

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

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*.

Rpackages in development

- 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	<i>Environmental Evidence</i>
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	<i>bioRxiv</i>
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, ...	<i>Ecological Solutions and Evidence</i>
TRAINING FUTURE GENERATIONS TO DELIVER EVIDENCE-BASED CONSERVATION AND ECOSYSTEM MANAGEMENT	2021
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 ÁRENARIA 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 Qusted, 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
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