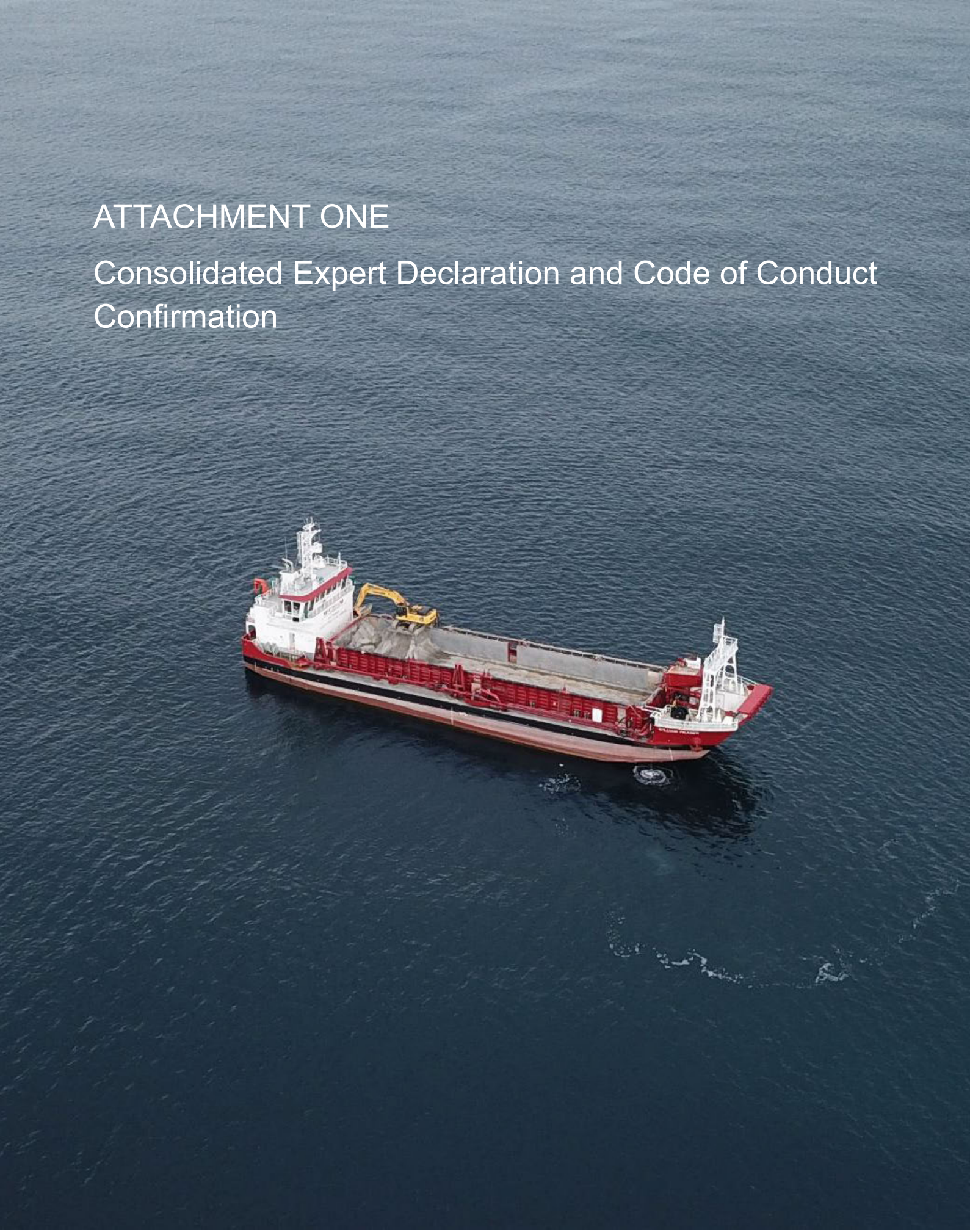
ATTACHMENT ONE

Consolidated Expert Declaration and Code of Conduct Confirmation



McCALLUM BROS LTD

Established 1904

Consolidated Expert Declaration and Code of Conduct Confirmation

We, the undersigned, being the authors of the specialist assessments supporting part of McCallum Bros Limited (the disclosing party) 'B*ream Bay Sand Extraction Project*' substantive application as a listed project in the Fast-track Approvals Act 2024, hereby declare and confirm the following:

1. **Independence and Impartiality**
   Each signatory affirms that the specialist assessments, and conclusions expressed within their respective assessments have been prepared independently and impartially. To the best of each expert's knowledge, no person or organisation has unduly influenced the content, methodology, or conclusions of their assessment.

2. **Scope of Expertise**
   Each expert confirms that the evidence provided is within their respective area of professional expertise, except where expressly stated that reliance has been placed upon the specified evidence, literature, or statement of another experts assessment or appropriately qualified person.

3. **Accuracy and Completeness**
   Each expert further confirms that they have not knowingly omitted to consider any material facts known to them which might alter or detract from the assumptions they have expressed in their assessments, and that the information provided is accurate and complete to the best of their knowledge.

4. **Code of Conduct Compliance**
   Each expert has read, understood, and agrees to comply with the applicable **Code of Conduct**, and specifically endorses the following declaration:

"I have been provided with a copy of the Code of Conduct for Expert Witnesses contained in the Environment Court's 2023 Practice Note. While this is not an Environment Court hearing, I have read and agree to comply with that Code. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express."

5. **Confirmation**
   By signing this declaration, each expert confirms that their specialist assessments have been prepared in accordance with the above statement, that they have maintained professional independence and integrity, and that they adopt the contents of their assessments as true and correct to the best of their knowledge.

Executed as a Declaration				
Report Title	**Organisation**	**Author(s)**	**Signature**	**Date**
Assessment Of Airborne Noise Effects Sand Extraction Te Ākau (Bream Bay)	Styles Group	Jon Styles	[redacted]	20/11/2025
Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay	R.O. Boyd	Richard (Rick) Boyd	[redacted]	19/11/2025
Assessment of Effects on Surf Breaks at Te Ākau Bream Bay	Metocean Solutions	Séverin Thiébaut (Author - signed), Alexis Berthot (Author - signed), Brett Beamsley	[redacted]	19/11/2025
Assessment Of Underwater Noise Levels Proposed Sand Extraction: Te Ākau Bream Bay	Styles Group	Matt Pine	[redacted]	24/11/2025
Cup Corals and Schedule 7 of the Fast-Track Approvals Act 2024	NIWA	Jennifer Beaumont	[redacted]	19/11/2025
Te Ākau Bream Bay Sand Extraction: Economic Assessment	M.E. Consulting	Lawrence McIlrath	[redacted]	20/11/2025
Navigation Safety Assessment William Fraser Sand Extraction In Bream Bay	Northland Regional Council	Bruce Goodchild	[redacted]	20/11/25
Te Ākau Bream Bay Sand Extraction Project - Resource Consent and Wildlife Approval Applications and Assessment of Effects under the Fast-track Approvals Act 2024	Osborne Hay	David Hay	[redacted]	5/12/2025
Sand extraction in Te Ākau Bream Bay Potential effects on seabirds and shorebirds	NIWA	David Thompson	[redacted]	19/11/2025

Scleractinian cup corals at Te Ākau Bream Bay Literature review and distribution of cup corals identified within the proposed sand extraction area	NIWA	Jennifer Beaumont	[redacted]	19/11/2025
Supporting Statement Of Paul Donoghue In Support Of Mccallum Bros Limited Application To Fast Track A Sand Extraction Consent From A Site In Te Ākau Bream Bay	Concreteman NZ	Paul Donoghue	[redacted]	23/11/2025
Te Ākau Bream Bay Sand Extraction: Coastal Processes Effects Assessment	Tonkin + Taylor	Eddie Beetham, Richard Reinen-Hamill Richard	[redacted]	27/11/2025
Te Ākau Bream Bay Sand Extraction Landscape & Natural Character Effects Assessment	Brown NZ Ltd	Stephen Brown	[redacted]	19/11/2025
Te Ākau Bream Bay Sand Extraction Marine Mammal Environmental Impact Assessment	SLR Consulting New Zealand	Helen McConnell	[redacted]	19/11/2025
Te Ākau Bream Bay Sand Extraction Project Assessment of Ecological Effects	Bioresearches	Simon West	[redacted]	19/11/2025
Te Ākau Bream Bay Sand Extraction Water Quality Assessment of Environmental Effects	SLR Consulting New Zealand	Pete Wilson	[redacted]	19/11/2025

Curriculum vitae

The following curricula vitae, belonging to the authors of the specialist assessments supporting McCallum Bros Limited's (the disclosing party) 'Bream Bay Sand Extraction Project' submitted as a substantive application under the Fast-track Approvals Act 2024 are appended as follows:

Dr Alexis Berthot

MetService
TE RATONGA TIRORANGI

Specialisation

Physical oceanographer and project management/direction for offshore, coastal, ports and harbour industries. Peer Review and Technical advisor positions.

Alexis is experienced in coastal, oceanic and estuarine investigation and design studies, with expertise in hydrodynamic and wave modelling, sediment transport and morphological modelling, water quality modelling, field investigations. Alexis has been the project manager and technical lead for numerical modelling studies for a number of coastal and port development projects in Australia, New Zealand, UAE, Qatar, The Philippines, Papua New Guinea, USA, Malaysia, Indonesia, Taiwan, Pacific Islands.

Contact

T: [redacted]
E: [redacted]
www.metocean.co.nz
[redacted]

Recent Project History

- Project manager and technical lead for numerical modelling studies for a number of coastal and port development projects
- Coastal process modelling and analysis for coastal engineering project
- Technical lead for numerous coastal and estuarine modelling studies on hydrodynamics, waves and sediment transport.
- Port design studies, including metocean conditions and wave penetration modelling.
- Dispersion modelling of brine, storm water and wastewater water discharges
- Dredged Sediment plume and sediment disposal modelling
- Numerical modelling of sediment transport and morphological change for coastal processes studies and port operations.
- Metocean site studies (waves, winds, currents, tides) for numerous locations worldwide
- Project director for fibre optics cables environmental assessment studies and permitting projects in Australia.

Academic Qualifications

- Doctor of Philosophy in Coastal Oceanography, University of Western Australia, 2005.
- Master in Marine Environmental Science, University of Marseille, France, 1999.
- Bachelor in Environmental Science, University of Marseille, France, 1997.

Peer-reviewed Journal Articles

Berthot, A. and Pattiaratchi C. (2006)" Modelling the formation and maintenance of headland associated linear sandbanks ". Continental Shelf Research 26(8), 987–1004.

Berthot, A. and Pattiaratchi C. (2005) " Field measurements of the three-dimensional current structure in the vicinity of a headland associated linear sandbank associated linear sandbanks". Continental Shelf Research 26, 295-317

Berthot, A. and Pattiaratchi C. (2005) " Maintenance of headland associated linear sandbanks: modelling the secondary flows and sediment transport ". Ocean Dynamic. 55: 526-540. DOI 10.1007/s10236-005-0010-9.

Conference Papers

Montano M., **Berthot A.**, (2025) Drifting and Tracking – Where Do Floating Things Go? Australasian Coasts and Ports 2025, Adelaide, Australia.

Cussioli M., **Berthot A.** (2025). Testing wave transmission: Reproducing mussel farm dynamics in a numerical model. Australasian Coasts and Ports 2025, Adelaide, Australia.

Watson H., Berthot A. (2025). Comparison of Coupled SCHISM/WWM-III and DelftFM/SWAN for Wave-Current Dynamics in Tidal Inlets. Australasian Coasts and Ports 2025, Adelaide, Australia.

Cussioli, M., **Berthot, A.**, Thiebaut, S., Watson, H., Meirelles, S., Gardiner, S., Knight, S. (2023). One Beach... Many Models! Combining Models to Predict Multidecadal Coastal Erosion. Australasian Coasts & Ports 2023 Conference – Twin Waters, Australia, 10pp.

