

# John McEvoy

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## ACADEMIC QUALIFICATIONS

- PhD, Centre for Integrative Ecology, Deakin University, Australia, Graduated Oct 2015  
Thesis – *Spatial ecology of nomadic waterfowl in arid Australia*  
Includes GPS tracking of nomadic birds, GIS, spatial statistics and analysis of movement decisions in relation to environmental variation
- Master of Science in Ecology, University of Wales, Bangor 2006-2007.  
Thesis – *The Breeding Raptor Community of Mt. Ochi (Greece), Patterns of Distribution and Habitat Use.*  
  
Coursework: Behavioural Ecology, Biogeography, Microbial Ecology, Molecular Ecology and Methods, Ecosystems – Spatiotemporal Properties and Functioning, Population Ecology, Statistics
- Bachelor of Science in Environmental Science and Technology, with First Class Honours. Institute of Technology Sligo, 2000-2004.  
Thesis – *A Comparison of the Ecological and Physiochemical Conditions of Two Blanket Bogs in Co. Sligo*

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## EMPLOYMENT/WORK EXPERIENCE

- **Quantitative Ecologist** – CSIRO (Commonwealth Scientific and Industrial Research Organisation). Land & Water. Planning and implementing national monitoring and research programs for native and introduced fauna. (Sep 2021- Ongoing)
- **Impact Analyst** – Bush Heritage Australia. Compiling information from monitoring data, satellite imagery and expert interview to determine the baseline conditions and quantify progress towards conservation targets on key Bush Heritage reserves. (Mar 2021- Sep 2021)
- **Research Assistant** – Western Sydney University, Australia. Analysis of nest site selection in passerine birds across altitudinal gradients. (Oct 2020- Mar 2021)
- **Post-Doctoral Research Fellow/Research Associate** - Smithsonian Conservation Biology Institute, USA. Several projects on movement ecology of endangered species such as Asian elephants in Myanmar, Przewalski's horses and Grey wolves in Mongolia. Analysing illegal wildlife trade networks in Myanmar and assessing low impact GPS tags for terrestrial mammals. (Jan 2017- Ongoing)
- **Statistical Consultant** – OPRA Psychology Group, Australia. Providing data analysis and consultation on survey design. (Oct 2019)
- **Casual Wildlife Ecologist** – Australian Wildlife Conservancy, Sydney, Australia. Consulting and providing data analysis of cattle movement patterns in relation to prescribed fire and water availability in sub-tropical savannah. (June 2016 – August 2016)
- **Post-Doctoral Researcher** – Zoology, University of New England, Armidale, NSW. Monitoring waterfowl and gamebird populations in NSW using satellite tracking, audio recording, stable isotope analysis and UAV surveys. (Oct 2014 – July 2015)
- **Research Collaborator** – Urban Fox Project, Mammal Unit, School of Biological Sciences, University of Bristol, UK. Trapping and handling of foxes, radio telemetry, data analysis. (June 2009 – Dec 2009).
- **Field Assistant** – National Hen Harrier Winter Roost Survey NPWS, Ireland. Working independently in the field conducting surveys of roosting sites, following a national protocol. (October 2007 – March 2009).
- **Volunteer Bird Ringer** – S.C.A.N. Bird Ringing Group, North Wales, UK. Capture using cannon nets, handling, and ringing of wading birds. (September 2006 – September 2007)
- **Research Assistant** – Irish National Heritage Council and North Western Regional Fisheries Board, Ireland. Field work including electro-fishing, length frequency analysis of fish, surveys of freshwater mussel populations and habitat preferences. (September 2003 – October 2003)

- **Research Assistant** – Fowler’s Gap Arid Zone Research Station, University of New South Wales, Australia. Field work on a number of projects, including small mammal trapping, mist netting of passerines, and eagle nest monitoring. (July 2003 – September 2003).
- **Bird Bander/ Field Assistant** – volunteer work on a number of projects in Australia including, Victorian Wader Study Group, Swift Parrot monitoring (Australian National University), radio tracking of ravens (Deakin University), Black Swan collaring, canon netting of waders, mist netting, walk in traps for waterfowl, tree climbing, ringing and processing birds, attaching radio/GPS transmitters to birds.

