

Kamal Islam

Professor Emeritus of Wildlife Biology

Education

Ph.D., Wildlife Science, Oregon State University, 1992

M.Sc., Wildlife Science, Oregon State University, 1985

B.S., Wildlife Biology, Colorado State University, 1980

A.A.S., Fisheries & Wildlife, S.U.N.Y. at Cobleskill, 1978

Teaching

Dr. Kamal Islam taught at Ball State University for 26 years and retired in 2024. Also, he was the curator for the Ornithological and Herpetological museum collections in the Department of Biology. Dr. Islam was the faculty leader for 15 study abroad courses to Australia, Belize, Costa Rica, South Africa, and Namibia and provided more than 200 BSU students with an international learning experience.

Courses Taught

- Ornithology (ZOOL 440/540)
- Herpetology (ZOOL 445/545)
- Conservation Biology (BIO 430)
- Population Ecology (BIO 416/616)
- Field Course to Distant Areas (BIO 420/520)
- Symposium (BIO 499/201)
- Biological Concepts for Teachers (BIO 102)
- Methods in Ecology (BIO 316)

Research Interests

Dr. Islam's primary areas of research have been in the fields of Ornithology, Wildlife Biology and Management, and Conservation Biology with a focus on the conservation of Endangered and Threatened species.

For 23 years, Dr. Islam's research lab studied the Cerulean Warbler, a rapidly declining species of songbird. Over 30 publications and more than 100 professional presentations have resulted from the research conducted by Dr. Islam and his students. He mentored more than 25 graduate students, many who have pursued Ph.D. degrees and work in state and federal positions, and private consulting firms in the fields of Wildlife Biology and Natural Resources.

My Research Lab:

Since 2000, my research has focused on factors contributing to the rapid decline of Cerulean Warbler breeding populations in southern Indiana. This migratory songbird is of conservation concern throughout its distribution where it breeds in mature deciduous forests of the eastern and midwestern United States and Canada, and winters in northern South America. My graduate students and I have conducted baseline studies to determine its distribution, relative abundance, and characteristics of territories, including spacing, song perch selection, and vocalization behavior. In 2007, I joined a long-term (100 year) collaborative study called the Hardwood Ecosystem Experiment (HEE) established in Morgan-Monroe and Yellowwood state forests in southern Indiana. Our primary HEE objective was to determine how Cerulean Warbler populations respond to different forest treatments by 1) measuring estimates of relative abundance and 2) quantifying reproductive output. Also, we conducted research on foraging ecology, adult and nestling diet using traditional methods and DNA metabarcoding, gut microbiome, transmission of avian malaria, dispersal, and effects of climate change on arrival timing during the breeding season in southern Indiana. We expanded our research to determine fledgling dispersal using radio-transmitters, and attachment of geolocators to determine where Cerulean Warblers in our study areas winter in northern South America and their migratory routes. Results from our studies have management applications for the conservation of this declining species.

A secondary focus of my research engaged undergraduate students to investigate birds colliding with highly reflective glass on Ball State University campus buildings during migration. More than a billion birds are killed annually from building-window collisions in the United States. As a result of our research, a renovated building on campus included modified glass to reduce bird-window collision mortality.

Publications since 2000

Connare, B. M. and **K. Islam**. 2023. Advancing our understanding of Cerulean Warbler space use through radio telemetry. *Journal of Fish and Wildlife Management* 14(1):75-89. <https://doi.org/10.3996/JFWM-21-100>

Jones, L. E. and **K. Islam**. 2023. Long-distance Dispersal patterns of the Cerulean Warbler (*Setophaga cerulea*). *Avian Conservation and Ecology* 18(1):19 <https://ace-eco.org/vol18/iss1/art19/>

Connare, B. M. and **K. Islam**. 2022. Failure to advance migratory phenology in response to climate change may pose a significant threat to a declining Nearctic-Neotropical songbird. *International Journal of Biometeorology*. 66(5). DOI:[10.1007/s00484-022-02239-9](https://doi.org/10.1007/s00484-022-02239-9)

Sharp, A., Connare, B., and **K. Islam**. 2021. Novel nest tree selection by a deciduous forest New World warbler. *Wilson Journal of Ornithology* 133(4):640-645.