Shand T., Brown A., Reinen-Hamill R., Quilter P., McCarter S., Ford M., **Berthot A.**, Watson H., Cussioli M., Valstar J., Britton G., Hoogerwerf F., van Dijk B., Oxley M., Gill C., Parker R. 2024. Understanding the dynamics of a large and complex ebb tide delta to assess the feasibility of a greenfield port. Proceedings of PIANC World Congress 2024. Cape Town, South Africa, May 2024.

Albuquerque J., Weppe S., **Berthot, A.** (2023). On the use of instrumental data for infragravity wave simulations. Australasian Coasts & Ports 2023 Conference – Twin Waters, Australia, 7 pp.

Adamantidis C., Thomas C., **Berthot A.**, Cussioli M., Bayley M.2022 " Estimating Sediment generation from rock contruction works.", 37th International Conference on Coastal Engineering ICCE 2022 – Sydney Dec 2022.

Weppe S., **Berthot A.**, and Rapizo H 2021 "Complex wave propagation patterns near shipping channels -Phase-averaged or phase-resolving wave model?" Australasian Coasts & Ports 2021 Conference – Christchurch, 30 November – 3 December 2021

Arnaud G. E., Thiebaut S., **Berthot A.**, Harper B., Tran H. 2021 "Assessment of future storm surge hazard in Darwin Harbour, Australia" Australasian Coasts & Ports 2021 Conference – Christchurch, 30 November – 3 December 2021

Berthot A., Pashootan S., Dent J., Dengate C. and Quilliam L. 2013 "Investigating Hydrodynamic and Sediment Processes in a Remote Environment – Case Study: Loading Facility on the Fly River". Coasts and Ports Conference, Sydney, Australia, September 2013.

Nielsen A.F., Bonner R.R. and **Berthot A.** 2011. "Wave Energy Reflection off Dredged Channels". Coasts and Ports Conference, Perth, Australia, September 2011.

Berthot, A. and Treloar P. D. 2009. "The Use of Numerical Modeling in Assisting Port Development Case Study at Port Hedland". Coasts and Ports Conference, Wellington, New Zealand, September 2009.

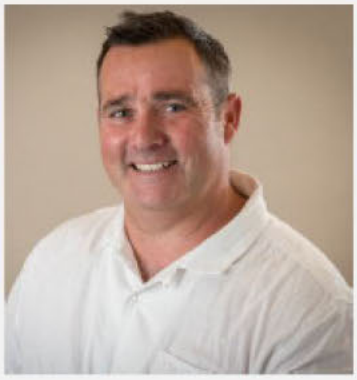
Berthot, A. and Treloar P. D. 2007. Wave Modelling for Botany Bay Pipeline Crossing – Sydney Desalination Plant". 16th NSW Coastal Conference, Yamba NSW, Australia November 2007.

Dr Brett Beamsley

Dr Brett Beamsley

General Manager | Physical Oceanographer

MetOcean SOLUTIONS



Specialisation

Metocean studies, collection and analysis of environmental data, including marine instrumentation deployments, data processing and seabed surveys.

Brett is the General Manager of MetOcean Solutions, providing scientific and strategic leadership. He has over 20 years of experience in field and consultancy work.

Contact

T: [redacted]
M:
E:
www.metocean.co.nz
[redacted]

Recent Project history

- Lead oceanographer and project manager for offshore engineering metocean design studies (pipelines, platforms and floating facilities).
- Assorted offshore engineering consultancy, pipeline survey in Papua New Guinea, ROV survey rep on various survey projects in NZ.
- Undertook and managed a range of metocean programmes in Australia, NZ and SE Asia.
- ROV Engineer, worked on a wide range of offshore engineering and survey projects in Australia, NZ and SE Asia. Offshore metocean design studies.
- Coastal process modelling and analysis.
- Port, harbour and marina design studies, including wave penetration and surge modelling / analysis.
- Oil spill trajectory, thermal plume and near-field plume modelling.
- Estuarine and coastal hydrodynamic modelling.
- Seabed survey and bathymetric / habitat mapping.
- Wave and tidal energy studies.
- Varied oceanographic and survey consultancy on projects throughout Australasia.
- Peer Review, Expert Witness and Technical advisor roles.

Academic Qualifications

- Doctor of Philosophy (Oceanography), University of Waikato, NZ. 2003. Nearshore sediment dynamics in a mixed sand/mud environment.
- MSc (Physical Oceanography), University of Waikato, 1996. Shoreface wave height reinforcement and frictional dissipation off Waihi Beach, with emphasis on seabed characteristics and numerical modelling.
- Bachelor of Science (Marine Chemistry), University of Otago, NZ.

Peer-reviewed journal articles

Schimel, A.C., Johnson, D., Healy, T., McComb, P.J., **Beamsley, B.**, Immenga, D. (2008). Potential influence of shells on multibeam backscatter imagery within the Te Matuku Marine Reserve, New Zealand. Acoustical Society of America Journal 123, 3212. doi:10.1121/1.2933391.

Beamsley, B., Black K.P., and Healy T.R. (2001). Micro-scale pumped measurements of suspended sediment over a mixed sand/mud bed: profiles, grain sizes and sediment diffusivity. Special Issue 34 (ICS 2000), Journal of Coastal Research, pp 342-356.

Healy, T. R., Stephens, S. A., Black, K. P., Gorman, R., Cole, R., & **Beamsley, B. J.** (2002). Port redesign and planned beach renourishment in a high wave energy sandy-muddy coastal environment, Port Gisborne, New Zealand. Geomorphology, 48(1-3), 163-177.

Beamsley, B. J., Black, K. P., & Healy, T. R. (2000). Micro-scale pumped measurements of suspended sediment over a mixed sand/mud bed: Profiles, grain sizes and sediment diffusivity. Journal of Coastal Research, 34(Special), 342-356.

Healy, T. R., Stephens, S. A., Black, K. P., Gorman, R. M., & **Beamsley, B. J.** (1999). Numerical and physical process studies for Port of Gisborne redesign for the 21st century. Journal of Coastal Research, S1 26, 304-311.

Healy, T. R., Stephens, S. A., Black, K. P., Gorman, R. M., & **Beamsley, B. J.** (1998). Numerical and physical process studies for Port of Gisborne redesign for the 21st century. Journal of Coastal Research, S1(26), 304-311.

Refereed conference proceedings

Zyngfogel, R. and **Beamsley, B.** (2019). Hydrodynamic modelling in a micro-tidal salt wedge estuary: the Derwent River Estuary. Proceedings in Australasian Coasts & Ports Conference 2019, Hobart, Australia.

Ozanne, R. and, **Beamsley, B.** (2017) Modelling the impacts of seasonal variability in freshwater input into the Waikouaiti Estuary, Otago. Proceedings in New Zealand Marine Sciences Society 2017, Christchurch, New Zealand.

Soutelino, R. and **Beamsley, B**. (2015). The Influence of the Southland Current on Circulation Patterns Within Pegasus Bay. Proceedings in the Australasian Coasts & Ports Conference 2015, Auckland, New Zealand.

Lobato, A., Johnson, D., **Beamsley, B.**, Gardiner, S., Kluza, D., Hopkins, G. MetOcean Track: A desktop GUI to simulate the dispersal of invasive species in coastal and continental shelf regions. Proceedings in the Australasian Coasts & Ports Conference 2015, Auckland, New Zealand.

Weppe, S., McComb, P., Goring D., and **Beamsley, B.**, (2014). Swell and long wave penetration at Timaru Port, NZ. Proceedings of the New Zealand Coastal Society 2014, Raglan, New Zealand.

Guedes, R., Johnson, D. L., McComb, P. J., and **Beamsley, B. J.** (2013). Long wave modelling in ports and Harbours: Comparison between a Boussinesq and a non-hydrostatic wave model. Proceedings in the Australasian Coasts & Ports Conference 2013, Sydney, Australia.

Weppe, S., McComb, P., Johnson, D., Coe, L., and **Beamsley, B.** (2011). Numerical study of wave and sediment dynamics at dredge disposal sites near the Otago Harbour Entrance, New Zealand. Proceedings in the Australasian Coasts & Ports Conference 2011, Perth, Australia.

Beamsley, B,. Johnson, D., McComb, P., and Zyngfogel, R. (2009). Metocean data-cube for port and coastal studies [online]. Proceedings in the Australasian Coasts & Ports Conference 2009, Wellington, New Zealand.

McComb, P., Johnson, D., and **Beamsley, B.** (2009). Numerical model study to reduce swell and long wave penetration to Port Geraldton. Proceedings of the 2009 Pacific Coasts and Ports Conference, Wellington, New Zealand.

Beamsley, B,. Johnson, D., McComb, P. (2007). Estimating Weather Downtime for Ocean Engineering using Sequential Downtime Analysis (SDA). 18th Australasian Coastal and Ocean Engineering Conference 2007 and the 11th Australasian Port and Harbour Conference 2007

McComb, P. J., **Beamsley, B.** and Lewis, K. (2003). Surficial and Sub-bottom Seabed Surveys for the Development of the Pohokura Gas / Condensate Field in Taranaki, New Zealand. Proceedings of the 2003 Pacific Coasts and Ports Conference, Auckland, New Zealand.

Turnpenny, B., Tahata, B., Black, K. P., Healy, T. R., and **Beamsley, B**. J. (2003). Planning Port Gisborne's Surfing Reef within the Proposed Port Expansion. In Proceedings of the 3rd International Surfing Reef Symposium. Conference held at Raglan, New Zealand, 22-25.

Healy, T. R., Stephens, S. A., Black, K. P., and **Beamsley, B. J.** (2001). Sediments and Circulation in a High Energy, High Suspended Sediment Load, Oceanic Marginal Embayment, Poverty Bay, New Zealand. In S. Roth, & A. Ruggeberg (Eds.), Deutsche Geologische Gesellschaft (DGG) and Gelogische Vereinigung (GV). Conference held at Kiel, Germany.

Beamsley, B. J., Healy, T. R., & Black, K. P. (2001). Textural parameters and in-situ shear strength of bed sediments within an oceanic embayment. In Pacific Coasts and Ports 2001 Conference (pp. 1-6). Conference held at Gold Coast, Australia.

De Lange, W., **Beamsley, B. J**., and Immenga, D. (1999). Port Gisborne spoil disposal site bathymetric changes August 1996 to March 1999. Hamilton: Coastal Marine Group, Earth Sciences, University of Waikato.

Stephens, S. A., Healy, T. R., Black, K. P., Gorman, R., and **Beamsley, B. J.** (1998). Numerical and physical process studies for Port of Gisborne redesign for the 21st Century. In Joint Conference New Zealand Marine Sciences Society and Australasian Society for Phycology and Aquatic Botany. Conference held in Dunedin.

Beamsley, B. J., and Black, K. P. (1998). Sediment transport over mud/sand beds in a high energy environment. In Joint Conference New Zealand Marine Sciences Society and Australasian Society for Phycology and Aquatic Botany. Conference held at Dunedin.

Beamsley, B. J., Healy, T., & Black, K. (1998). Port Gisborne dredging and development AEE: Supplementary Report, Proposed Inshore Sand Spoil Ground Sedimentological Investigation. Hamilton: Coastal Marine Group, University of Waikato.

Healy, T. R., Stephens, S. A., Immenga, D. K. H., Mathew, J., and **Beamsley, B. J.** (1997). Side scan sonar investigation of sedimentation relating to the Port Gisborne expanse. Hamilton: Earth Sciences, University of Waikato.

Gorman, R. M., Stephens, S. A., **Beamsley, B. J.**, Black, K. P., Bryan, K. R., and Healy, T. R. (1997). Field data collection programme for the Port Gisborne expansion. Hamilton: Earth Sciences, University of Waikato.

Stephens, S. A., Healy, T. R., Black, K. P., **Beamsley, B. J.**, and Gorman, R. M. (1997). Overview summary for the Port Gisborne expansion. Hamilton: Earth Sciences, University of Waikato.