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## PUBLICATIONS

- **McEvoy, J.F.**, Connette, G.M., Huang, Q., Soe, P., Pyone, K.H.H., Htun, Y.L., Lin, A.N., Thant, A.L., Htun, W.Y., Paing, K.H., Swe, K.K., Aung, M., Songer, M., Leimgruber, P., 2022. *Joining the dots in an era of uncertainty – Reviewing Myanmar’s Illegal wildlife trade and looking to the future*. *Global Ecology and Conservation* 37, e02179.
- Gore, M.L., Schwartz, L.R., Amponsah-Mensah, K., Barbee, E., Canney, S., Carbo-Penche, M., Cronin, D., Hilend, R., Laituri, M., Luna, D., Maina, F., Mey, C., Mumford, K., Mugo, R., Nduguta, R., Nyce, C., **McEvoy, J.**, McShea, W., Mandimbihasina, A., Salafsky, N., Smetana, D., Tait, A., Wittig, T., Wright, D., Naess, L.W., 2022. *Voluntary consensus based geospatial data standards for the global illegal trade in wild fauna and flora*. *Scientific Data* 9, 267.
- Aharon-Rotman, Y., **McEvoy, J.F.**, Kiat, Y., Raz, T., Perlman, G.Y., 2022. *Time to Move On: The Role of Greenness in Africa and Temperatures at a Mediterranean Stopover Site in Migration Decision of Long-Distance Migratory Passerines*. *Frontiers in Ecology and Evolution* 10.
- Chan, A. N., Wittemyer, G., **McEvoy, J.F.**, Williams, A.C., Cox, N., Soe, P., Grindley, M., Shwe, N. M. , Chit, A. M., Oo, Z. M., Leimgruber, P., 2022. *Landscape characteristics influence ranging behavior of Asian elephants at the human-wildlands interface in Myanmar*, *Movement Ecology* 10(1): 6. <https://doi.org/10.1186/s40462-022-00304-x>
- Aharon-Rotman, Y., **McEvoy, J.F.**, Beckmann, C., Geiser, F., 2021. *Heterothermy in a Small Passerine: Eastern Yellow Robins Use Nocturnal Torpor in Winter*, *Frontiers in Ecology and Evolution*, <https://doi.org/10.3389/fevo.2021.759726>
- **McEvoy J.F.**, Kishbaugh, J. , Valitutto, M., Aung, O., Naing Tun, K.Y., Win, Y.T., Maw, M.T., Thein, W.Z., Win, H.H., Chit, A.M., Vodzak, M.E., Murray, S., 2021, *Movements of Indian Flying Fox in Myanmar as a Guide to Human-Bat Interface Sites*, *EcoHealth*, <https://doi.org/10.1007/s10393-021-01544-w>
- Esmaeili, S., Jesmer, B.R., Albeke, S.E., Aikens, E.O., Schoenecker, K.A., King, S.R.B., Abrahms, B., Buuveibaatar, B., Beck, J.L., Boone, R.B., Cagnacci, F., Chamailé-Jammes, S., Chimeddorj, B., Cross, P.C., Dejid, N., Enkhbyar, J., Fischhoff, I.R., Ford, A.T., Jenks, K., Hemami, M.-R., Hennig, J.D., Ito, T.Y., Kaczensky, P., Kauffman, M.J., Linnell, J.D.C., Lkhagvasuren, B., **McEvoy, J.F.**, Melzheimer, J., Merkle, J.A., Mueller, T., Muntifering, J., Mysterud, A., Olson, K.A., Panzacchi, M., Payne, J.C., Pedrotti, L., Rauset, G.R., Rubenstein, D.I., Sawyer, H., Scasta, J.D., Signer, J., Songer, M., Stabach, J.A., Stapleton, S., Strand, O., Sundaresan, S.R., Usukhjargal, D., Uuganbayar, G., Fryxell, J.M., Goheen, J.R., 2021, *Body size and digestive system shape resource selection by ungulates: A cross-taxa test of the forage maturation hypothesis*. *Ecology Letters*, 00, 1– 14. <https://doi.org/10.1111/ele.13848>
- Stojanovic, D., **McEvoy, J.F.**, Alves, F., Terauds, A., Rayner, L., Roshier, D., Heinsohn, R., Saunders, D., Webb, M., 2021, *Spatial ecology of swift parrots provisioning nestlings in good and bad years*, *Journal of Zoology*, 10.1111/jzo.12888
- Lopes B., **McEvoy J.F.**, Morato R, Luz H.R., Costa F.B., Benatti H.R., da Costa Dias T., Rocha V.J., do Nascimento V.R., Piovezan U, Monticelli P.F., Nieves A.M., Pacheco R.C., Gaglianone Moro M.E., Brasil J., Leimgruber P., Labruna M.B., de Barros Ferraz K.M., 2021, *Human-modified landscapes alter home range and movement patterns of capybaras*, *Journal of Mammalogy*, 102, 319-332
- **McEvoy, J.F.**, Connette, G., Huang, Q., Soe, P., Pyone, K.H.H., Valitutto, M., Htun, Y.L., Lin, A.N., Thant, A.L., Htun, W.Y., Paing, K.H., Swe, K.K., Aung, M., Min, S., Songer, M., and Leimgruber, P., 2019, *Two*

