are readily accessible to managers across the National Wilderness Preservation System.

Writer and Technical Information Specialist 2020-2022
Fire Effects Information Systems
Rocky Mountain Research Station
Missoula Fire Sciences Laboratory
I conducted literature reviews and wrote species syntheses about plants and animals that are affected by fire. I combined research, writing and design skills to develop reports and interpretive materials for resource and fire managers, and the public at large.

Highlights:

- [Species Review on Saguaro Cactus.](#)
- [Species Review on Yellow Paloverde \(*Parkinsonia microphylla*\).](#)
- Preliminary research and writing for a species reviews on Sugar Sumac (*Rhus ovata*).

- Poster Presentation, "Fire in the Sonoran Desert", 2021 Association of Fire Ecology Conference (November 30, 2021).
- Consultant for in-house interpretive displays.

Founder and Director

2018-2020

Elucidate Science Communication
Missoula, MT

I created content that communicates science, with clear language and graphics, for the benefit of the public. This work entailed concept development, writing, graphic design, layout, fine art and photography.

Highlights:

- Writer for [Montana eBird](#), an on-line birding community news blog.
- Creator, graphic design and scientific illustration for [Silixa Engineering, Introduction to Distributed Temperature Sensing](#) manual.
- Creator, *Glacial Lake Missoula* permanent exhibit, [Montana Natural History Center](#)
- Research and background synthesis, writing, for *Montana Fossils* permanent exhibit, [Montana Natural History Center](#)
- Photographer, [spectrUM Discovery Center](#)
- Photographer, [Five Valley's Land Trust](#)
- Social Media Content Creator—writing, photography and videography, for the [University of Montana Wildlife Biology Program](#)
- Creator, *Insects of Palau*, permanent exhibit, [Belau National Museum](#) (Republic of Palau).

Media Artist-in-Residence

2016-2018

spectrUM Discovery Area
Missoula MT

Duties included: Layout and graphic design for museum signage. Drafting social media outreach materials. In-house and event photography for documentation and promotional materials. Video capture and editing. I am proficient with the Adobe Creative Cloud Suite, including Photoshop, Lightroom, CameraRaw, Illustrator, In-Design and Premier Pro.

FOUNDATIONAL PROFESSIONAL EXPERIENCE

University of British Columbia:

2011-2016

- *Science Communication Trainee*, Beaty Biodiversity Museum
- *Research Associate*, Department of Botany
- *Research Greenhouse Technician*, Department of Botany
- *Cultural Studies Contractor*, Amber Ridington Heritage Consulting
- *Field Project Manager*, *Malaysian Borneo Wildlife Ecology*, Department of Zoology

Seasonal and Contract Experience

1999-2011

USA Federal Agencies

- Sequoia and Kings Canyon National Parks, biological and data technician, intern

- Denali National Park and Preserve, data manager and glacial invertebrate technician
- Yellowstone National Park, water quality technician
- Rocky Mountain Research Station:
 - ❖ Missoula Fire Sciences Laboratory, biological technician, fuels photography
 - ❖ Boise Aquatic Sciences Laboratory, biological technician, salmonids
 - ❖ Missoula Forestry Sciences Laboratory, biological technician, mustelids

Universities and NGOs

- The Nature Conservancy, effects of 2004 Indian Ocean tsunami on sea turtle nesting. Field researcher.
- Round River Conservation Studies, Namibia. Ecology field studies course instructor.
- California Department of Education, [Environmental Education Network](#). Regional coordinator.
- Shasta County Office of Education, Whiskeytown National Recreation Area. Environmental educator.
- University of Kansas, Kansas Biological Survey. Water quality technician.
- Field Museum of Natural History, Chicago. Entomology intern.

