**Literature cited**

Battley, P. F., N. Warnock, T. L. Tibbitts, R. E. Gill, T. Piersma, C. J. Hassell, D. C. Douglas, D. M. Mulcahy, B. D. Gartrell, R. Schuckard, D. S. Melville, and A. C. Riegen (2012). Contrasting extreme long-distance migration patterns in bar-tailed godwits Limosa lapponica. *Journal of Avian Biology* 43:21–32.

Berger-Tal, O., and S. Bar-David (2015). Recursive movement patterns: review and synthesis across species. *Ecosphere* 6:art149.

Berigan, L. A., C. S. H. Aulicky, E. C. Teige, D. S. Sullins, K. A. Fricke, J. H. Reitz, L. G. Rossi, K. A. Schultz, M. B. Rice, E. Tanner, S. D. Fuhlendorf, and D. A. Haukos (2024). Lesser prairie-chicken dispersal after translocation: Implications for restoration and population connectivity. *Ecology and Evolution* 14:e10871.

Blomberg, E. J., A. C. Fish, L. A. Berigan, A. M. Roth, R. Rau, S. J. Clements, G. Balkcom, B. Carpenter, G. Costanzo, J. Duguay, C. L. Graham, et al. (2023). The American Woodcock Singing Ground Survey largely conforms to the phenology of male woodcock migration. *The Journal of Wildlife Management* 87:e22488.

Bohonak, A. J. (1999). Dispersal, Gene Flow, and Population Structure. *The Quarterly Review of Biology* 74:21–45.

Bridge, E. S., K. Thorup, M. S. Bowlin, P. B. Chilson, R. H. Diehl, R. W. Fléron, P. Hartl, R. Kays, J. F. Kelly, and W. D. Robinson (2011). Technology on the move: recent and forthcoming innovations for tracking migratory birds. *BioScience* 61:689–698.

Burnside, R. J., N. J. Collar, and P. M. Dolman (2017). Comparative migration strategies of wild and captive‐bred Asian Houbara *Chlamydotis macqueenii*. *Ibis* 159:374–389.

Clements, S. J., L. A. Berigan, A. C. Fish, R. L. Darling, A. M. Roth, G. Balkcom, B. Carpenter, G. Costanzo, J. Duguay, and K. Filkins (2024). Satellite tracking of American Woodcock reveals a gradient of migration strategies. *Ornithology* 141:ukae008.

Colwell, M. A. (2010). Shorebird ecology, conservation, and management. University of California Press, CA, USA.

Combreau, O., S. Riou, J. Judas, M. Lawrence, and F. Launay (2011). Migratory pathways and connectivity in Asian houbara bustards: evidence from 15 years of satellite tracking. *PloS One* 6:e20570.

Cooper, N. W., and P. P. Marra (2020). Hidden long-distance movements by a migratory bird. *Current Biology* 30:4056-4062.

Dawson, W. R. (2020). Pine Siskin (*Spinus pinus*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Dean, B., R. Freeman, H. Kirk, K. Leonard, R. A. Phillips, C. M. Perrins, and T. Guilford (2013). Behavioural mapping of a pelagic seabird: combining multiple sensors and a hidden Markov model reveals the distribution of at-sea behaviour. *Journal of The Royal Society Interface* 10:20120570.

Duerr, A. E., and B. D. Watts (2012). Waterbirds of the Chesapeake Bay: Status, ecological requirements, and threats. Center for Conservation Biology, College of William and Mary/Virginia Commonwealth University, Williamsburg, VA.

Earl, J. E., S. D. Fuhlendorf, D. Haukos, A. M. Tanner, D. Elmore, and S. A. Carleton (2016). Characteristics of lesser prairie-chicken (*Tympanuchus pallidicinctus*) long-distance movements across their distribution. *Ecosphere* 7:e01441.

Fink, D., T. Auer, A. Johnston, M. Strimas-Mackey, S. Ligocki, O. Robinson, W. Hochachka, L. Jaromczyk, A. Rodewald, C. Wood, I. Davies, and A. Spencer (2022). eBird Status and Trends, Data Version: 2021; Released: 2022. Cornell Lab of Ornithology, Ithaca, New York. https://doi.org/10.2173/ebirdst.2021.