Black, K. P., Gorman, R. M., Stephens, S. A., **Beamsley, B. J.**, et al. (1997). Numerical modelling for the proposed Port Gisborne expansion. Hamilton: Department of Earth Sciences, University of Waikato.

Research and Development

The MetOcean Solutions science team have successfully concluded a wide range of R&D projects over the past 10 years. Brett has been directly involved in aspects of the science, design and management in the following projects:

Long wave surge forecasting – research into the causative mechanisms, numerical studies, empirical analysis at 26 ports worldwide, implementation of predictive tools, industry education.

NZ hindcast reanalysis products – the suite of NZ scale wind, wave and current data sets used for metocean design criteria in the EEZ.

Underkeel Clearance Tool - a numerical solution to the dynamics of a vessel entering and exiting a harbour, predicting the clearance below the vessel for safe navigation.

SurfZoneView - software specially designed to help plan nearshore operations. Designed for naval beach landings, the tool was developed for the New Zealand Defence Force to support amphibious and nearshore operations.

Bruce Goodchild

[redacted]

Summary

I am currently Deputy Harbourmaster Commercial for Northland Regional Council (NRC). I oversee commercial shipping activities in Northland specifically Whangarei Harbour. Based at Northport I am employed by both the Northland Regional Council and Northport Limited as appointed Harbourmaster. Within Northport I hold the position of Business and Environmental Sustainability Manager and Manager of the Marine Simulator.

I have managed the day-to-day operations of the Local Port Service in Northport and have developed business and environmental sustainability plans for this small New Zealand port. Northport is applying for environmental consents to expand eastward, and I have prepared a 5 Year Plan for Navigation Safety and a detailed review for the proposed port expansion (2 new berths) which includes simulation studies. I have also reviewed proposals for a floating dry dock at Northport and conducted simulation studies on this project. I conduct risk assessments and navigation safety reviews for Northland Regional Council (NRC), Greater Wellington Regional Council (GWRC), Golden Bay Cement (GBC), Channel Infrastructure (CI) and Northport (NPL). I actively review pilotage procedures and assess Northland Pilots. I have conducted hydrographic surveys and survey reviews for NRC and NPL. I've been involved with port development and research using simulators for over 30 years.

I have undertaken audits, risk assessments, simulation studies and reviews across the major Australian Ports and the Great Barrier Reef for Vessel Traffic Services, pilotage services and towage services in the lead role. I hold a seagoing qualification as Master of a ship unlimited tonnage on international voyages. During my seagoing career I worked on Coastal Product Tankers, Large Containerships and Bulk Carriers for Howard Smiths, the Australian National Line and Stateships WA. I train simulation instruction and simulation modelling for Northport staff. I teach traditional navigation and seamanship as Master on a Gaff Rigged Schooner in Whangarei Harbour.

Skills

- Management of navigation safety related matters as Harbourmaster for commercial shipping
- Pilotage Shiphandling, seamanship, sailing and hydrographic surveying field skills
- Sustainability: policy development environmental and business, documentation, implementation, and management
- Team Leadership: Managing a Local Port Service Centre, developing new simulation software, and managing training programs.
- Project management: for simulation studies, marine systems for major port developments
- Quality assurance: policy development, documentation and implementation, management
- Risk assessment: policy development, documentation and implementation, management
- Training: development of policy, programs, and delivery

- Presentations and Workshops for Maritime Industry groups to introduce new technology and port procedures and changes in legislation.
- Conference presentations for new simulation products
- Highly developed communication ability and report writing skills.
- Marketing: development of materials and presentations for clients. Areas include simulation products, navigation products, consultancy services and training programs.
- Process Improvement: for mobilization and installation for new simulation systems
- Highly developed interpersonal skills in industry networking, motivation of work teams, providing software support services, training, and assessment.

Experience

- **Deputy Harbourmaster Commercial** March 2021 to Present: Northland Regional Council and Northport Marsden Point New Zealand
- **Business and Environmental Sustainability and Simulation Manager** January 2019 to Present: Northport Limited Marsden Point New Zealand

  Projects for Northport Simulation Centre
    - Vision for Growth Berth 4 and 5 development Reports NPL 2022-2025
    - Darwin Ship Lift Facility Reports WGA 2022
    - New Cement Carrier Report GBC 2023
    - Darwin Mandorah Ferry Terminal Report WGA 2024
    - Floating Drydock Review of Dock Layouts BECA NPL 2024
    - Channel Navigation Bell Bay Tasmania TASPORTS June 2025

- **Partner and Quality Manager** May 2015 to January 2021: BE- Ship Simulation Software Genoa Italy
- **Technical Director** January 1999 to May 2015: Pivot Maritime International Tasmania
- **Program Head Navigation /Manager Simulation** January 1991 to Jan 1999: Australian Maritime College University of Tasmania Launceston Tasmania
- **Contract Hydrographic Surveyor** January 1989 to Jan 1991: Associated Surveys International Perth
- **Deck Officer Cadet to Chief officer** January 1978 to Jan 1991: Australian National Line, Howard Smiths and Stateships WA

Education

- Diploma Quality Auditing BSB 51615 Asset Training Australia 2017
- Master Class One Certificate of Competency 1990 (Current 2015-2020)
- Certificate IV in Training and Assessment TAE 40110 Fortress Learning 2013
- Graduate Certificate Education Studies University of Tasmania 1994
- Advanced Diploma Hydrographic Surveying (Category A) University of Tasmania 1988
- NZ Skipper Restricted Limits 2022
- Oil Spill Senior Responder 2022
- Regional On Scene Commander (August 2023)

David Hay, MSc (Hon), MNZPI

osbornehay
Resource Management Practice

David Hay MSc(Hons), MNZPI

Director - Osborne Hay (North) Ltd

After graduating from the University of Waikato, David commenced his career as a Planner in 1991 with Works Consultancy Services Ltd before joining Manukau Consultants Ltd as a Senior Planner in 1996. In 2000, GHD Limited purchased Manukau Consultants Ltd and in 2004 David was appointed as the Principal Planner and in 2006 as an Office Manager. In 2007 David in association with Greg Osborne established a new Resource Management Practice (Osbornehay). David is based in Warkworth.

Since 1991 David has acted as the planning consultant for a wide range of network utility, local authority, Crown and private developments. In this roll he has experience in site selection analysis, preparation of notices of requirements and resource consent applications and attendance at Council Hearings and the Environment Court.

Areas of Expertise

- Statutory Planning Advice
- Management and Preparation of Environmental Assessments and resource consent applications
- Iwi and Public Consultation
- Briefing and Project Management of Environmental Specialists and Design Teams
- Site Selection Analysis

Key Project Experience Since 1996

- Planning consultant for the Church of Jesus Christ of Latter-day Saints new property investigations and existing property re-developments (New Zealand wide) and responsible for obtaining statutory approvals for new facilities (including the Auckland and Wellington Temples) and alterations to existing facilities (on-going).
- Planning consultant for the obtaining of statutory approvals for over 200 Telecom New Zealand Limited radiocommunication facilities (Waikato, Auckland and Northland Regions) and Telecom roadside equipment (Auckland and Northland).
- Planning consultant for the Telecom New Zealand Limited IRSN Roll-Out project and the cdmaOne Roll-Out. (Auckland and Waikato Regions).
- Planning consultant for Pine Harbour Marina including the marina extension project, land-based developments, master planning, Plan Change 34 and dredge spoil disposal.
- Planning consultant for Half Moon Bay, Gulf Harbour Marina, Bucklands Beach Yach Club and Auckland Outboard Boating Club, providing on-going advice (on-going).
- Project manager to Kaipara District Council for the consenting of a number of closed landfills in Kaipara District, the economic review of the Hakaru Landfill and the review of the Hakaru Landfill consent conditions and management plan and the Recycling Options Assessment.

- Project manager for Rodney District Council for the processing of the statutory approvals for the Weiti Crossing Roading Project.
- Planning consultant responsible for the obtaining of statutory approvals for Brookby Quarry (Manukau) and subsequent expansions and cleanfills including the Stage 3 Expansion through the Covid-19 Fast Track Process (on-going).
- Planning consultant for Kaipara Limited for various new site development investigations in Auckland, including Drinkrows Industrial Estate in East Tamaki (on-going).
- Planning consultant responsible for obtaining of statutory approvals for Smythes Quarry (Waikato District) expansion, cleanfills, green waste plant investigation and industrial park investigation (on-going).
- Planning consultant responsible for obtaining the statutory approvals for Beachlands Quarry.
- Planning consultant for Tomarata Sand Mine responsible for obtaining resource consents for the future expansion of the Sand Mine including the creation of a Lake (on-going).
- Planning consultant responsible site selection and for obtaining the statutory approvals (including designations) for a number of new schools and school expansions in the Auckland and Northland Regions (Ministry of Education).
- Planning consultant responsible for the preparation of the assessment of effects and obtaining statutory approvals for the East Tamaki Corridor Arterial (ETCART).
- Planning consultant responsible for providing planning advice on the Whangarei Heads Sewerage Scheme and preparing resource consent applications.
- Planning consultant for Simon Engineering Ltd responsible for identifying resource consent requirements and obtaining iwi agreements for the proposed Mangawhai Wastewater Scheme.
- Planning consultant to Vector Ltd responsible for obtaining designations or resource consent for new electricity substations and infrastructure throughout the Auckland Region (on-going).
- Planning consultant to Counties Energy providing planning advice for specific projects (on-going).
- Planning consultant for the Shoal Bay Marine Retail and Industrial Complex proposal, Barrys Point, North Shore City.
- Planning consultant for the development of the TR Group Business Zoned site (Anns Creek) in Penrose (including a Plan Change), Auckland.
- Planning consultant for the Victory Christian Church Reinstatement Project, Auckland City.
- Planning consultant for Bio Marine Ltd responsible for obtaining resource consents including for on-shore oyster farming facilities.
- Planning consultant for Southern Paprika Ltd responsible for obtaining resource consents for the expansion of glasshouse operations and associated workers accommodation.

- Planning consultant for the Otara Norman Kirk Pool and the Mt Maunganui Hot Pool re-development.
- Planning consultant for Auckland International Airport Ltd responsible for obtaining resource consents for the Northern Airport Runway Extension and agreement on off-site mitigation.
- Planning consultant for Coastal Resources Ltd responsible for obtaining a permit from Maritime New Zealand for a new deep sea dredge spoil disposal site (the first such application in New Zealand). Planning Consultant for the re-consenting of this site with the EPA.
- Planning consultant for the Off-shore Sand Extraction Sites (on-going).
- Planning consultant for the Kahikatea Cleanfill Environment Court hearing.
- Planning consultant for cultural facilities including the Kalapu Maile Ua Community Centre for the Tongan community, Government of Samoa consulate and fale, the Aitutaki Society Incorporated Marae, the Federation of Islamic Society of New Zealand Porchester Road campus and for Buddhist Temples and retreats in Alfriston and Wairewa.
- Proposed Auckland Unitary Plan – Providing advice to a range of clients including Vector Limited, the Auckland Utility Operators Group, various Marinas, Brookby Quarry, the Church of Jesus Christ of Latter-day Saints and a range of other private clients.
- Planning Consultant for the Beachlands New Avenues, Spinnaker Bay, Solway, North Road, and Brownhill Road Subdivisions (Beachlands and Whitford).
- Planning Consultant for Plan Change 93 (Warkworth South) (On-going).

