

Matthew J Grainger

RESEARCHER

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Wildlife, Uncertainty, Evidence synthesis, Decision models

About me

I am an ecologist, with research interests in how we use knowledge to better inform decision making in species conservation (i.e. "Evidence-based decision making"). I develop opensource tools (in R and Shiny) that help people gather information robustly in a transparent way, interact with that information and make inference from it.

I am currently working on several projects that are fundamentally about how we make open research approaches (i.e. sharing data, sharing code, sharing best practice) as an integrated part of the workflow for biodiversity researchers and how we can take this open research and use it to help decision-makers find optimal solutions.

Education and qualifications

Newcastle University

BSc (Hons) in Zoology

UK

1994 - 1997

University of Pretoria

MSc in Conservation & Planning

South Africa

2004 - 2005

University of Pretoria

PhD Zoology

South Africa

2008 - 2012

Employment history

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| 2021– | Researcher , NINA, Trondheim, Norway |
| 2019–2021 | Postdoctoral Fellow , NINA, Trondheim, Norway |
| 2014–2019 | Postdoctoral Research Associate , Newcastle University, UK |
| 2013–2014 | Postdoctoral Research Associate-Research Impact , Newcastle University, UK |
| 2011–2012 | Conservation Research and Support Officer , World Pheasant Ass., Newcastle, UK |
| 2005–2006 | Research Co-ordinator , Frontier-Tanzania, Tanzania |

Rpackages

- Haddaway, N., Grainger, M., & Gray, C. (2021). *Citationchaser: Perform forward and backwards chasing in evidence syntheses*.
- Haddaway, N., Feierman, A., Grainger, M., Gray, C., Tanriver-Ayder, E., Dhaubanjari, S., & Westgate, M. (2019). *Visualisation and mapping for datasets from systematic reviews and maps*.
- Gray, C., Grainger, M., & Haddaway, N. (2021). *Sysrevdata: Methods for designing multifunctional, machine readable systematic review and map databases*.

Publications

NR Haddaway, CT Gray, M Grainger

Environmental Evidence

NOVEL TOOLS AND METHODS FOR DESIGNING AND WRANGLING MULTIFUNCTIONAL, MACHINE-READABLE EVIDENCE SYNTHESIS

DATABASES

2021

G Gupta, M Grainger, JC Dunn, R Sanderson, PJK McGowan

bioRxiv

WHAT IS THE EVIDENCE AVAILABLE TO SUPPORT OUR KNOWLEDGE ABOUT THREATS TO THE CONSERVATION OF GALLIFORMES IN

THE GREATER HIMALAYA?

2021

H Downey, T Amano, M Cadotte, CN Cook, SJ Cooke, NR Haddaway, ...