Fish, A. C., A. M. Roth, G. Balkcom, L. Berigan, K. Brunette, S. Clements, G. Costanzo, C. L. Graham, W. F. Harvey, M. Hook, D. L. Howell, et al. (2024). American woodcock migration phenology in eastern North America: implications for hunting season timing. *The Journal of Wildlife Management* 88:e22565.

Flack, A., E. O. Aikens, A. Kölzsch, E. Nourani, K. R. S. Snell, W. Fiedler, N. Linek, H.-G. Bauer, K. Thorup, J. Partecke, M. Wikelski, and H. J. Williams. 2022. New frontiers in bird migration research. *Current Biology* 32:R1187–R1199.

Fuentes, M., B. M. Van Doren, D. Fink, and D. Sheldon. 2023. BirdFlow: Learning seasonal bird movements from eBird data. *Methods in Ecology and Evolution* 14:923–938.

Hoepfner, S. A. (2023). High-frequency GPS transmitters allow understanding of breeding shorebird movements and nest survival without human disturbance. M.S. thesis, Iowa State University, Ames, IA, USA.

Iverson, A. R., D. L. Humple, R. L. Cormier, and J. Hull (2023a). Land cover and NDVI are important predictors in habitat selection along migration for the Golden-crowned Sparrow, a temperate-zone migrating songbird. *Movement Ecology* 11:2.

Iverson, A. R., J. L. Schaefer, S. M. Skalos, and C. E. Hawkins (2023b). Global positioning system (GPS) and platform transmitter terminal (PTT) tags reveal fine-scale migratory movements of small birds: A review highlights further opportunities for hypothesis-driven research. *Ornithological Applications* 125:duad014.

Johnson, D. S., and J. M. London (2018). crawl: an R package for fitting continuous-time correlated random walk models to animal movement data. Zenodo. https://doi.org/10.5281/zenodo.596464.

Kareiva, P. M., and N. Shigesada (1983). Analyzing insect movement as a correlated random walk. *Oecologia* 56:234–238.

Kent, J. T., and D. E. Tyler (1988). Maximum likelihood estimation for the wrapped Cauchy distribution. Journal of Applied Statistics 15:247–254.

Klaassen, R. H. G., M. Hake, R. Strandberg, B. J. Koks, C. Trierweiler, K. Exo, F. Bairlein, and T. Alerstam (2014). When and where does mortality occur in migratory birds? Direct evidence from long‐term satellite tracking of raptors. *Journal of Animal Ecology* 83:176–184.

Langrock, R., R. King, J. Matthiopoulos, L. Thomas, D. Fortin, and J. M. Morales (2012). Flexible and practical modeling of animal telemetry data: hidden Markov models and extensions. *Ecology* 93:2336–2342.

Linscott, J. A., J. G. Navedo, S. J. Clements, J. P. Loghry, J. Ruiz, B. M. Ballard, M. D. Weegman, and N. R. Senner (2022). Compensation for wind drift prevails for a shorebird on a long-distance, transoceanic flight. *Movement Ecology* 10:11.

Mander, L., I. Nicholson, R. M. W. Green, S. G. Dodd, R. M. Forster, and N. H. K. Burton (2022). Individual, sexual and temporal variation in the winter home range sizes of GPS-tagged Eurasian Curlews *Numenius arquata*. *Bird Study* 69:39–52.

Marra, P. P., E. B. Cohen, S. R. Loss, J. E. Rutter, and C. M. Tonra (2015). A call for full annual cycle research in animal ecology. *Biology letters* 11:20150552.

McAuley, D. G., D. M. Keppie, and R. M. Whiting Jr. (2020). American Woodcock (*Scolopax minor*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

McAuley, D. G., J. R. Longcore, and G. F. Sepik (1993). Techniques for Research into Woodcocks: Experiences and Recommendations. Proceedings of the eighth American woodcock symposium. U.S. Fish and Wildlife Service, p. 5.

McClintock, B. T., and T. Michelot (2018). momentuHMM: R package for generalized hidden Markov models of animal movement. *Methods in Ecology and Evolution* 9:1518–1530.