Qualifications and Affiliations

- Master of Science (Resource & Environmental Planning) (Hons), University of Waikato 1992
- Bachelor of Science (Earth Sciences), University of Waikato 1989
- Full Member of the New Zealand Planning Institute

Dr David Thompson

Curriculum Vitae

Full name: Dr David Richard Thompson

Present position: Research Scientist

Present employer: New Zealand Institute for Earth Science

Present work address: 301 Evans Bay Parade, Hataitai, Wellington, New Zealand

Phone: [redacted]

Email: [redacted]

Academic qualifications:

BSc (Hons.), Marine Biology (Upper Second Class), Liverpool University, 1985

PhD, Zoology, Glasgow University, 1990

Years as a practising researcher: 34 (post-PhD)

Professional positions held: (years, position, institution, activity)

- February 1998-Present: Research Scientist, New Zealand Institute for Earth Science (formerly National Institute of Water and Atmospheric Research), Wellington, New Zealand. Seabird research.
- December 1997-January 1998: Analytical Chemist, Environmental Science and Research, Wellington, New Zealand. Organic pollutant analysis.
- October 1994-October 1997: Postdoctoral Research Fellowship, University of Glasgow, Glasgow, Scotland. Stable isotopes in ecological research.
- April 1994-June 1994: Lecturer, University of Glasgow, Glasgow, Scotland. Undergraduate course lecturing.
- August 1992-August 1994: Postdoctoral Researcher, University of Glasgow, Glasgow, Scotland. Stable isotopes and feeding ecology of seabirds.
- January 1992-July 1992: Postdoctoral Researcher, University of Stirling, Stirling, Scotland. Energetics studies in seabirds.
- January 1990-December 1991: Postdoctoral Researcher, University of Glasgow, Glasgow, Scotland. Mercury dynamics in seabirds.

Present research/professional speciality:

Seabird biology, ecology and habitat use through tracking technologies, seabird fisheries interactions, stable isotope applications in ecological research, environmental impact assessments.

Peer reviewed publications:

Totals of 110 journal articles, six book chapters and 78 reports.

Refereed:

Barquete, V., Cherel, Y., Phillips, R.A., **Thompson, D.**, Chilvers, B.L., Wanless, R.M., Ryan, P.G. (2025) Using stable isotopes to assign origin of white-chinned petrels killed by longline fisheries. *Aquatic Conservation: Marine and Freshwater Ecosystems* 35: e70182.

Guímaro, H.R.; **Thompson, D.R.**; Morrison, K.W.; Fragão, J.; Matias, R.S.; Xavier, J.C. (2025). Evidence of eastern rockhopper penguin feeding on a key commercial pelagic arrow squid species. *Marine Biology* 48: 34.

Hale, R.; **Thompson, D.**; Brough, T.; Kregting, L.; Hayden, M. (Ngāti Huia ki Poroutāwhao, Ngāti Raukawa ki te Tonga, Te Ātiawa ki Whakarongotai, Ngāti Toa, Ngāti Pākeha); Parsons, D.; Nodder, S.D.; Beaumont, J.; Anderson, O.; Stevens, C. (2025). Environmental implications of future offshore renewable energy development in Aotearoa New Zealand. *Journal of the Royal Society of New Zealand* 55: 912–945.

Morten, J.M.; Carneiro, A.P.B.; Beal, M.; Bonnet-Lebrun, A.-S.; Dias, M.P.; Rouyer, M.-M.; Harrison, A.-L.; González-Solís, J.; Jones, V.R.; Alonso, V.A.G.; Antolos, M.; Arata, J.A.; Barbraud, C.; Bell, E.A.; Bell, M.; Bose, S.; Broni, S.; Brooke, M. de L.; Butchart, S.H.M.; Carlile, N.; Catry, P.; Catry, T.; Charteris, M.; Cherel, Y.; Clark, B.L.; Clay, T.A.; Cole, N.C.; Conners, M.G.; Debski, I.; Delord, K.; Egevang, C.; Elliot, G.; Esefeld, J.; Facer, C.; Fayet, A.L.; Fijn, R.C.; Fischer, J.H.; Franklin, K.A.; Gilg, O.; Gill, J.A.; Granadeiro, J.P.; Guilford, T.; Handley, J.M.; Hanssen, S.A.; Hawkes, L.A.; Hedd, A.; Jaeger, A.; Jones, C.G.; Jones, C.W.; Kopp, M.; Krietsch, J.; Landers, T.L.; Lang, J.; Le Corre, M.; Mallory, M.L.; Masello, J.F.; Maxwell, S.M.; Medrano, F.; Militão, T.; Millar, C.D.; Moe, B.; Montevecchi, W.A.; Navarro-Herrero, L.; Neves, V.C.; Nicholls, D.G.; Nicoll, M.A.C.; Norris, K.; O'Dwyer, T.W.; Parker, G.C.; Peter, H.-U.; Phillips, R.A.; Quillfeldt, P.; Ramos, J.A.; Ramos, R.; Rayner, M.J.; Rexer-Huber, K.; Ronconi, R.A.; Ruhomaun, K.; Ryan, P.G.; Sagar, P.M.; Saldanha, S.; Schmidt, N.M.; Schultz, H.; Shaffer, S.A.; Stenhouse, I.J.; Takahashi, A.; Tatayah, V.; Taylor, G.A.; **Thompson, D.R.**; Thompson, T.; van Bemmelen, R.; Vicente-Sastre, D.; Vigfúsdottir, F.; Walker, K.J.; Watts, J.; Weimerskirch, H.; Yamamoto, T.; Davies, T.E. (in press). Global marine flyways identified for long-distance migrating seabirds from tracking data. *Global Ecology and Biogeography* 34: e70004.

Rexer-Huber, K., Clay, T.A., Catry, P., Debski, I., Parker, G., Ramos, R., Robertson, B.C., Ryan, P.G., Stanworth, A.J., **Thompson, D.R.**, Tuck, G.N., Weimerskirch, H., Phillips,

R.A. (2025) Metapopulation distribution shapes year-round fisheries bycatch risk for a circumpolar seabird. *Ecological Applications* 35: e70019.

Baker, G.B.; Jensz, K.; Cunningham, R.; McKinlay, J.; Robertson, G.; Sagar, P.; **Thompson, D.R.**; Double, M.C. (2023). Population assessment of white-capped albatross *Thalassarche steadi* in New Zealand. *Emu – Austral Ornithology* 123: 60-70.

Beal, M.; Catry, P.; Phillips, R.A.; Oppel, S.; Arnould, J.P.Y.; Bogdanova, M.I.; Bolton, M.; Carneiro, A.P.B.; Clatterbuck, C.; Conners, M.; Daunt, F.; Delord, K.; Elliott, K.; Fromant, A.; Granadeiro, J.P.; Green, J.A.; Halsey, L.; Hamer, K.C.; Ito, M.; Jeavons, R.; Kim, J.-H.; Kokubun, N.; Koyama, S.; Lane, J.V.; Lee, W.Y.; Matsumoto, S.; Orben, R.A.; Owen, E.; Paiva, V.H.; Pollock, C.J.; Ramos, J.A.; Sagar, P.; Sato, K.; Shaffer, S.A.; Soanes, L.; Takahashi, A.; **Thompson, D.R.**; Thorne, L.; Torres, L.; Watanuki, Y.; Waugh, S.M.; Weimerskirch, H.; Yoda, K.; Xavier, J.C.; Dias, M.P. (2023). Quantifying annual spatial consistency in chick-rearing seabirds to inform important site identification. *Biological Conservation* 281: 109994.

Clark, B.L.; Carneiro, A.P.B.; Pearmain, E.J.; Rouyer, M.-M.; Clay, T.A.; Cowger, W.; Phillips, R.A.; Manica, A.; Hazin, C.; Eriksen, M.; González-Solís, J.; Adams, J.; Albores-Barajas, Y.V.; Alfaro-Shigueto, J.; Alho, M.S.; Araujo, D.T.; Arcos, J.M.; Arnould, J.P.Y.; Barbosa, N.J.P.; Barbraud, C.; Beard, A.M.; Beck, J.; Bell, E.A.; Bennet, D.G.; Berlincourt, M.; Biscoito, M.; Bjørnstad, O.K.; Bolton, M.; Booth Jones, K.A.; Borg, J.J.; Bourgeois, K.; Bretagnolle, V.; Bried, J.; Briskie, J.V.; Brooke, M. de L.; Brownlie, K.C.; Bugoni, L.; Calabrese, L.; Campioni, L.; Carey, M.J.; Carle, R.D.; Carlile, N.; Carreiro, A.R.; Catry, P.; Catry, T.; Cecere, J.G.; Ceia, F.R.; Cherel, Y.; Choi, C.-Y.; Cianchetti-Benedetti, M.; Clarke, R.H.; Cleeland, J.B.; Colodro, V.; Congdon, B.C.; Danielsen, J.; De Pascalis, F.; Deakin, Z.; Dehnhard, N.; Dell'Omo, G.; Delord, K.; Descamps, S.; Dilley, B.J.; Dinis, H.A.; Dubos, J.; Dunphy, B.J.; Emmerson, L.M.; Fagundes, A.I.; Fayet, A.L.; Felis, J.J.; Fischer, J.H.; Freeman, A.N.D.; Fromant, A.; Gaibani, G.; García, D.; Gjerdrum, C.; Gomes, I.S.G.C.; Forero, M.G.; Granadeiro, J.P.; Grecian, W.J.; Grémillet, D.; Guilford, T.; Hallgrimsson, G.T.; Halpin, L.R.; Hansen, E.S.; Hedd, A.; Helberg, M.; Helgason, H.H.; Henry, L.M.; Hereward, H.F.R.; Hernandez-Montero, M.; Hindell, M.A.; Hodum, P.J.; Imperio, S.; Jaeger, A.; Jessopp, M.; Jodice, P.G.R.; Jones, C.G.; Jones, C.W.; Jónsson, J.E.; Kane, A.; Kapelj, S.; Kim, Y.; Kirk, H.; Kolbeinsson, Y.; Kraemer, P.L.; Krüger, L.; Lago, P.; Landers, T.J.; Lavers, J.L.; Le Corre, M.; Leal, A.; Louzao, M.; Madeiros, J.; Magalhães, M.; Mallory, M.L.; Masello, J.F.; Massa, B.; Matsumoto, S.; McDuie, F.; McFarlane Tranquilla, L.; Medrano, F.; Metzger, B.J.; Militão, T.; Montevecchi, W.A.; Montone, R.C.; Navarro-Herrero, L.; Neves, V.C.; Nicholls, D.G.; Nicoll, M.A.C.; Norris, K.; Oppel, S.; Oro, D.; Owen, E.; Padget, O.; Paiva, V.H.; Pala, D.; Pereira, J.M.; Péron, C.; Petry, M.V.; de Pina, A.; Pina, A.T.M.; Pinet, P.; Pistorius, P.A.; Pollet, I.L.; Porter, B.J.; Poupart, T.A.; Powell, C.D.L.; Proaño, C.B.; Pujol-Casado, J.; Quillfeldt, P.; Quinn, J.L.; Raine, A.F.; Raine, H.; Ramírez, I.; Ramos, J.A.; Ramos, R.; Ravache, A.; Rayner, M.J.; Reid, T.A.;

Robertson, G.J.; Rocamora, G.J.; Rollinson, D.P.; Ronconi, R.A.; Rotger, A.; Rubolini, D.; Ruhomaun, K.; Ruiz, A.; Russell, J.C.; Ryan, P.G.; Saldanha, S.; Sanz-Aguilar, A.; Sardà-Serra, M.; Satgé, Y.G.; Sato, K.; Schäfer, W.C.; Schoombie, S.; Shaffer, S.A.; Shah, N.; Shoji, A.; Shutler, D.; Sigurðsson, I.A.; Silva, M.C.; Small, A.E.; Soldatini, C.; Strøm, H.; Surman, C.A.; Takahashi, A.; Tatayah, V.R.V.; Taylor, G.A.; Thomas, R.J.; **Thompson, D.R.**; Thompson, P.M.; Thórarinsson, T.L.; Vicente-Sastre, D.; Vidal, E.; Wakefield, E.D.; Waugh, S.M.; Weimerskirch, H.; Wittmer, H.U.; Yamamoto, T.; Yoda, K.; Zavalaga, C.B.; Zino, F.J.; Dias, M.P. (2023). Global assessment of marine plastic exposure risk for oceanic birds. *Nature Communications* 14:3665

Green, C.-P.; Green, D.; Ratcliffe, N.; **Thompson, D.**; Lea, M.-A.; Baylis, A.; Bond, A.; Bost, C.-A.; Crofts, S.; Cuthbert, R.; González-Solís, J.; Morrison, K.W.; Pütz, K.; Rey, A.; Ryan, P.; Sagar, P.M.; Steinfurth, A.; Thiebot, J.-B.; Tierney, M.; Whitehead, T.; Wotherspoon, S.; Hindell, M. (2023). Potential redistribution of post-moult habitat for *Eudyptes* penguin in the Southern Ocean under future climate conditions. *Global Change Biology* 29: 648–667.