Ecological Solutions and Evidence

TRAINING FUTURE GENERATIONS TO DELIVER EVIDENCE-BASED CONSERVATION AND ECOSYSTEM MANAGEMENT

2021

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| MJ Grainger, FC Bolam, GB Stewart, EB Nilsen | <i>Nature ecology & evolution</i> |
| EVIDENCE SYNTHESIS FOR TACKLING RESEARCH WASTE | 2020 |
| B Cretois, JDC Linnell, M Grainger, EB Nilsen, JK Rød | <i>Global Ecology and Conservation</i> |
| HUNTERS AS CITIZEN SCIENTISTS: CONTRIBUTIONS TO BIODIVERSITY MONITORING IN EUROPE | 2020 |
| L Aramyan, M Grainger, K Logatcheva, S Piras, M Setti, G Stewart, ... | <i>Measuring Business Excellence</i> |
| FOOD WASTE REDUCTION IN SUPPLY CHAINS THROUGH INNOVATIONS: A REVIEW | 2020 |
| W Phumanee, R Steinmetz, R Phoonjampa, T Bejraburnin, M Grainger, ... | <i>Ecosphere</i> |
| OCCUPANCY-BASED MONITORING OF UNGULATE PREY SPECIES IN THAILAND INDICATES POPULATION STABILITY, BUT LIMITED RECOVERY | 2020 |
| TNE Gray, MJ Grainger, R Grosu | <i>Conservation Science and Practice</i> |
| CONSERVATION DECISION-MAKING UNDER UNCERTAINTY: IDENTIFYING WHEN TO REINTRODUCE TIGER PANTHERA TIGRIS TO CAMBODIA | 2020 |
| C Kandemir, C Reynolds, M Verma, M Grainger, G Stewart, S Righi, ... | <i>Routledge Handbook of Food Waste</i> |
| DISCRETE EVENT SIMULATION; MACHINE LEARNING; BAYESIAN NETWORKS; AGENT-BASED MODELLING; AND MASS BALANCE ESTIMATION | 2020 |
| M Crane, I Silva, MJ Grainger, GA Gale | <i>bioRxiv</i> |
| ON A WING AND A PRAYER: LIMITATIONS AND GAPS IN GLOBAL BAT WING MORPHOLOGY TRAIT DATA | 2020 |
| FC Bolam, MJ Grainger, KL Mengersen, GB Stewart, WJ Sutherland, ... | <i>Biological Reviews</i> |
| USING THE VALUE OF INFORMATION TO IMPROVE CONSERVATION DECISION MAKING | 2019 |
| J Carrick, MSAB Abdul Rahim, C Adjei, HHH Ashraa Kalee, SJ Banks, ... | <i>Journal of Flood Risk Management</i> |
| IS PLANTING TREES THE SOLUTION TO REDUCING FLOOD RISKS? | 2019 |
| NR Haddaway, A Feierman, MJ Grainger, CT Gray, E Tanriver-Ayder, ... | <i>Environmental evidence</i> |
| EVIATLAS: A TOOL FOR VISUALISING EVIDENCE SYNTHESIS DATABASES | 2019 |
| B Freeman, D Jiménez-García, B Barca, M Grainger | <i>Avian Research</i> |
| USING REMOTELY SENSED AND CLIMATE DATA TO PREDICT THE CURRENT AND POTENTIAL FUTURE GEOGRAPHIC DISTRIBUTION OF A BIRD AT MULTIPLE SCALES: THE CASE OF ÁGELASTES MELEAGRIDES, A ... | 2019 |
| MJ Whittingham, AJ McKenzie, RM Francksen, D Feige, T Cadwallender, ... | <i>Bird Study</i> |
