

Tom P. Moore

QUANTITATIVE SCIENTIST · COMMUNITY ECOLOGIST

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Philosophy: to use ecological theory to find applied solutions for managing environmental resources

Skills

Software **R-statistics:** experimental design, data management, univariate/multivariate (ordination), GLM(M), SEM, Causal inference, Bayesian & frequentist analyses, & data visualisation (R-markdown). **Microsoft:** Word, Excel, & Powerpoint. Inkscape & LaTeX.

Certificates Full NZ drivers licence, 4WD, backpack electric fishing certification (boat and bank experience), outdoor first aid (expired), & Hamilton Land Search and Rescue (e.g., river and flood safety, swift water awareness, & search techniques and tracking).

CliftonStrengths

CliftonStrengths is a Gallup assessment that identifies areas of greatest talent to maximise potential (<https://www.gallup.com/cliftonstrengths>). I am particularly strong in Strategic thinking and Relationship Building domains. My top talents (1-10) relevant to this position are in bold:

Connectedness - Learner - Empathy - **Achiever** - Ideation - **Developer** - **Strategic** - Arranger - Deliberative - **Analytical**

Education

University of Waikato

PH.D. BIOLOGICAL SCIENCES. PRIMARY ADVISOR: KEVIN COLLIER, SECONDARY ADVISORS: IAN DUGGAN & SUE CLEARWATER.

Hamilton, NZ

2017–2021

University of Canterbury

M.Sc. ECOLOGY (2:1 HONOURS). PRIMARY ADVISOR: JON HARDING, SECONDARY ADVISORS: CHRIS GLOVER & DAVID KELLY.

Christchurch, NZ

2012–2014

B.Sc. ECOLOGY

2009–2011

Professional Experience (5 years EFT)

Plant & Food Research

STATISTICAL SCIENTIST

Lincoln, NZ

March 2022–PRESENT

- Experimental design, power analysis, Bayesian and frequentist inference, Causal inference, hypothesis testing, developing reproducible pipelines, & analysis of spatial / temporal / hierarchical / (non-)linear data structures. Ecologist. Statistical consultant. Data scientist

Boffa Miskell

FRESHWATER ECOLOGIST (FIXED-TERM)

Christchurch, NZ

Dec. 2021–March 2022

- Supporting freshwater consultancy work over the summer period for key ecological projects

Lincoln University

RESEARCH ASSISTANT (ACADEMIC)

Christchurch, NZ

November 2021

- Field work: destructive sampling of a wilding pine experiment investigating barriers to their establishment (microhabitat, climate, & herbivory)

University of Waikato

TUTOR (E.G., DATA ANALYSIS & EXPERIMENTAL DESIGN, APPLIED FRESHWATER ECOLOGY, & PRINCIPLES OF ECOLOGY)

Hamilton, NZ

2017–2021

- Taught ecological and statistical theory, demonstrated practical skills (e.g., field survey and microscopy techniques), organised field logistics, proofed and prepared new course material (R-statistics course), troubleshooted R-code, marked assignments and assessments, assisted course coordinators in administrative duties and engagement, mentored and provided feedback to students and demonstrators

RESEARCH ASSISTANT (COMMERCIAL)

- Fish survey and pest-fish removal (electrofishing and gill netting: Meridian & Zealandia) and proof-read client reports (other publications)

EOS Ecology

AQUATIC ECOLOGY TECHNICIAN

Christchurch, NZ

Apr. 2015–May 2016

- Conducted freshwater ecological surveys (e.g., habitat mapping, assessment, and water quality: Whaka Inaka project led by UC and Ngā Tahu), fish species identification, relocation, and translocation (e.g., Fulton Hogan Western Belfast Bypass), and macroinvertebrate identification (SOE) according to standard operating procedures (P1-P3). Data entry and quality assurance, Health and Safety training, and hazard reporting

University of Canterbury

RESEARCH ASSISTANT (ACADEMIC)

Christchurch, NZ

Oct. 2014–Apr. 2015

- Laboratory experiment: led investigation of the application of denitrifying bioreactors for nitrate removal from drains on the Canterbury Plains

DEMONSTRATOR (E.G., ECOLOGY, EVOLUTION & CONSERVATION AND EXPERIMENTAL DESIGN & DATA ANALYSIS)

2012–2014

- Taught ecological and statistical theory, demonstrated practical skills, transported students to field sites, and supported field logistics

Honors & Awards

PRESENTATIONS

2019 NIWA: Vernon Pickett memorial award, School of Science Postgraduate Conference, \$300.

Hamilton, NZ

RESEARCH GRANTS AWARDED

2023 Te Pūnaha Matatini Seed Fund, \$45,000 (Causal inference project).

2017 Biological Heritage National Science Challenge, \$114,500 (stipend and fees for 3 years and 9 months).

2013 Environment Canterbury Postgraduate Scholarship, \$14,000.

2011 University of Canterbury Summer Scholarship, \$5,000.

Extracurricular Activity

The Court Theater

Christchurch, NZ

SPONTANEITY (IMPROVISATION COURSE)

Oct. 2021 - PRESENT

- Personal development: exploring how improvisation techniques aid working with others by listening, communicating, and navigating change.