Lea, M.-A.; Lachlan, T.; Mattlin, R.; Torres, L.; Vinette Herrin, K.; **Thompson, D.R.**; Hindell, M.A. (2023). The benthic-pelagic continuum: age class and sex differences in the use of the vertical dimension by a rare pinniped. *Ecology and Evolution* 13: e10601.

Cole, T.L.; Zhou, C.; Fang, M.; Pan, H.; Ksepka, D.T.; Fiddaman, S.R.; Emerling, C.A.; Thomas, D.B.; Bi, X.; Fang, Q.; Ellegaard, M.R.; Feng, S.; Smith, A.L.; Heath, T.A.; Tennyson, A.J.D.; Borboroglu, P.G.; Wood, J.R.; Hadden, P.; Grosser, S.; Bost, C.-A.; Cherel, Y.; Mattern, T.; Hart, T.; Sinding, M.-H.S.; Shepherd, L.D.; Phillips, R.A.; Quillfeldt, P.; Masello, J.F.; Bouzat, J.L.; Ryan, P.G.; **Thompson, D.R.**; Ellenberg, U.; Dann, P.; Miller, G.; Boersma, P.D.; Zhao, R.; Gilbert, M.T.P.; Yang, H.; Zhang, D.-X.; Zhang, G. (2022). Genomic insights into the secondary aquatic transition of penguins. Nature Communications 13: 3912.

Conners, M.G.; Sisson, N.B.; Agamboue, P.D.; Atkinson, P.W.; Baylis, A.M.M.; Benson, S.R.; B.; Block, B,; Bograd, S.J.; Bordino, P.; Bowen, W.D.; Brickle, P.; Bruno, I.M.; Carman, V.G.; Champagne, C.D.; Crocker, D.; Costa, D.P.; Dawson, T.M.; Deguchi, T.; Dewar, H.; Doherty, P.D.; Eguchi, T.; Formia, A.; Godley, B.J.; Graham, R.T.; Gredzens, C.; Hart, K.M.; Hawkes, L.A.; Henderson, S.; Henry, W.; Hückstädt, L.A.; Irvine, L.; Kienle, S.; Kuhn, C.E.; Lidgard, D.; Loredo, S.A.; Mate, B.; Metcalfe, K.; Nzegoue, J.; Oliwina, C.K.K.; Orben, R.A.; Ozaki, K.; Parnell, R.; Pike, E.P.; Robinson, P.; Rosenbaum, H.; Sato, F.; Shaffer, S.A.; Shaver, D.J.; Simmons, S.E.; Smith, B.J.; Sounguet, G.-P.; Suryan, R.; **Thompson, D.R.**; Tierney, M.; Tilley, D.; Young, H.S.; Warwick-Evans, V.; Weise, M.J.; Wells, R.S.; Wilkinson, B.P.; Witt, M.J.; Maxwell, S.M. (2022). Mismatches in scale between highly mobile marine megafauna and marine protected areas. *Frontiers in Marine Science* 9:897104.10.3389/fmars.2022.897104.

Fischer, J.H.; Bose, S.; Romero, C.; Charteris, M.; Crowe, P.; Parker, G.C.; Ray, S.; Rexer-Huber, K.; Sagar, P.M.; **Thompson, D.R.**; Bell, E.; Debski, I.; Quiñones, J. (2022). Combining tracking with at-sea surveys to improve occurrence and distribution estimates of two threatened seabirds in Peru. Bird Conservation International 1-12.

Goetz, K.T.; Stephenson, F.; Hoskins, A.; Bindoff, A.; Orben, R.; Sagar, P.M.; Torres, L.G.; Kroger, C.; Sztukowski, L.; Phillips, R.A.; Votier, S.; Bearhop, S.; Taylor, G.; **Thompson, D.R.** (2022). Data quality influences the predicted distribution and habitat of four southern-hemisphere albatross species. *Frontiers in Marine Science* 9: 782923.

Green, C.-P.; Ratcliffe, N.; Mattern, T.; **Thompson, D.**; Lea, M.-A.; Wotherspoon, S.; Borboroglu P.G.; Ellenberg, U.; Morrison, K.W.; Pütz, K.; Sagar, P.M.; Seddon, P.J.; Torres, L.G.; Hindell, M.A. (2022). The role of allochrony in influencing interspecific differences in foraging distribution during the non-breeding season between two congeneric crested penguin species. *PLoSONE 17(2): e0262901*.

Beal, M.; Dias, M.P.; Phillips, R.A.; Oppel, S.; Hazin, C.; Pearmain, E.J.; Adams, J.; Anderson, D.J.; Antolos, M.; Arata, J.A.; Arcos, J.M.; Arnould, J.P.Y.; Awkerman, J.; Bell, E.; Bell, M.; Carey, M.; Carle, R.; Clay, T.A.; Cleeland, J.; Colodro, V.; Conners, M.; Cruz-Flores, M.; Cuthbert, R.; Delord, K.; Deppe, L.; Dilley, B.J.; Dinis, H.; Elliott, G.; De Felipe, F.; Felis, J.; Forero, M.G.; Freeman, A.; Fukuda, A.; González-Solís, J.; Granadeiro, J.P.; Hedd, A.; Hodum, P.; Igual, J.M.; Jaeger, A.; Landers, T.J.; Le Corre, M.; Makhado, A.; Metzger, B.; Militão, T.; Montevecchi, W.A.; Morera-Pujol, V.; Navarro-Herrero, L.; Nel, D.; Nicholls, D.; Oro, D.; Ouni, R.; Ozaki, K.; Quintana, F.; Ramos, R.; Reid, T.; Reyes-González, J.M.; Robertson, C.; Robertson, G.; Romdhane, M.S.; Ryan, P.G.; Sagar, P.; Sato, F.; Schoombie, S.; Scofield, R.P.; Shaffer, S.A.; Shah, N.J.; Stevens, K.L.; Surman, C.; Suryan, R.M.; Takahashi, A.; Tatayah, V.; Taylor, G.; **Thompson, D.R.**; Torres, L.; Walker, K.; Wanless, R.; Waugh, S.M.; Weimerskirch, H.; Yamamoto, T.; Zajkova, Z.; Zango, L.; Catry, P. (2021). Global political responsibility for the conservation of albatrosses and large petrels. *Science Advances* 7: *eabd7225*.

Bonnet-Lebrun, A.-S.; Dias, M.P.; Phillips, R.A.; Granadeiro, J.P.; Brooke, M. de L.; Chastel, O.; Clay, T.A.; Fayet, A.; Gilg, O.; Gonzales-Solis, J.; Guilford, T.; Hanssen, S.A.; Hedd, A.; Jaeger, A.; Krietsch, J.; Lang, J.; Le Corre, M.; Militao, T.; Moe, B.; Montevecchi, W.A.; Peter, H.-U.; Pinet, P.; Rayner, M.; Reid, T.; Reyes-González, J.M.; Ryan, P.G.; Sagar, P.M.; Schmidt, N.M.; **Thompson, D.R.**; Van Bemmelen, R.; Watanuki, Y.; Weimerskirch, H.; Yamamoto, T.; Catry, P. (2021). Seabird migration strategies: Flight budgets, diel activity patterns and lunar influence. *Frontiers in Marine Science* 8: 683071.

Jones, D.C.; Ceia, F.R.; Murphy, E.; Delord, K.; Furness, R.W.; Verdy, A.; Mazloff, M.; Phillips, R.A.; Sagar, P.M.; Sallée, J.-B.; Schreiber, B.; **Thompson, D.R.**; Torres, L.G.; Underwood, P.J.; Weimerskirch, H.; Xavier, J.C. (2021). Untangling local and remote

influences in two major petrel oases in the oligotrophic Southern Ocean. Global Change Biology 27: 5773–5785.

Mattern, T.; Rexer-Huber, K.; Parker, G.; Green, P.; Tennyson, A.; Sagar, P.; Amey, J.; **Thompson, D.** (2021). Erect-crested penguins on the Bounty Islands – population size and trends determined from ground counts, camera drone images, and ship-based observations. *Notornis* 68: 37-50.

Guímaro, H.R.; **Thompson, D.R.**; Paiva, V.H.; Ceia, F.R.; Cunningham, D.M.; Moors, P.J.; Xavier, J.C. (2021). Cephalopods habitat and trophic ecology: historical data using Snares penguin as biological sampler. *Polar Biology* 44: 73-84.

Queirós, J.P.; Hilário, A.; **Thompson, D.R.**; Ceia, F.R.; Elliott, G.; Walker, K.; Cherel, Y.; Xavier, J.C. (2021). From hot to cold waters: new insights in the habitat and trophic ecology of Southern Ocean squids during their life cycle. *Marine Ecology Progress Series* 659*:* 113-126.

Thompson, D.R.; Goetz, K.T.; Sagar, P.M.; Torres, L.G.; Kroeger, C.E.; Sztukowski, L.A.; Orben, R.A.; Hoskins, A.J.; Phillips, R.A. (2021). The year-round distribution and habitat preferences of Campbell albatross (*Thalassarche impavida*). *Aquatic Conservation Marine and Freshwater Ecosystems 31*: 2967-2978.

Carneiro, A.P.B.; Pearmain, E.J.; Oppel, S.; Clay, T.A.; Phillips, R.A.; Bonnet-Lebrun, A.-S.; Wanless, R.M.; Abraham, A.; Richard, Y.; Rice J.; Handley, J.; Davies, T.E.; Dilley, B.J.; Ryan, P.G.; Small, C.; Arata, J.; Arnould, J.P.Y.; Bell, E.; Bugoni, L.; Campioni, L.; Catry, P.; Cleeland, J.; Deppe, L.; Elliott, G.; Freeman, A.; González-Solís, J.; Granadeiro, J.P.; Grémillet, D.; Landers, T.J.; Makhado, A.; Nel, D.; Nicholls, D.G.; Rexer-Huber, K.; Robertson, C.J.R.; Sagar, P.M.; Scofield, P.; Stahl, J-C.; Stanworth, A.; Stevens, K.L.; Trathan, P.N.; **Thompson, D.R.**; Torres, L.; Walker, K.; Waugh, S.M.; Weimerskirch, H.; Dias, M.P. (2020). A framework for mapping the distribution of Southern Ocean seabirds across life-history stages, by integrating tracking, demography and phenology. *Journal of Applied Ecology* 57: 514-525.

Hindell, M.A.; Reisinger, R.R.; Ropert-Coudert, Y.; Hückstädt, L.A.; Trathan, P.N.; Bornemann, H.; Charrassin, J.-B.; Chown, S.L.; Costa, D.P.; Danis, B.; Lea, M.-A.; **Thompson, D.**; Torres, L.G.; Van de Putte, A.P.; Alderman, R.; Andrews-Goff, V.; Arthur, B.; Ballard, G.; Bengtson, J.; Bester, M.N.; Blix, A.S.; Boehme, L.; Bost, C.-A.; Boveng, P.; Cleeland, J.; Constantine, R.; Corney, S.; Crawford, R.J.M.; Rosa, L.D.; de Bruyn, P.J.N.; Delord, K.; Descamps, S.; Double, M.; Emmerson, L.; Fedak, M.; Friedlaender, A.; Gales, N.; Goebel, M.; Goetz, K.T.; Guinet, C.; Goldsworthy, S.D.; Harcourt, R.; Hinke, J.T.; Jerosch, K.; Kato, A.; Kerry, K.R.; Kirkwood, R.; Kooyman, G.L.; Kovacs, K.M.; Lawton, K.; Lowther, A.D.; Lydersen, C.; Lyver, P.O'B.; Makhado, A.B.; Márquez, M.E.I.; McDonald, B.I.; McMahon, C.R.; Muelbert, M.; Nachtsheim, D.; Nicholls, K.W.; Nordøy, E.S.; Olmastroni, S.; Phillips, R.A.; Pistorius, P.; Plötz, J.; Pütz, K.; Ratcliffe, N.; Ryan,

P.G.; Santos, M.; Southwell, C.; Staniland, I.; Takahashi, A.; Tarroux, A.; Trivelpiece, W.; Wakefield, E.; Weimerskirch, H.; Wienecke, B.; Xavier, J.C.; Wotherspoon, S.; Jonsen, I.D.; Raymond, B. (2020). Tracking of marine predators to protect Southern Ocean ecosystems. *Nature* 580: 87-92.