| OFFSHORE REFUGES SUPPORT HIGHER DENSITIES AND SHOW SLOWER POPULATION DECLINES OF WINTERING RUDDY TURNSTONES ARENARIA INTERPRES | 2019 |
| M Grainger, S Piras, S Righi, M Setti, G Stewart, M Vittuari | <i>Refresh</i> |
| INTEGRATED MODEL OF CONSUMER BEHAVIOURS IN RELATION TO FOOD WASTE: BEHAVIOURAL ECONOMICS: D4. 4 LINKING BAYESIAN AND AGENT-BASED MODELS TO ASSESS CONSUMER FOOD WASTE | 2019 |
| M Grainger, EB Nilsen | |
| NEED FOR TRANSPARENT AND REPEATABLE CONSERVATION FRAMEWORKS: REPLY TO CHILD ET AL. 2019 | 2019 |
| N SUKUMAL, MJ GRAINGER, T SAVINI | <i>Bird Conservation International</i> |
| LOWER LEVELS OF HUMAN DISTURBANCE CORRESPOND WITH LONGER-TERM PERSISTENCE OF ENDANGERED GREEN PEAFOWL PAVO MUTICUS POPULATIONS | 2019 |
| PJK McGowan, GB Stewart, G Long, MJ Grainger | <i>Nature Sustainability</i> |
| AN IMPERFECT VISION OF INDIVISIBILITY IN THE SUSTAINABLE DEVELOPMENT GOALS | 2018 |
| MJ Grainger, L Aramyan, S Piras, TE Quested, S Righi, M Setti, M Vittuari, ... | <i>PloS one</i> |
| MODEL SELECTION AND AVERAGING IN THE ASSESSMENT OF THE DRIVERS OF HOUSEHOLD FOOD WASTE TO REDUCE THE PROBABILITY OF FALSE POSITIVES | 2018 |
| H Kendall, G Kaptan, G Stewart, M Grainger, S Kuznesof, P Naughton, ... | <i>Food Control</i> |
| DRIVERS OF EXISTING AND EMERGING FOOD SAFETY RISKS: EXPERT OPINION REGARDING MULTIPLE IMPACTS | 2018 |
| MJ Grainger, L Aramyan, K Logatcheva, S Piras, S Righi, M Setti, ... | <i>Global food security</i> |
| THE USE OF SYSTEMS MODELS TO IDENTIFY FOOD WASTE DRIVERS | 2018 |
| MJ Grainger, PJ Garson, SJ Browne, PJK McGowan, T Savini | <i>Biological conservation</i> |
| CONSERVATION STATUS OF PHASIANIDAE IN SOUTHEAST ASIA | 2018 |
| F Stephenson, AC Mill, CL Scott, GB Stewart, MJ Grainger, NVC Polunin, ... | <i>Marine Policy</i> |
| SOCIO-ECONOMIC, TECHNOLOGICAL AND ENVIRONMENTAL DRIVERS OF SPATIO-TEMPORAL CHANGES IN FISHING PRESSURE | 2018 |
| S Thunhikorn, MJ Grainger, PJK McGowan, T Savini | <i>Avian Research</i> |
| SPATIAL DISTRIBUTION OF DISPLAY SITES OF GREY PEACOCK-PHEASANT IN RELATION TO MICRO-HABITAT AND PREDATORS DURING THE BREEDING SEASON | 2018 |
| M Grainger, D Ngoprasert, P McGowan, T Savini | <i>Oryx</i> |
| INFORMING DECISIONS ON AN EXTREMELY DATA POOR SPECIES FACING IMMINENT EXTINCTION | 2017 |
| MJ Grainger, GB Stewart | <i>Resources, Conservation and Recycling</i> |
| THE JURY IS STILL OUT ON SOCIAL MEDIA AS A TOOL FOR REDUCING FOOD WASTE A RESPONSE TO YOUNG ET AL.(2017) | 2017 |