PROFESSIONAL AWARDS

2022 Individual Cash Award, Forest Service

2021 Individual Cash Award, Forest Service

2007 Spot Award Recipient: Forest Service

2003 Star Award Recipient: Forest Service

SCIENTIFIC PUBLICATIONS

- Brodie, J.F.; Mohd-Azlan, J.; Chen, C.; Wearn, O.; Deith, M.; Ball, J.; Slade, E.; Burslem, D.; Teoh, S.W.; Williams, P.; Nguyen, A.; Moore, J.; Goetz, S.; Cushman, S.; Hakkenberg, C.; Kaszta, Z.; Burns, P.; Jantz, P.; Coomes, D.; Reynolds, G.; Helmy, O.; Rodríguez, J.P.; Jetz, W.; Luskin, M. 2023. Landscape-scale benefits of protected areas for tropical biodiversity. *Nature*. 620, 807-812. <https://doi.org/10.1038/s41586-023-06410-z>
- Brodie, J.F.; Henao-Diaz, L.F.; Pratama, B.; Copeland, C.; Wheeler, T.; Helmy, O.E. 2023. Fruit size in Indo-Malayan island plants is more strongly influenced by filtering than by in situ evolution. *The American Naturalist*. Apr. 1;201(4):574-85. <https://doi.org/10.1086/723212>.
- Kurz, D.J., Connor, T., Brodie, J.F. et al. 2023. Socio-ecological factors shape the distribution of a cultural keystone species in Malaysian Borneo. *npj biodiversity* 2, 4. <https://doi.org/10.1038/s44185-022-00008-w>
- Mohd-Azlan, J.; Kaicheen, S.S.; Hong, L.L.; Yi, M.C.; Maiwald, M.J.; Helmy, O.E.; Giordano, A.J.; Brodie, J.F. 2022. Ecology, occurrence and distribution of wild felids in Sarawak, Malaysian Borneo. *Oryx*. Mar;57(2):252-61. <https://doi.org/10.1017/S0030605321001484>.
- Helmy, O.E. 2022. *Parkinsonia microphylla*, yellow paloverde. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory (Producer). Available: <https://www.fs.usda.gov/database/feis/plants/shrub/parmic/all.html>.
- Helmy, O.E. 2021. *Carnegiea gigantea*, saguaro. In: Fire Effects Information System, (Online). U.S. Department of Agriculture, Forest Service, Rocky Mountain Research

Station, Missoula Fire Sciences Laboratory (Producer).

www.fs.fed.us/database/feis/plants/cactus/cargig/all.html

- Khwaja, H.; Buchan, C.; Wearn, O.R. et al. Author 26 of 67. 2019. Pangolins in global camera trap data: Implications for ecological monitoring. *Global Ecology and Conservation*. *Global Ecology and Conservation*. <https://doi.org/10.1016/j.gecco.2019.e00769>.
- Gardner, P. W. Sastramidjaja, L.L., Wern, J.; Lim, H.; Goossens, B.; Sapari, I.; Meijaard, E.; Hearn, A.; Ross, J.; Macdonald, D.; Bohm, T.; Kretzschmar, P.; Wearn, O.; Granados, A.; Brodie, J.F.; Helmy, O.E.; Giordano, A.; Cheyne, S. In Revision. A status update on the endangered banteng across the island of Borneo. *Oryx*.
- Brodie, J.F., Mohd-Azlan, J.; Granados, A.; Bernard, H.; Giordano, A.; Helmy, O.E. 2017. Lowland biotic attrition revisited: body size and variation among climate change 'winners' and 'losers'. *Proceedings of the Royal Society B* <https://doi.org/10.1098/rspb.2016.2335>.
- Brodie, J.F.; Helmy, O.E.; Mohd-Azlan, J.; Granados, A.; Bernard, H.; Giordano, A.; Zipkin, E. 2018. Models for assessing local-scale co-abundance of animal species while accounting for differential detectability and varied responses to the environment. *Biotropica* 50: 5-15. <https://doi.org/10.1111/btp.12500>.
- Brodie, J.F.; Helmy, O.E.; Pangau-Adams, M.; Ugiek, G.; Froese, G.; Granados, A.; Mohd-Azlan, J.; Bernard, H.; Giordano, A.; Agil, M.; Mustari, A. 2018. Crossing the (Wallace) Line: local abundance and distribution of mammals across biogeographic barriers. *Biotropica* 50: 116-124. <https://doi.org/10.1111/btp.12485>.
- Eby L.A., Helmy, O.E.; Holsinger, L.M.; Young, M.K. 2014. Evidence of Climate-Induced Range Contractions in Bull Trout *Salvelinus confluentus* in a Rocky Mountain Watershed, U.S.A. *PLoS ONE* 9. <https://doi.org/10.1371/journal.pone.0098812>.
- Brodie, J.F., Helmy, O.E.; Brockelman, W.; Maron, J.; 2009. Bushmeat poaching reduces the seed dispersal and population growth rate of a mammal-dispersed tree. *Ecological Applications* 19: 854-863. <https://doi.org/10.1890/08-0955.1>.
- Brodie, J.F., Helmy, O.E.; Brockelman, W.; Maron, J. 2009. Functional differences within a guild of tropical mammalian frugivores. *Ecology* 90: 688-698. <https://doi.org/10.1890/08-0111.1>.
- Brodie, J.F., Sanjayan, M.; Corea, R.; Helmy, O.E.; Amarasiri, C. 2008. Effects of the 2004 Indian Ocean Tsunami on Sea Turtle Populations in Sri Lanka. *Chelonian Conservation and Biology* 7: 249-251. <https://doi.org/10.2744/CCB-0695.1>.
- Helmy, O.E.; Jander, R. 2003. Topochemical learning in black carpenter ants (*Camponotus pennsylvanicus*). *Insectes Sociaux* 50: 32-37. <https://doi.org/10.1007/s000400300005>.