Kroeger, C.E.; Crocker, D.E.; Orben, R.A.; **Thompson, D.R.**; Torres, L.G.; Sagar, P.M.; Sztukowski, L.A.; Andriese, T.; Costa, D.P.; Shaffer, S.A. (2020). Similar foraging energetics of two sympatric albatrosses despite contrasting life histories and foraging strategies in the wind. *Journal of Experimental Biology* 223: jeb228585.

Rexer-Huber, K.; **Thompson, D.R.**; Parker, G.C. (2020). White-chinned petrel *(Procellaria aequinoctialis*) burrow density, occupancy, and population size at the Auckland Islands. *Notornis* 67: 387–401.

Rexer-Huber, K.; Walker, K.J.; Elliott, G.P.; Baker, G.B.; Debski, I.; Jensz, K.; Sagar, P.M.; **Thompson, D.R.**; Parker, G.C. (2020). Population trends of light-mantled sooty albatross (*Phoebetria palpebrata*) at Adams Island and trial of ground, boat, and aerial methods for population estimates. *Notornis* 67: 341–355.

Ropert-Coudert, Y.; Van de Putte, A.; Reisinger, R.; Bornemann, H.; Charrassin, J.-B.; Costa, D.; Danis, B.; Huckstadt, L.; Jonsen, I.; Lea, M.-A.; **Thompson, D.**; Torres, L.; Trathan, P.; Wotherspoon, S.; Ainley, D.; Alderman, R.; Andrews-Goff, V.; Arthur, B.; Ballard, G.; Bengtson, J.; Bester, M.; Arnoldus, S.B.; Boehme, L.; Bost, C.-A.; Boveng, P.; Cleeland, J.; Constantine, R.; Crawford, R.; Rosa, L.D.; de Bruyn, P.J.N.; Delord, K.; Descamps, S.; Double, M.C.; Emmerson, L.; Fedak, M.; Friedlaender, A.; Gales, N.; Goebel, M.; Goetz, K.; Guinet, K.; Goldsworthy, S.; Harcourt, R.; Hinke, J.; Jerosch, K.; Kato, A.; Kerry, K.; Kirkwood, R.; Kooyman, G.; Kovacs, K.; Lawton, K.; Lowther, A.; Lydersen, C.; Lyver, P.; Makhado, A.; Márquez, M.; McDonald, B.; McMahon, C.; Muelbert, M.; Nachtsheim, D.; Nicholls, K.; Nordøy, E.; Olmastroni, S.; Phillips, R.; Pistorius, P.; Plötz, J.; Pütz, K.; Ratcliffe, N.; Ryan, P.; Santos, M.; Southwell, C.; Staniland, I.; Takahashi, A.; Tarroux, A.; Trivelpiece, W.; Wakefield, E.; Weimerskirch, H.; Wienecke, B.; Xavier, J.; Raymond, B.; Hindell M. (2020). The retrospective analysis of Antarctic tracking data project. *Scientific Data* 7: 1-11.

Cole, T.L.; Dutoit, L.; Dussex, N.; Hart, T.; Alexander, A.; Younger, J.L.; Clucas, G.V.; Frugone, M.J.; Cherel, Y.; Cuthbert, R.; Ellenberg, U.; Fiddaman, S.R.; Hiscock, J.; Houston, D.; Jouventin, P.; Mattern, T.; Miller, G.; Miskelly, C.; Nolan, P.; Polito, M.J.; Quillfeldt, P.; Ryan, P.G.; Smith, A.; Tennyson, A.J.D.; **Thompson, D.**; Wienecke, B.; Vianna, J.A.; Waters, J.M. (2019). Receding ice drove parallel expansions in Southern Ocean penguins. *Proceedings of the National Academy of Sciences* 116: 26690-26696.

Cole, T.L.; Rawlence, N.J.; Dussex, N.; Ellenberg, U.; Houston, D.M.; Mattern, T.; Miskelly, C.M.; Morrison, K.W.; Scofield, R.P.; Tennyson, A.J.D.; **Thompson, D.**; Wood, J.R.; Waters J.M. (2019). Ancient DNA of crested penguins: Testing for temporal genetic

shifts in the world's most diverse penguin clade. *Molecular Phylogenetics and Evolution* 131: 72-79.

Kroeger, C.; Crocker, D.E.; **Thompson, D.R.**; Torres, L.G.; Sagar, P.; Shaffer, S.A. (2019). Variation in corticosterone levels in two species of breeding albatrosses with divergent life histories: responses to body condition and drivers of foraging behaviour. *Physiological and Biochemical Zoology* 92: 223-238.

Mays, H.L.; Oehler, D.A.; Morrison, K.W.; Morales, A.E.; Lycans, A.; Perdue, J.; Battley, P.F.; Cherel, Y.; Chilvers, B.L.; Crofts, S.; Demongin, L.; Fry, W.R.; Hiscock, J.; Kusch, A.; Marin, M.; Poisbleau, M.; Quillfeldt, P.; Rey, A.R.; Steinfurth, A.; **Thompson, D.R.**; Weakley, L.A. (2019). Phylogeography, population structure, and species delimitation in rockhopper penguins (*Eudyptes chrysocome* and *Eudyptes moseleyi*). *Journal of Heredity* 110*:* 801-817.

Pan, H.; Cole, T.L.; Bi, X.; Fang, M.; Zhou, C.; Yang, Z.; Hart, T.; Bouzat, J.L.; Argilla, L.S.; Bertelsen, M.F.; Boersma, P.D.; Bost, C.-A.; Cherel, Y.; Dann, P.; Fiddaman, S.R.; Howard, P.; Labuschagne, K.; Mattern, T.; Miller, G.; Parker, P.; Phillips, R.A.; Quillfeldt, P.; Ryan, P.G.; Taylor, H.; **Thompson, D.R.**; Young, M.J.; Ellegaard, M.R.; Gilbert, M.T.P.; Sinding, M.-H.S.; Pacheco, G.; Shepherd, L.D.; Tennyson, A.J.D.; Grosser, S.; Kay, E.; Nupen, L.J.; Ellenberg, U.; Houston, D.M.; Reeve, A.H.; Johnson, K.; Masello, J.F.; Stracke, T.; McKinlay, B.; Zhang, D.X.; Zhang, G. (2019). High-coverage genomes to elucidate the evolution of penguins. *Gigascience* 8: 1-17.

Rexer-Huber, K.; Veale, A.; Catry, P.; Cherel, Y.; McEwan, J.C.; Parker, G.C.; Phillips, R.A.; Ryan, P.G.; Stanworth, A.J.; van Stijn, T.; **Thompson, D.R.**; Waters, J.; Robertson, B.C. (2019). Genomics detects population structure within and between ocean basins in a circumpolar seabird: the white-chinned petrel. *Molecular Ecology* 28: 4552-4572.

Cherel, Y.; Barbraud, C.; Lahournat, M.; Jaeger, A.; Jaquemet, S.; Wanless, R.M.; Phillips, R.A.; **Thompson, D.R.**; Bustamante, P. (2018). Accumulate or eliminate? Seasonal mercury dynamics in albatrosses, the most contaminated family of birds. *Environmental Pollution* 241: 124-135.

Sztukowski, L.A.; Cotton, P.A.; Weimerskirch, H.; **Thompson, D.R.**; Torres, L.G.; Sagar, P.M.; Knights, A.M.; Fayet, A.L.; Votier, S.C. (2018). Sex differences in individual foraging site fidelity of Campbell albatross. *Marine Ecology Progress Series* 601: 227-238.

Xavier, J.C.; Cherel, Y.; Ceia, F.R.; Queirós, J.P.; Guimarães, B.; Rosa, R.; Cunningham, D.M.; Moors, P.J.; **Thompson, D.R.** (2018). Eastern rockhopper penguins *Eudyptes filholi* as biological samplers of juvenile and sub‐adult cephalopods around Campbell Island, New Zealand. *Polar Biology* 41: 1937-1949.

McInnes, J.C.; Alderman, R.; Lea, M.-A.; Raymond, B.; Deagle, B.E.; Phillips, R.A.; Stanworth, A.; **Thompson, D.R.**; Catry, P.; Weimerskirch, H.; Suazo, C.G.; Gras, M.;

Jarman, S.N. (2017). High occurrence of jellyfish predation by black-browed and Campbell albatross identified by DNA metabarcoding. *Molecular Ecology 26*: 4831-4845.

Morrison, K.W.; Armstrong, D.P.; Battley, P.F.; Jamieson, S.E.; **Thompson, D.R**. (2017). Predation by New Zealand sea lions and brown skuas is causing the continued decline of an eastern rockhopper penguin colony on Campbell Island. *Polar Biology 40*: 735-751.

Parker, G.C.; Rexer-Huber, K.; **Thompson, D.R.** (2017). Grey petrel population on Campbell Island 14 years after rodent eradication. *Antarctic Science 29*: 209-216.

Rexer-Huber, K.; Parker, G.C.; Sagar, P.M.; **Thompson, D.R.** (2017). White-chinned petrel population estimate, Disappointment Island (Auckland Islands). *Polar Biology 40*: 1053-1061.

Sztukowski, L.A.; van Toor, M.L.; Weimerskirch, H.; **Thompson, D.R.**; Torres, L.G.; Sagar, P.M.; Cotton, P.A.; Votier, S.C. (2017). Tracking reveals limited interactions between Campbell albatross and fisheries during the breeding season. *Journal of Ornithology 158*: 725-735.

Torres, L.G.; Orben, R.A.; Tolkova, I.; **Thompson, D.R.** (2017). Classification of animal movement behaviour through residence in space and time. *PLoS ONE 12(1)*: e0168513.

Torres, L.G.; Rayment, W.; **Thompson, D.R.**; Olavarria, C.; Graham, B.; Baker, S.; Patenaude, N.; Bury, S.J.; Boren, L.; Parker, G.; Carroll, E. (2017). Demography and ecology of southern right whales wintering at Campbell Island, New Zealand. *Polar Biology 40*: 95-106.

Grecian, W.J.; Taylor, G.A.; Loh, G.; McGill, R.A.R.; Miskelly, C.M.; Phillips, R.A.; **Thompson, D.R.**; Furness, R.W. (2016). Contrasting migratory responses of two closely-related seabirds to long-term climate change. *Marine Ecology Progress Series 559*: 231-242.

Morrison, K.W.; Morrison, N.C.; Buchheit, R.M.; Dunn, R.; Battley, P.F.; **Thompson, D.R.** (2016). The canalized parental roles of a *Eudyptes* penguin constrain provisioning and growth of chicks during nutritional stress. *Behavioral Ecology and Sociobiology 70*: 467-479.

Pascoe, P.; Lea, M.-A.; Mattlin, R.H.; McMahon, C.R.; Harcourt, R.; **Thompson, D.**; Torres, L.; Vinette-Herrin, K.; Hindell, M.A. (2016). Assessing the utility of two- and three-dimensional behavioural metrics in habitat usage models. *Marine Ecology Progress Series 562*: 181-192.

Morrison, K.W.; Battley, P.F.; Sagar, P.M.; **Thompson, D.R.** (2015). Population dynamics of eastern rockhopper penguins on Campbell Island in relation to sea surface

temperature 1942-2012: current warming hiatus pauses a long-term decline. *Polar Biology 38*: 163-177.