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| LH Aramyan, MJ Grainger, K Logatcheva, S Piras, S Righi, M Setti, ... | <i>The</i> |
| FOOD WASTE REDUCTION IN SUPPLY CHAINS THROUGH INNOVATIONS: WHAT FACTORS AFFECT THE DECISION TO ADOPT INNOVATIONS | 2017 |
| M Grainger, G Stewart, S Piras, S Righi, M Setti, M Vittuari, LH Aramyan | <i>REFRESH</i> |
| D4. 3-MODEL INTEGRATION: INTEGRATED SOCIO-ECONOMIC MODEL ON FOOD WASTE | 2017 |
| M Grainger, G Stewart, S Piras, S Righi, M Setti, M Vittuari, LH Aramyan | <i>REFRESH</i> |
| D4. 2-MODEL DEVELOPMENT AND DATA PROTOCOL | 2016 |
| S Thunhikorn, MJ Grainger, PJK McGowan, T Savini | <i>RAFFLES BULLETIN OF ZOOLOGY</i> |
| ASSESSING THE POPULATION OF GREY PEACOCK-PHEASANT (POLYPLECTRON BICALCARATUM) IN A SOUTHEAST ASIAN CONSERVATION LANDSCAPE | 2016 |
| S Thunhikorn, MJ Grainger, PJK McGowan, T Savini | <i>Forktail</i> |
| METHODS USED TO SURVEY AVIAN SPECIES AND THEIR POTENTIAL FOR SURVEYING GROUND-DWELLING BIRDS IN ASIA | 2016 |
| S Thunhikorn, M Grainger, P McGowan | <i>Newcastle University</i> |
| A REVIEW OF METHODS USED TO SURVEY AVIAN SPECIES AND THEIR POTENTIAL FOR SURVEYING GROUND-DWELLING BIRDS IN ASIA | 2016 |
| S Thunhikorn, MJ Grainger, PJK McGowan, T Savini | <i>Raffles Bulletin of Zoology</i> |
| ASSESSING THE POPULATION STATUS OF GREY PEACOCK-PHEASANT (POLYPLECTRON BICALCARATUM) IN HUAI KHA KHAENG, A KEY CONSERVATION LANDSCAPE IN SOUTHEAST ASIA | 2016 |
| DP Mallon, M Hoffmann, MJ Grainger, F Hibert, N Van Vliet, ... | <i>Occasional paper of the IUCN species survival commission</i> |
| AN IUCN SITUATION ANALYSIS OF TERRESTRIAL AND FRESHWATER FAUNA IN WEST AND CENTRAL AFRICA | 2015 |
| FHA Aalen, MJ Grainger, F Hibert, M Hoffmann, DP Mallon, ... | <i>IUCN</i> |
| ANALYSE DE SITUATION DE L’UICN CONCERNANT LA FAUNE TERRESTRE ET D’EAU DOUCE EN AFRIQUE CENTRALE ET DE L’OUEST | 2015 |
| M Grainger, R van Aarde | <i>Ecological Restoration</i> |
| CAN NON-NATIVE SPECIES EXPLAIN PATTERNS OF CONVERGENCE AND DEVIATION IN REGENERATING COASTAL DUNE FOREST? | 2015 |
| MJ Grainger, RJ Van Aarde | <i>African Journal of Ecology</i> |
| THE ROLE OF CANOPY GAPS IN THE REGENERATION OF COASTAL DUNE FOREST | 2013 |
| M Grainger, P McGowan, A McKenzie, J Minderman, JP Rodriguez, ... | |
| METHOD FOR THE ASSESSMENT OF PRIORITIES FOR INTERNATIONAL SPECIES CONSERVATION (MAPISCO) | 2013 |
| MJ Grainger, RJ Van Aarde | <i>Ecological Restoration</i> |
| IS SUCCESSION-BASED MANAGEMENT OF COASTAL DUNE FOREST RESTORATION VALID? | 2012 |
| PJK McGowan, LL Owens, MJ Grainger | <i>Animal Biodiversity and Conservation</i> |
| GALLIFORMES SCIENCE AND SPECIES EXTINCTIONS: WHAT WE KNOW AND WHAT WE NEED TO KNOW | 2012 |
| RAR Guldemond, MJ Grainger, MJ Trimble | <i>Restoration Ecology</i> |
| WHERE IS THE EVIDENCE FOR ASSESSING EVIDENCE-BASED RESTORATION? COMMENTS ON NTSHOTSHO ET AL.(2010) | 2012 |
| MJ Grainger, RJ van Aarde, TD Wassenaar | <i>Restoration Ecology</i> |
| LANDSCAPE COMPOSITION INFLUENCES THE RESTORATION OF SUBTROPICAL COASTAL DUNE FOREST | 2011 |
| MJ Grainger | <i>University of Pretoria</i> |
| AN EVALUATION OF COASTAL DUNE FOREST RESTORATION IN NORTHERN KWAZULU-NATAL, SOUTH AFRICA | 2011 |
| MJ Grainger, RJ Van Aarde | <i>Wiley-Blackwell</i> |
| RESILIENCE OF THE MEDICINAL PLANT COMMUNITY OF REHABILITATING COASTAL DUNE FORESTS, KWAZULU-NATAL, SOUTH AFRICA | 2011 |
| C Bonnington, M Grainger, S Dangerfield, E Fanning | <i>African Journal of Ecology</i> |
| THE INFLUENCE OF ELECTRIC FENCES ON LARGE MAMMAL MOVEMENTS IN THE KILOMBERO VALLEY, TANZANIA | 2010 |
| C Bonnington, MD Steer, J Lamontagne-Godwin, N Owen, M Grainger | <i>African Journal of Ecology</i> |
| EVIDENCE FOR LOCAL DECLINES IN TANZANIA’S PUKU ANTELOPE (KOBUS VARDONI LIVINGSTONE, 1857) POPULATION BETWEEN 1999 AND 2003 | 2010 |
| M Grainger, R Van Aarde, I Whyte | <i>African Journal of Ecology</i> |
| LANDSCAPE HETEROGENEITY AND THE USE OF SPACE BY ELEPHANTS IN THE KRUGER NATIONAL PARK, SOUTH AFRICA | 2005 |