Land Search & Rescue New Zealand

Waikato, NZ

ADVANCED OPERATIONAL TEAM MEMBER

Nov. 2017–May 2021

- On-call volunteer for rescue operations. Training: first aid, search techniques, navigation, tracking, bushcraft, radio operation, & river safety

Pillars Incorporated

Christchurch, NZ

MENTOR

2015–2017

- Provided emotional support to a young person whilst a parent was in prison: weekly catch-ups and activities

Biological Society: BIOSOC

Christchurch, NZ

PRESIDENT AND CO-FOUNDER

2013–2014

- Led the committee and encouraged feedback, crafted the society vision, proposed events, delegated tasks, & supported an innovative culture

Refereed Publications (first author)

IN PRINT

Moore, T.P., Clearwater S. J., Collier K. J., & Duggan I.C. (2022). Hydrology and invasive macrophytes may mediate freshwater mussel density and population size structure in a hydropeaking reservoir *Science of The Total Environment*, 851. DOI: 10.1016/j.scitotenv.2022.158124

Moore, T. P., McIntosh, A. R., Febria C. M., Warburton H.J., & Harding, J. S. (2021). Benthic invertebrate indices show no response to high nitrate-nitrogen in lowland agricultural streams. *Water, Air, and Soil Pollution*, 232:263. DOI: 10.1007/s11270-021-05169-1

Moore, T.P., Clearwater S. J., Collier K. J., & Duggan, I.C. (2020). Context-specific effects of invasive macrophytes on temperature, oxygen, and pH in a hydropeaking reservoir. *River Research Applications*, 36, 1717-1729. DOI: 10.1002/rra.3674

Moore, T. P. & Clearwater S. J. (2019). Non-native fish as glochidial sinks: elucidating disruption pathways for *Echydrella menziesii* recruitment. *Hydrobiologia*. DOI: 10.1007/s10750-019-04035-w

Moore, T.P., Collier K. J., & Duggan I. C. (2019). Interactions between Unionida and non-native species: A global meta-analysis. *Aquatic Conservation Marine and Freshwater Ecosystems*, 29, 1438-1451. DOI: 10.1002/aqc.3040

IN PREPARATION

Moore, T.P. & Penney, C.E. Towards effective interventions to address gender pay gaps: a causal approach in simulated salary band data.

Other Publications

THESES

Moore, T.P. (2020). Interactions between freshwater mussels and non-native species. Ph.D. thesis. University of Waikato, Waikato, New Zealand.

Moore, T.P. (2014). Nitrate-nitrogen effects on benthic invertebrate communities in streams of the Canterbury Plains. M.Sc. Zoology thesis. University of Canterbury, Christchurch, New Zealand.

CLIENT REPORTS

Ling, N., **Moore, T.P.**, & Powrie W.S. (2020). Removal of perch from Roto Kawau, Zealandia Ecosanctuary.

Hicks, B.J., Powrie, W.S., **Moore, T.P.**, & Tempero G.W. (2019). Boat electrofishing and stable isotopes in fish in Lake Karapiro. ERI Report No. 125. Client report prepared for the Department of Conservation.

Moore, T.P., & Harding, J.S. (2012). Preliminary investigations on nitrate-nitrogen effects on benthic invertebrate and fish communities in Canterbury streams. Short report prepared for Environment Canterbury.

Presentations (Selected)

Moore, T.P. (2023). Invited lecture on applied modern statistical approaches in ecology. Lincoln University, New Zealand.

Moore, T.P., Clearwater S. J., Collier K. J., & Duggan, I.C. (2019). Interactions between Unionida and non-native species. School of Science Postgraduate Conference, Hamilton, New Zealand.

Moore, T.P., Clearwater S. J., Collier K. J., & Duggan, I.C. (2018). Non-native fish as glochidial sinks: elucidating disruption pathways for *Echyridella menziesii* recruitment. Freshwater Mollusk Conservation Society Conference, Verbania, Italy.

Moore, T.P., Clearwater S. J., Collier K. J., & Duggan, I.C. (2018). Freshwater mussel and non-indigenous species interactions. Biological Heritage National Science Challenge Early Career Workshop, Lincoln.

Moore, T. P., McIntosh, A. R., Febria C. M., Warburton H.J., & Harding, J. S. (2016). Nitrate-nitrogen triggers a range of responses in the macroinvertebrate community: a comparison of biotic indicators for small agricultural Canterbury Plains streams. New Zealand Freshwater Sciences Society Conference, Invercargill, New Zealand.