Thompson, D.R.; Torres, L.G.; Taylor, G.A.; Rayner, M.J.; Sagar, P.M.; Shaffer, S.A.; Phillips, R.A.; Bury, S.J. (2015). Stable isotope signatures delineate the non-breeding distributions of sooty shearwaters *Puffinus griseus* in the North Pacific Ocean. *Marine Ecology Progress Series 521*: 277-282.

Torres, L.G.; Sutton, P.J.H.; **Thompson, D.R**.; Delord, K.; Weimerskirch, H.; Sagar, P.M.; Sommer, E.; Dilley, B.J.; Ryan, P.G.; Phillips, R.A. (2015). Poor transferability of species distribution models for a pelagic predator, the grey petrel, indicates contrasting habitat preferences across ocean basins. *PLoS ONE 10(3):* e0120014.

Morrison, K.W.; Bury, S.J.; **Thompson, D.R.** (2014). Higher trophic level prey do not represent higher quality diet in a threatened seabird: implications for relating population dynamics to diet shifts inferred from stable isotopes. *Marine Biology 161*: 2243-2255.

Xavier, J.C.; Walker, K.; Elliott, G.; Cherel, Y.; **Thompson, D.** (2014). Cephalopod fauna of South Pacific waters: new information from breeding New Zealand wandering albatrosses. *Marine Ecology Progress Series 513*: 131-142.

Cherel, Y.; Jaeger, A.; Alderman, R.; Jaquemet, S.; Richard, P.; Wanless, R.M.; Phillips, R.A.; **Thompson, D.R.** (2013). A comprehensive isotopic investigation of habitat preferences in nonbreeding albatrosses from the Southern Ocean. *Ecography 36:* 277-286.

Torres, L.G.; Sagar, P.M.; **Thompson, D.R.**; Phillips, R.A. (2013). Scale-dependence of seabird–fishery data analysis and management: reply to Croxall et al. (2013). *Marine Ecology Progress Series 493*: 301-304.

Torres, L.G.; Sagar, P.M.; **Thompson, D.R.**; Phillips, R.A. (2013). Scaling down the analysis of seabird-fishery interactions. *Marine Ecology Progress Series 473*: 279-285.

Rayner, M.J.; Taylor, G.A.; Gummer, H.D.; Phillips, R.A.; Sagar, P.M.; Shaffer, S.A.; **Thompson, D.R.** (2012). The breeding cycle, year-round distribution and activity patterns of the endangered Chatham petrel (*Pterodroma axillaris*). *Emu 112:* 107-116.

Rayner, M.J.; Taylor, G.A.; **Thompson, D.R.**; Torres, L.G.; Sagar, P.M.; Shaffer, S.A. (2011). Migration and diving activity in three non-breeding flesh-footed shearwaters *Puffinus carneipes*. *Journal of Avian Biology 42*: 266-270.

Rayner, M.J.; Hauber, M.E.; Steeves, T.E.; Lawrence, H.A.; **Thompson, D.R.**; Sagar, P.M.; Bury, S.J.; Landers, T.J.; Phillips, R.A.; Ranjard, L; Shaffer, S.A. (2011). Contemporary and historical separation of transequatorial migration between two genetically-distinct seabird populations. *Nature Communications 2*: 1-7.

Torres, L.G.; **Thompson, D.R.;** Bearhop, S.; Votier, S.; Taylor, G.A.; Sagar, P.M.; Robertson, B.C. (2011). White-capped albatrosses alter fine-scale foraging behaviour patterns when associated with fishing vessels. *Marine Ecology Progress Series 428*: 289-301.

Shore, R.F.; Pereira, M.G.; Walker, L.A.; **Thompson, D.R.** (2011). Mercury in nonmarine birds and mammals. *In*: Beyer, W.N.; Meador, J.P (eds.) Environmental Contaminants in Biota: Interpreting Tissue Concentrations, pp. 609-624. CRC Press, Boca Raton, Florida.

Freeman, R.; Dennis, T.; Landers, T.; **Thompson, D.;** Bell, E.; Walker, M.; Guilford, T. (2010). Black petrels (*Procellaria parkinsoni*) patrol the ocean shelf-break: GPS tracking of a vulnerable Procellariiform seabird. *PLoS ONE 5*: e9236

Raymond, B.; Shaffer, S.A.; Sokolov, S.; Woehler, E.J.; Costa, D.P.; Einoder, L.; Hindell, M.; Hosie, G.; Pinkerton, M.; Sagar, P.M.; Scott, D.; Smith, A.; **Thompson, D.R.**; Vertigan, C.; Weimerskirch, H. (2010). Shearwater foraging in the Southern Ocean: the roles of prey availability and winds. *PLoS ONE 5*: e10960.

Techow, N.M.S.M.; O'Ryan, C.; Phillips, R.A.; Gales, R.; Marin, M.; Patterson-Fraser, D.; Quintana, F.; Ritz, M.S.; **Thompson, D.R.**; Wanless, R.M.; Weimerskirch, H.; Ryan, P.G. (2010). Speciation and phylogeography of giant petrels *Macronectes*. *Molecular Phylogenetics and Evolution 54*: 472-487.

Votier, S.C.; Bearhop, S.; Witt, M.J.; Inger, R.; **Thompson, D.R.**; Newton, J. (2010). Individual responses of seabirds to commercial fisheries revealed using GPS tracking, stable isotopes and vessel monitoring systems. *Journal of Applied Ecology 47*: 487-497

Shaffer, S.A.; Weimerskirch, H.; Scott, D.; Pinaud, D.; **Thompson, D.R.**; Sagar, P.M.; Moller, H.; Taylor, G.A.; Foley, D.G.; Tremblay, Y.; Costa, D.P. (2009). Spatiotemporal habitat use by breeding sooty shearwaters *Puffinus griseus*. *Marine Ecology Progress Series 391*: 209-220**.**

Thompson, D.R. (2007). Importance of seamounts to seabirds. In: Pitcher, T.J.; Morato, T.; Hart, P.J.B.; Clark, M.R.; Haggan, N.; Santos, R.S. (eds.) Seamounts: ecology, fisheries and conservation, pp 245-251. Blackwell Publishing, Oxford, England.

Hilton, G.M.; **Thompson, D.R.**; Sagar, P.M.; Cuthbert, R.J.; Cherel, Y.; Bury, S.J. (2006). A stable isotopic investigation into the causes of decline in a sub-Antarctic predator, the rockhopper penguin *Eudyptes chrysocome*. *Global Change Biology 12*: 611-625.

Shaffer, S.A.; Tremblay, Y.; Weimerskirch, H.; Scott, D.; **Thompson, D.R**.; Sagar, P.M.; Moller, H.; Taylor, G.A.; Foley, D.G.; Block, B.A.; Costa, D.P. (2006). Migratory shearwaters integrate oceanic resources across the Pacific Ocean in an endless summer. *Proceedings of the National Academy of Sciences 103*: 12799-12802.

Jackson, A.L.; Bearhop, S.; **Thompson, D.R.** (2005). Shape can influence the rate of colony fragmentation in ground nesting seabirds. *Oikos 111*: 473-478.

Sagar, P.M.; Murdoch, R.; Sagar, M.W.; **Thompson, D.R.** (2005). Rockhopper penguin (*Eudyptes chrysocome filholi*) foraging at Antipodes Islands. *Notornis 52*: 75-80.

Thompson, D.R.; Bearhop, S.; Ross, B. (2005). Spread of Australasian pipit (*Anthus novaeseelandiae*) onto Campbell Island following eradication of Norway rats (*Rattus norvegicus*). *Notornis 52*: 43-46.

Thompson, D.R.; Bury, S.J.; Hobson, K.A.; Wassenaar, L.I.; Shannon, J.P. (2005). Stable isotopes in ecological studies. *Oecologia 144*: 517–519.

Votier, S.C.; Furness, R.W.; Bearhop, S.; Crane, J.E.; Caldow, R.W.G.; Catry, P.; Ensor, K.; Hamer, K.C.; Hudson, A.V.; Kalmbach, E.; Klomp, N.I.; Pfeiffer, S.; Phillips, R.A.; Prieto, I.; **Thompson, D.R.** (2004). Changes in fisheries discard rates and seabird communities. *Nature 427*: 727-730.

Bradford-Grieve, J.M.; Probert, P.K.; Nodder, S.D.; Thompson, D.; Hall, J.; Hanchet, S.; Boyd, P.; Zeldis, J.; Baker, A.N.; Best, H.A.; Broekhuizen, N.; Childerhouse, S.; Clark, M.; Hadfield, M.; Safi, K.; Wilkinson, I. (2003). Pilot trophic model for subantarctic water over the Southern Plateau, New Zealand: a low biomass, high transfer efficiency system. *Journal of Experimental Marine Biology and Ecology 289*: 223-262.

Bearhop, S.; **Thompson, D.R.**; Phillips, R.A.; Waldron, S.; Hamer, K.C.; Gray, C.M.; Votier, S.C.; Ross, B.P.; Furness, R.W. (2001). Annual variation in great skua diets: the importance of commercial fisheries and predation on seabirds revealed by combining dietary analyses. *Condor 103*: 802-809.

Thompson, D.R. (2001). Mercury in bar-tailed godwit (*Limosa lapponica*) and lesser knot (*Calidris canutus*): spatially explicit information from non-breeding birds in New Zealand. *Bulletin of Environmental Contamination and Toxicology 66*: 707-713.

Bearhop, S.; Phillips, R.A.; **Thompson, D.R.**; Waldron, S.; Furness, R.W. (2000). Variability in mercury concentrations of great skuas *Catharacta skua*: the influence of colony, diet and trophic status inferred from stable isotope signatures. *Marine Ecology Progress Series 195*: 261-268.

Bearhop, S.; Waldron, S.; **Thompson, D.R.**; Furness, R.W. (2000). Bioamplification of mercury in great skua *Catharacta skua* chicks: the influence of trophic status as determined by stable isotope signatures of blood and feathers. *Marine Pollution Bulletin 40*: 181-185.

Thompson, D.R.; Hamer, K.C. (2000). Stress in seabirds: causes, consequences and diagnostic value. *Journal of Aquatic Ecosystem Stress and Recovery 7*: 91-110.

Thompson, D.; Murdoch, R.; Page, M. (2000). A near albino cape pigeon (*Daption capense*) off Kaikoura. *Notornis 47*: 235-236.

Thompson, D.R.; Phillips, R.A.; Stewart, F.M.; Waldron, S. (2000). Low $\delta^{13}C$ signatures in pelagic seabirds: lipid ingestion as a potential source of ^{13}C-depleted carbon in the Procellariiformes. *Marine Ecology Progress Series 208*: 265-271.

Godley, B.J.; **Thompson, D.R.**; Furness, R.W. (1999). Do heavy metal concentrations pose a threat to marine turtles from the Mediterranean Sea? *Marine Pollution Bulletin 38***:** 497-502.

Monteiro, L.R.; Ramos, J.A.; Pereira, J.C.; Monteiro, P.R.; Feio, R.S.; **Thompson, D.R.**; Bearhop, S.; Furness, R.W.; Laranjo, M.; Hilton, G.; Neves, V.C.; Groz, M.P.; Thompson, K.C. (1999). Status and distribution of Fea's petrel, Bulwer's petrel, Manx shearwater, little shearwater and band-rumped storm petrel in the Azores archipelago. *Waterbirds 22*: 358-366.

Bearhop, S.; **Thompson, D.R.**; Waldron, S.; Russell, I.C.; Alexander, G.; Furness, R.W. (1999). Stable isotopes indicate the extent of freshwater feeding by cormorants *Phalacrocorax carbo* shot at inland fisheries in England. *Journal of Applied Ecology 36*: 75-84.

Phillips, R.A.; Bearhop, S.; Hamer, K.C.; **Thompson, D.R.** (1999). Rapid population growth of great skuas at St Kilda: implications for management and conservation. *Bird Study 46*: 174-183.