Sharp, A. R. and **K. Islam**. 2021. Does the intrusion of an avian nest predator elicit a change in the behavior of a canopy-nesting passerine? *Behaviour* 158:503-528.

Fischer, S. E. and **K. Islam**. 2021. Identifying bird-window collisions on a university campus during spring and fall migration. *Proceedings of the Indiana Academy of Science* 129(1):47-55.

Delancey, C. D. and **K. Islam**. 2020. Analysis of microhabitat characteristics at roost sites of Cerulean Warblers. *PLOS ONE* 15(11)
<https://doi.org/10.1371/journal.pone.0241501>

Connare, B. M., Delancey, C. D., Sharp, A. R., MacDonald, G. J., and **K. Islam**. 2020. Low Breeding-site Fidelity Suggests Dispersal of Cerulean Warblers. *Northeastern Naturalist* 27:669-680.

Delancey, C. D., **K. Islam**, Kramer, G. R., MacDonald, G. J., Sharp, A. R., and B. M. Connare. 2020. Geolocators reveal migration routes, stopover sites, and nonbreeding dispersion in a population of Cerulean Warblers. *Animal Migration* 7:19-26.

Islam, K. 2020. *The Birds of Indiana. The Condor: Ornithological Applications* 122:1-2.

Islam, K. and Velarde, E. 2020. Heermann's Gull (*Larus heermanni*). *Birds of the World*. Ithaca, NY, USA: Cornell Lab of Ornithology.

MacDonald, G. J. and **K. Islam**. 2019. Do social factors explain seasonal variation in dawn song characteristics of paired male Cerulean Warblers (*Setophaga cerulea*)? *Bioacoustics* 30(1):1-16 DOI:[10.1080/09524622.2019.1682671](https://doi.org/10.1080/09524622.2019.1682671)

Delancey, C. D. and **K. Islam**. 2019. Post-fledging habitat use in a declining songbird. *PeerJ*. <http://doi.org/10.7717/peerj.7358>

MacDonald, G. J., Delancey, C. D., and **K. Islam**. 2019. Novel vocalizations, including song, from 2 female Cerulean Warblers (*Setophaga cerulea*). *The Wilson Journal of Ornithology* 131(2):366-373.

Delancey, C. D., MacDonald, G. J., and **K. Islam**. 2019. First confirmed hybrid pairing between a Cerulean Warbler (*Setophaga cerulea*) and a Black-throated Blue Warbler (*Setophaga caerulescens*). *The Wilson Journal of Ornithology* 131(1):161-165.

Ruch, D. G., Banks, B., Brodman, R., Carter, T. C., Cole, L., Dittmann, M., Fisher, B. E., Holland, J. D., **K. Islam**, Jean, R. P., McCarty, M., McMurray, Jr., P. D., Milne, M.,

Murphy, W. L., Roth, K., Russell, S., Strang, C., Whitaker, Jr., J. O., and Chamberlain, A. 2018. Results of the 2017 Red-Tail Land Conservancy Biodiversity Survey, Delaware and Randolph Counties, Indiana. *Proceedings of the Indiana Academy of Science* 127(1):37-54.

Islam, K. 2018. Conserving the rare Cerulean Warbler in Indiana Forests. *The Woodland Steward* 27:6-7, 12.

Delancey, C. D., MacDonald, G. J., and **K. Islam**. 2018. American Redstarts (*Setophaga ruticilla*) usurp Cerulean Warbler (*Setophaga cerulea*) nest in Southern Indiana. *The Wilson Journal of Ornithology* 130(2), 554-558.

Nemes, C. E. and **K. Islam**. 2017. Breeding season microhabitat use by Cerulean Warbler (*Setophaga cerulea*) in an experimentally-managed forest. *Forest Ecology and Management* 387:52-63.

Auer, S.A., **K. Islam**, J.R. Wagner, K.S. Summerville, and K.W. Barnes. 2016. The Diet of Cerulean Warbler (*Setophaga cerulea*) Nestlings and Adult Nest Provisioning Behaviors in Southern Indiana. *The Wilson Journal of Ornithology* 128(3):573-583.