Mills, K. J., B. R. Patterson, and D. L. Murray (2006). Effects of variable sampling frequencies on GPS transmitter efficiency and estimated wolf home range size and movement distance. *Wildlife Society Bulletin* 34:1463–1469.

Moore, J. D., D. E. Andersen, T. Cooper, J. P. Duguay, S. L. Oldenburger, C. A. Stewart, and D. G. Krementz (2021). Migration phenology and patterns of American woodcock in central North America derived using satellite telemetry. *Wildlife Biology* 2021.

Morales, J. M., P. R. Moorcroft, J. Matthiopoulos, J. L. Frair, J. G. Kie, R. A. Powell, E. H. Merrill, and D. T. Haydon (2010). Building the bridge between animal movement and population dynamics. *Philosophical Transactions of the Royal Society B: Biological Sciences* 365:2289–2301.

Moskát, C., M. Bán, A. Fülöp, J. Bereczki, and M. E. Hauber (2019). Bimodal habitat use in brood parasitic Common Cuckoos (*Cuculus canorus*) revealed by GPS telemetry. *The Auk: Ornithological Advances* 136:uky019.

Nicol, S., M. Cros, N. Peyrard, R. Sabbadin, R. Trépos, R. A. Fuller, and B. K. Woodworth (2023). FlywayNet: A hidden semi‐Markov model for inferring the structure of migratory bird networks from count data. *Methods in Ecology and Evolution* 14:265–279.

Picardi, S., P. Coates, J. Kolar, S. O’Neil, S. Mathews, and D. Dahlgren (2022). Behavioural state‐dependent habitat selection and implications for animal translocations. *Journal of Applied Ecology* 59:624–635.

R Core Team (2024). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria.

Rieber, C. (2023). Treed Gaussian processes for animal movement modeling. M.S. thesis, Kansas State University, Manhattan, KS, USA.

Rieffenberger, J. C., and R. C. Kletzly (1966). Woodcock night-lighting techniques and equipment. WH Goudy, compiler. *Woodcock research and management*:33–35.

Ronce, O. (2007). How Does It Feel to Be Like a Rolling Stone? Ten Questions About Dispersal Evolution. Annual Review of Ecology, Evolution, and Systematics 38:231–253.

Sheldon, W. G. (1960). A method of mist netting woodcocks in summer. *Bird-banding* 31:130–135.

Slezak, C. R., E. J. Blomberg, L. A. Berigan, R. Darling, A. C. Fish, S. J. Clements, A. M. Roth, R. D. Rau, G. Balkcom, B. Carpenter, G. Costanzo, et al. (2024). Unconventional life-history in a migratory shorebird: desegregating reproduction and migration. *Proceedings of the Royal Society B*. 291: 20240021.

Stafford, J. D., A. K. Janke, M. J. Anteau, A. T. Pearse, A. D. Fox, J. Elmberg, J. N. Straub, M. W. Eichholz, and C. Arzel (2014). Spring migration of waterfowl in the northern hemisphere: a conservation perspective. *Wildfowl*:70–85.

Vanderhoff, N., P. Pyle, M. A. Patten, R. Sallabanks, and F. C. James. 2020. American Robin (*Turdus migratorius*), version 1.0. In *Birds of the World* (P. G. Rodewald, editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

Wright, J. R., J. A. Johnson, E. Bayne, L. L. Powell, C. R. Foss, J. C. Kennedy, and P. P. Marra (2021). Migratory connectivity and annual cycle phenology of Rusty Blackbirds (*Euphagus carolinus*) revealed through archival GPS tags. *Avian Conservation & Ecology* 16.

Zhang, J., M. Rayner, S. Vickers, T. Landers, R. Sagar, J. Stewart, and B. Dunphy (2019). GPS telemetry for small seabirds: using hidden Markov models to infer foraging behaviour of Common Diving Petrels (*Pelecanoides urinatrix urinatrix*). *Emu - Austral Ornithology* 119:126–137.

Zucchini, W., I. L. MacDonald, and R. Langrock (2017). Hidden Markov models for time series: an introduction using R. CRC press, Boca Raton, FL, USA.

Zucchini, W., D. Raubenheimer, and I. L. MacDonald (2008). Modeling time series of animal behavior by means of a latent‐state model with feedback. *Biometrics* 64:807–815.