*sides of the same coin – Wildmeat consumption and illegal wildlife trade at the crossroads of Asia*, Biological Conservation 238, 108197

- **McEvoy, J.F.**, Hall, G.P., McDonald, P.G, **2019**, *Movements of Australian Wood Ducks (Chenonetta jubata) in an Agricultural Landscape*, Emu - Austral Ornithology 119(2), 147-156.
- Sampson, C., Leimgruber, P., Rodriguez, S., **McEvoy, J.F.**, Sotherden, E., Tonkyn, D., **2019**, *Perceptions of human-elephant conflict and conservation attitudes of affected communities*, Tropical Conservation Science, 10.1177/1940082919831242, 12
- Sampson, C., **McEvoy, J.F.**, Oo, Z.M., Chit, A.M., Chan, A.M., Tonkyn, D., Soe, P., Songer, M., Williams, C.A., Reisinger, K., Wittmeyer G., Leimgruber, P., **2018**, *New Elephant Crisis in Asia – Early Warning Signs From Myanmar*, PLOS One, 13(3): e0194113.
- **McEvoy, J. F.**, Ribot, F.H., Roshier, D.A., Bennett, A.T.D, **2017**, *Heavy Rainfall Triggers Increased Nocturnal Flight in Desert Populations of The Pacific Black Duck*, Nature –Scientific Reports, 7 (1): 17557
- Aharon-Rotman, Y., **McEvoy, J.F.**, Zhaoju, Z., Yu, H., Wang, X., Yali, S., Xu, Z., Yuan, Z., Jeong, W., Cao, L., Fox, A.D., **2017**, *Water level affects availability of optimal feeding habitats for threatened migratory waterbirds*, Ecology and Evolution, 7:21
- **McEvoy, J.F.**, Hall, G.P., McDonald, P.G, **2016**, *Evaluation of unmanned aerial vehicle shape, flight path and camera type for waterfowl surveys: disturbance effects and species recognition* PeerJ, 4:e1831. 10.7717/peerj.1831
- **McEvoy, J.F.**, Ribot, F.H., Roshier, D.A., Bennett, A.T.D, **2015**, *Proximate cues to phases of movement in a highly dispersive waterfowl, Anas superciliosa*, Movement Ecology, 3: 21
- **McEvoy J.F**, Mertes K., Ressijac C., Reed D., Moraes R., Songer M., *Smaller and Smaller: evaluating low-impact tracking devices for terrestrial mammals*, (In Review)
- **McEvoy J.F.**, Pastorini J., Fernando P., Chan A.N, Sampson C., Chit A.M., Songer M., Stabach J., Oo Z.M., Reisinger K., Williams A.C., Leimgruber P., *Feel Like Going Home: Habitat Selection Alone Doesn't Explain Movement Paths in Translocated Asian Elephants*, (In Review)