Barnes, K.W., **K. Islam**, and S.A. Auer. 2016. Integrating LIDAR-derived canopy structure into Cerulean Warbler habitat models. *The Journal of Wildlife Management* 80(1). DOI:[10.1002/jwmg.995](https://doi.org/10.1002/jwmg.995)

Wagner, J.R., **K. Islam**, and, K.S. Summerville. 2015. Cerulean Warbler Territory Size is influenced by Prey-Rich Tree Abundance. *Proceedings of the Indiana Academy of Science* 124(2):70-79.

Nemes, C.E. , **K. Islam**, and D.M. Pirtle. 2015. First documentation of a “double-decker” Cerulean Warbler (*Setophaga cerulea*) nest. *The Wilson Journal of Ornithology* 127(3):534-538.

Wagner, J. R. and **K. Islam**. 2014. Nest-site Selection and Breeding Ecology of the Cerulean Warbler in Southern Indiana. *Northeastern Naturalist* 21(4):515-528.

Owen, D.A.S., E.T. Carter, M.L. Holding, **K. Islam**, and I.T. Moore. 2014. Roads are associated with a blunted stress response in a North American pit viper. *General and Comparative Endocrinology* 202:87-92.

Auer, S.A., **K. Islam**, K.W. Barnes, and J.A. Brown. 2013. Documentation of predation of a nestling Cerulean Warbler by a Red-bellied Woodpecker. *The Wilson Journal of Ornithology* 125(3):642-646.

Kaminski, K. J. and **K. Islam**. 2013. Effects of Silviculture on Abundance and Spatial Characteristics of Cerulean Warbler Territories. *American Midland Naturalist* 170(1):111-120.

Islam, K., K. J. Kaminski, M. M. MacNeil, and L. P. Young. 2013. The Cerulean Warbler in Morgan-Monroe and Yellowwood State Forests, Indiana: Pre-treatment Data on Abundance and Spatial Characteristics of Territories. Pages 61-77 in Swihart, Robert K.; Saunders, Michael R.; Kalb, Rebecca A.; Haulton, G. Scott; Michler, Charles H., eds. *The Hardwood Ecosystem Experiment: a framework for studying responses to forest management*. Gen. Tech. Rep. NRS-P-108. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 350 p.

Islam, K., J. Wagner, R. Dibala, M. MacNeil, K. Kaminski, and L. (Prichard) Young. 2012. Cerulean Warbler (*Setophaga cerulea*) response to changes in forest structure in Indiana. *Ornitologia Neotropical* 23:335–341.

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McKillip, S.R. and **K. Islam**. 2009. Vocalization attributes of Cerulean Warbler song and pairing status. *The Wilson Journal of Ornithology* 121(2):273-282.

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Roth, K. L. and **K. Islam**. 2007. Do Cerulean Warblers (*Dendroica cerulea*) exhibit clustered territoriality? *American Midland Naturalist* 157(2):345-355.

Jones, K. and **K. Islam**. 2006. Selection of song perches by Cerulean Warblers. *Proceedings of the Indiana Academy of Science* 115(1):37-43.

K. Islam. 2006. Birds of South Asia: The Ripley Guide. *The Condor* 108(1):247-248.

Allen, J. and **K. Islam**. 2004. Gender differences in parental feeding effort of Cerulean Warblers at Big Oaks National Wildlife Refuge, Indiana. *Proceedings of the Indiana Academy of Science* 113(2):162-165.

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Islam, K. 2003. Wandering Tattler. Pp. 219-220 *in* Birds of Oregon: A General Reference. D.B. Marshall, M.G. Hunter, and A.L. Contreras, Eds. Oregon State University Press, Corvallis, OR.

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Islam, K. 2002. Second sight record of Indigo Bunting (*Passerina cyanea*) on Dominica. *El Pitirre* 15(2):77.

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Islam, K. and R.N. Williams. 2000. Red-vented Bulbul (*Pycnonotus cafer*) and Red-whiskered Bulbul (*Pycnonotus jocosus*). *In* The Birds of North America, No. 520 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.