ART, DESIGN, AND PRODUCTION

- Graphic design and scientific illustration for Silixa Engineering, "*Introduction to Distributed Temperature Sensing*" manual. Available for [on-line viewing](#).
- Video production for University of Montana, Wildlife Biology and spectrUM Discovery Area, 2016-2019. [Sample video](#) available for on-line viewing.
- 2016. *Education and Outreach: Creating educational materials for children, in support of community-directed ecotourism and local conservation*. Poster Presentation, Association of Tropical Biology and Conservation, 53rd annual meeting, Montpellier, France.
- 2014. *Wildlife of the Ulu Padas*. A poster for environmental education and awareness-

raising. Distributed to the Community Council in Long Pasia village, Sabah, Malaysian Borneo.

- 2014. *Wildlife of the Kelabit Highlands*. A poster for environmental education and awareness- raising. Distributed to the Community Council in Bario village, Sarawak, Malaysian Borneo.
- 2009, 24 March 2009. *New York Times Science Section, front page photograph*. Additional photographs in on-line issue of 23 March, 2009.
- 2006. Proceedings of the National Academy of Sciences, USA (vol. 103, no. 44) *Cover photograph*.
- 2006. *Heredity* (2006) 97, 179-191. Insulin signaling and limb-patterning: candidate pathways for the origin and evolutionary diversification of beetle 'horns'. D. J. Emlen, et al. *Photographs*.
- 2005. *Stereo Photo Guide for Estimating Canopy Fuel Characteristics in Conifer Stands*. Joe H. Scott, Elizabeth D. Reinhardt. Photographer, photo-editor.
- 2002. *Nature's Flyers: Birds, Insects, and the Biomechanics of Flight*. Alexander, D. and S. Vogel. 384 pp. Johns Hopkins University Press. ISBN: 0801867568. *Illustrations*.
- 2000. Three dimensional path integration in the house mouse (*Mus domestica*). Bardunias PM, Jander R. *Naturwissenschaften*. 87(12):532-4. *Illustrations*.
- 1998. A new fossil conifer from the Triassic of North America: implications for models of ovulate cone scale evolution. *International Journal of Plant Sciences* 159: 358-366. B.J. Axsmith, T.N. Taylor, and E.L. Taylor. *Illustrations*.
- 1994. Papyrus. The University Honor's Program annual Journal, Southern Illinois University, Carbondale. *Illustration*.