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## FUNDING/AWARDS

- US Department of State – “Mapping Poaching of Key Wildlife Species in the Mekong Region”, \$200,000
- Disney Conservation Fund/AZA – “Developing Low Impact Monitoring Approaches for Reintroduced Populations of Scimitar-Horned Oryx and Przewalski’s Horse”, \$25,000
- Mohammed Bin Zayed Fund – “Combating Asian Elephant Poaching Crisis in Myanmar”, \$11,000
- Smithsonian Conservation Biology Institute: Conservation Ecology Centre – Developing Collaborative Themes, “Movement ecology and management of coyotes in Virginia’s Northern Piedmont Landscape”, \$5,000
- Deakin University New Initiatives Grant, establishment of regular series of animal movement workshops, \$1,000

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## SKILLS AND TRAINING

- Experienced in managing complex conservation projects on endangered species. I have been responsible for managing several large scale multi-country conservation projects including:
  - Project development
  - Running fieldwork. Including making decisions on the ground and training local staff.
  - Data Analysis and dissemination of results.
  - Building relationships with key stakeholders. Including with government officials in Mongolia, Myanmar and the USA and with local civil society groups and international NGOs such as WWF, Flora and Fauna International and Wildlife Conservation Society.

- Skilled in the management and analysis of complex data sets from animal telemetry, camera trapping, remote sensing and aerial photography. I have employed various methods of analysing data using spatial and statistical software such as:
  - R
  - QGIS
  - Google Earth Engine
  - ARC GIS
  - Open Data Kit
- Certified remotely piloted aircraft pilot, RePL licence, (Australia) up to 25kg
- Certified for working at heights and elevated work platforms
- Field work in difficult environments and spending long hours working independently in the field. For example:
  - MSc thesis fieldwork spending time in isolated mountainous regions of Greece,
  - PhD work included extended field work on isolated salt lakes and deserts of Australia.
  - Post-Doctoral work includes extended field work in rainforest in Myanmar and mountain-steppe in Mongolia
- Skilled in the capture, handling and tagging of a wide range of animals including birds (passerines, waterfowl), large mammals (horses, elephants), carnivores (wolves, coyotes, foxes)
- Collaborating with government and industry partners including report writing for funding bodies and liaising with industry and public stakeholders. For example, based on experiences in studying elephants I recently produced a feasibility study on elephant GPS tracking that was presented to the office of the Prime Minister of Vietnam. During my PhD I worked closely with the environment department of a major mining company as part of a privately funded project.
- 4WD qualifications and extensive experience driving in challenging conditions in the arid interior of Australia.

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## RESEARCH INTERESTS

My research interests focus on animal movement behaviour and specifically the interplay between environmental, physiological and cognitive factors that shape observed patterns of movement in wide ranging and nomadic species. Recent work includes the use GPS tracking technology and movement analysis to study the movement ecology and conservation of endangered species such as Asian elephant and Przewalski's horse. I have also recently published on illegal wildlife trade and human-wildlife conflict in Myanmar. I have used non-invasive methods to monitor populations of animals across large areas combining tools such as rapid-response satellite imagery and UAV mounted cameras to provide accurate and timely counts of animals within landscapes where the distribution of habitat is often unpredictable. With a background in environmental science, I have a strong interest in matters relating to conservation and am a passionate advocate for evidence-based conservation policy.

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## TEACHING EXPERIENCE

- **Smithsonian Mason School of Conservation (George Mason University)** – Open Source GIS and Spatial Ecology – post-graduate and professional residential course. Developing course curriculum and delivering lectures and practical labs on GIS analysis and Home Range Estimation
- **Smithsonian Mason School of Conservation (George Mason University)** – Introduction to movement analysis, Landscape Ecology Course
- **George Washington University**, Conservation Ecology, guest lecturer on case studies in conservation
- **Smithsonian Conservation Biology Institute**, Supervision of numerous interns and MSc students carrying out field work and spatial analysis
- **University of New England**, Zoology, lecturing on 3<sup>rd</sup> year animal behaviour undergraduate course. Delivering lectures on animal movement behaviour and navigation
- **University of New England**, Zoology, lecturing on research primer course for post graduate biology students

- **University of New England, Zoology**, co-supervising honours student project on waterfowl population monitoring

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## INVITED SEMINARS/PUBLIC TALKS

- **Benemérita Universidad Autónoma de Puebla (BUAP), Mexico, Cátedra Alfonso L. Herrera, keynote lecture**, Sep 2021, “Elephants, Bats and Humans - Using movement ecology to address conservation problems”
- **Deakin University, Centre for Integrative Ecology Seminar Series**, Aug 2020, “The Disappearing Asian Elephant – Using Movement Ecology to Inform Conservation”
- **Friends of the National Zoo, Washington D.C. Public Lecture Series**, Oct 2019, “The Disappearing Asian Elephant – Applying Conservation Science to Save Their Skins”
- **Smithsonian Conservation Biology Institute – Meet the Scientist** – July 2019, “Meet the Scientist – John McEvoy”
- **Smithsonian Conservation Biology Institute – Emerging Scientists Seminar**, Aug 2018, “Translocating “Problem” Elephants – What can we learn from their movement behaviour?”
- **Association for Tropical Biology and Conservation Conference – Symposium: Moving Towards Coexistence – Reconciling Asian Elephant’s Behaviour and Humans’ Social Dimension**, July 2018, “Translocating “Problem” Elephants – What can we learn from their movement behaviour?”
- **Asian Elephant Conservation Group, Annual Meeting, Bangkok, Apr 2018**, “Asian Elephants in Myanmar – Using GPS Tracking To Guide Conservation Actions”
- **Smithsonian Conservation Biology Institute Spring Seminar Series, March 2018**, “Asian Elephants in Myanmar--Using GPS Tracking To Guide Conservation Actions”
- **Bush Heritage Australia**, Oct 2017, “Unmanned Aircraft Systems for Wildlife and Habitat Monitoring”
- **National Zoological Park, Washington D.C. - Asian Elephant Seminar**, Oct 2017, “Analysing Movement Behaviour to Address Human-Elephant Conflict in Myanmar”
- **Przewalski’s Horse Conservation Management Workshop, Ulaanbaatar, Mongolia, Apr 2017**, “Conservation in Motion – Animal Tracking Projects at the Smithsonian”
- **Birdwatch Ireland, Public Lecture Series**, July 2012, “From Farm Duck to Desert Nomad - How Waterfowl Respond to Rapidly Changing Environments”

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## PEER REVIEW

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|------------------------------------|---|
| • Methods in Ecology and Evolution | • Ecological Solutions and Evidence               |
| • Nature – Scientific Reports      | • Bird Conservation International                 |
| • Journal of Avian Biology         | • Journal of Field Ornithology                    |
| • PLOS-1                           | • Remote Sensing in Ecology and Conservation      |
| • Current Zoology                  | • The North Pacific Research Board – Grant Review |
| • Emu – Austral Ornithology        | • San Diego Zoo – Grant Review                    |
| • Wildlife Research                | • Saint Louis Zoo – Grant Review                  |
| • Journal of Wildlife Management   |   |

- Saint Louis Zoo – Grant Review
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## **SOCIETY MEMBERSHIPS**

- Ecological Society of Australia
  - Society for Conservation Biology
  - International Society for Behaviour Ecology
  - Biodiversity East
  - Australasian Society for the Study of Animal Behaviour
  - Elephant Conservation Group (Asia)
  - Birdlife Australia
  - Field Naturalists Society of South Australia
  - Association of Zoos and Aquariums
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## **OTHER INTERESTS**

- Circus performance (stilt-walking, juggling, acrobatics, trapeze)
- Acting (theatre and film)
- Wildlife and landscape photography