Phillips, R.A.; **Thompson, D.R.**; Hamer, K.C. (1999). The impact of great skua predation on seabird populations at St Kilda: a bioenergetics model. *Journal of Applied Ecology 36*: 218-232.

Thompson, D.R.; Lilliendahl, K.; Solmundsson, J.; Furness, R.W.; Waldron, S.; Phillips, R.A. (1999). Trophic relationships among six species of Icelandic seabirds as determined through stable isotope analysis. *Condor 101*: 898-903.

Thompson, D.R.; Dowding, J.E. (1999). Site-specific heavy metal concentrations in blood of South Island pied oystercatchers *Haematopus ostralegus finschi* from the Auckland region, New Zealand. *Marine Pollution Bulletin 38***:** 202-206.

Godley, B.J.; **Thompson, D.R.**; Waldron, S.; Furness, R.W. (1998). The trophic status of marine turtles as determined by stable isotope analysis. *Marine Ecology Progress Series 166***:** 277-284.

Thompson, D.R.; Bearhop, S.; Speakman, J.R.; Furness, R.W. (1998). Feathers as a means of monitoring mercury in seabirds: insights from stable isotope analysis. *Environmental Pollution 101*: 193-200.

Thompson, D.R.; Furness, R.W.; Monteiro, L.R. (1998). Seabirds as biomonitors of mercury inputs to epipelagic and mesopelagic marine food chains. *Science of the Total Environment 213***:** 299-305.

Thompson, D.R.; Hamer, K.C.; Phillips, R.A. (1998). Fish prey in the diet of great skuas at St Kilda. *Scottish Birds 19*: 160-165.

Hamer, K.C.; **Thompson, D.R.** (1997). Provisioning and growth rates of nestling fulmars *Fulmarus glacialis*: stochastic variation or regulation? *Ibis 139*: 31-39.

Hamer, K.C.; **Thompson, D.R.;** Gray, C.M. (1997). Spatial variation in the feeding ecology, foraging ranges and breeding energetics of northern fulmars in the north-east Atlantic Ocean. *ICES Journal of Marine Science 54*: 645-653.

Phillips, R.A.; Catry, P.; **Thompson, D.R.**; Hamer, K.C.; Furness, R.W. (1997). Inter-colony variation in diet and reproductive performance of great skuas *Catharacta skua*. *Marine Ecology Progress Series 152*: 285-293.

Thompson, D.R. (1996). Mercury in birds and terrestrial mammals. *In*: Beyer, W.N.; Heinz, G.H.; Redmon-Norwood, A.W. (eds.) Environmental Contaminants in Wildlife: Interpreting Tissue Concentrations, pp. 341-356. Lewis Publishers, Boca Raton, Florida.

Furness, R.W.; **Thompson, D.R.**; Becker, P.H. (1995). Spatial and temporal variation in mercury contamination of seabirds in the North Sea. *Helgolander Meeresuntersuchungen 49*: 605-615.

Halley, D.J.; Harrison, N.; Webb, A.; **Thompson, D.R.** (1995). Seasonal and geographical variations in the diet of common guillemots *Uria aalge* off western Scotland. *Seabird 17*: 12-20.

Thompson, D.R.; Furness, R.W. (1995). Stable isotope ratios of carbon and nitrogen in feathers indicate seasonal dietary shifts in northern fulmars. *Auk 112*: 493-498.

Thompson, D.R.; Furness, R.W.; Lewis, S.A. (1995). Diets and long-term changes in δ^{15}N and δ^{13}C values in northern fulmars *Fulmarus glacialis* from two north-east Atlantic colonies. *Marine Ecology Progress Series 125*: 3-11.

Furness, R.W.; **Thompson, D.R.**; Harrison, N. (1994). Biometrics and seasonal changes in body composition of common guillemots *Uria aalge* from north-west Scotland. *Seabird 16*: 22-29.

Furness, R.W.; **Thompson, D.R.**; Stewart, F.M.; Barrett, R.T. (1994). Heavy metal levels in Icelandic seabirds as indicators of pollution. *In*: Stötter, J.; Wilhelm, F. (eds.) Environmental change in Iceland, pp. 101-110. Münchener Geographische Abhandlungen, Reihe B, Band B12.

Hamer, K.C.; **Thompson, D.R.**; Rundle, A.J.; Lewis, S.A.; Stewart, F.M. (1994). Mesopelagic fish eaten by yellow-legged herring gulls *Larus argentatus atlantis* in the Azores. *Seabird 16*: 30-33.

Stewart, F.M.; **Thompson, D.R.**; Furness, R.W.; Harrison, N. (1994). Seasonal variation in heavy metal levels in tissues of common guillemots *Uria aalge* from north-west Scotland. *Archives of Environmental Contamination and Toxicology 27*: 168-175.

Thompson, D.R.; Becker, P.H.; Furness, R.W. (1993). Long-term changes in mercury concentrations in herring gulls *Larus argentatus* and common terns *Sterna hirundo* from the German North Sea coast. *Journal of Applied Ecology 30*: 316-320.

Thompson, D.R.; Furness, R.W.; Lewis, S.A. (1993). Spatial and temporal variation in mercury concentrations in some albatrosses and petrels from the sub-Antarctic. *Polar Biology 13*: 239-244.

Lock, J.W**.; Thompson, D.R.**; Furness, R.W.; Bartle, J.A. (1992). Metal concentrations in seabirds of the New Zealand region. *Environmental Pollution 75*: 289-300.

Thompson D.R.; Furness, R.W.; Barrett, R.T. (1992). Mercury concentrations in seabirds from colonies in the north-east Atlantic. *Archives of Environmental Contamination and Toxicology 23*: 383-389.

Thompson, D.R.; Furness, R.W.; Walsh, P.M. (1992). Historical changes in mercury concentrations in the marine ecosystem of the north and north-east Atlantic Ocean as indicated by seabird feathers. *Journal of Applied Ecology 29*: 79-84.

Thompson, D.R.; Hamer, K.C.; Furness, R.W. (1991). Mercury accumulation in great skuas *Catharacta skua* of known age and sex, and its effects upon breeding and survival. *Journal of Applied Ecology 28*: 672-684.

Furness, R.W.; **Thompson, D.R.**; Walsh, P.M. (1990). Evidence for historical changes in global metal pollution: biological samples. *In*: Furness, R.W.; Rainbow, P.S. (eds.) Heavy Metals in the Marine Environment, pp. 219-225. CRC Press, Boca Raton, Florida.

Thompson, D.R. (1990). Heavy metals in marine vertebrates. *In*: Furness, R.W.; Rainbow, P.S. (eds.) Heavy Metals in the Marine Environment, pp. 143-182. CRC Press, Boca Raton, Florida.

Thompson, D.R.; Stewart, F.M.; Furness, R.W. (1990). Using seabirds to monitor mercury in marine environments: the validity of conversion ratios for tissue comparisons. *Marine Pollution Bulletin 21*: 339-342.

Thompson, D.R.; Furness, R.W. (1989). Comparison of organic and total mercury levels in seabird feathers. *Marine Pollution Bulletin 20*: 577- 579.

Thompson, D.R.; Furness, R.W. (1989). Differences in the chemical form of mercury stored in South Atlantic seabirds. *Environmental Pollution 60*: 305-317.

Zonfrillo, B.; Sutcliffe, R.; Furness, R.W.; **Thompson, D.R.** (1988). Notes on a Risso's dolphin from Argyll with analyses of its stomach contents and mercury levels. *Glasgow Naturalist 21*: 297-303.

Reports:

Beaumont, J., **Thompson, D.** (2025) Cup corals and Schedule 7 of the Fast-track Approvals Act 2024. NIWA Client Report 2024379WN. Prepared for McCallum Bros Limited.

Sagar, P., Rexer-Huber, K., Schultz, H., Simister, K., **Thompson, D.**, Parker G. (2025) Population studies of southern Buller's albatrosses at Tini Heke/The Snares Islands. Parker Conservation Report. Prepared for Conservation Services Programme, Department of Conservation.

Thompson, D. (2025) Sand extraction in Te Ākau Bream Bay: potential effects on seabirds and shorebirds. NIWA Client Report 2024250WN. Prepared for McCallum Bros Limited.

Thompson, D. (2025) Assessment of effects on seabirds of the release of carbon-capturing particles. NIWA Client Report 2025191WN. Prepared for Gigablue.

Anderson, O.; Beaumont, J.; Brough, T.; Leunissen, E.; MacGibbon, D.; Mountjoy, J.; Neill, K.; Schnabel, K.; **Thompson, D.** (2024). Desktop assessment of available data, environmental effects and survey design: for seabirds, marine mammals, fish and fishing, and benthic flora and fauna. NIWA Client Report 2024038WN. Prepared for Sumitomo Corporation Ltd.

Anderson, O.; Beaumont, J.; Brough, T.; **Thompson, D.**; Mountjoy, J.; Leunissen, E. (2024). Environmental baseline survey design principles: Waikato and South Taranaki proposed wind farms. NIWA Client Report 2024177WN. Prepared for BlueFloat Energy and Elemental Group Joint Venture.

Beaumont, J.; **Thompson, D.** (2024). Cup corals and Schedule 6 (1A) of the Fast-track Approvals Bill. NIWA Client Report 2024379WN. Prepared for McCallum Brothers Limited.

Sagar, P.; Rexer-Huber, K.; **Thompson, D.**; Parker, G. (2024). Population studies of southern Buller's albatrosses at Tini Heke / The Snares Islands and Hautere / Solander Islands. Report prepared by Parker Conservation for the Conservation Services Programme, Department of Conservation.

Thompson, D.; Hayden, M.; Williams, E. (2024). Baseline information and knowledge gaps for seabirds: Waikato and South Taranaki proposed offshore wind farms. NIWA Client Report 2024007WN. Prepared for BlueFloat Energy and Elemental Group Joint Venture.

Pinkerton, M.; Adams, C.; Behrens, E.; Devine, J.; Eisert, R.; Finucci, B.; Grüss, A.; Halfter, S.; Hawes, I.; La Rue, M.; Moore, B.; Mountjoy, J.; Pardo, E.; Robinson, E.; Robinson, N.; Stevens, C.; **Thompson, D.** (2023). New Zealand research and monitoring in support of the Ross Sea region Marine Protected Area: 2022-2023 update. CCAMLR document WG-EMM-2023/07.

Thompson, D. (2023). Project East open ocean marine farm: assessment of effects on seabirds. NIWA Client Report 2023300WN. Prepared for Sanford Limited.

Thompson, D.; Beaumont, J.; Brough, T. (2023). Synthesis of effects of an offshore, fixed-foundation wind farm in the South Taranaki Bight. NIWA Client Report 2023140WN. Prepared for Wind Quarry Zealandia Ltd.

Thompson, D.; Sagar, P. (2023). Population studies of southern Buller's albatross on Tini Heke The Snares. NIWA Client Report 2023157WN. Prepared for the Department of Conservation.

Pinkerton, M.; Adams, C.; Behrens, E.; Devine, J.; Eisert, R.; Finucci, B.; Grüss, A.; Halfter, S.; Hawes, I.; La Rue, M.; Moore, B.; Mountjoy, J.; Pardo, E.; Robinson, E.; Robinson, N.; Stevens, C.; **Thompson, D.** (2023). New Zealand research and monitoring in support of the Ross Sea region Marine Protected Area: 2022-2023 update. CCAMLR document WG-EMM-2023/07.

Roberts, J.O.; Webber,, D.N.; Goad, D.W.; Arnould, J.P.Y.; Bell,, E.A., Crowe, P.; Deppe, L.; Elliott, G.P.; Landers, T.J.; Freeman, A.N.D.; Mattern, T.; Moore, P.J.; Nicholls, D.G.; Parker, G.P.; Rexer-Huber, K.; Taylor, G.A.; **Thompson, D.R.**; Walker, K.J.; Waugh, S.M.; Young, M.J. (2022) Spatial distribution modelling of at-risk seabirds in New Zealand commercial fisheries. New Zealand Aquatic Environment and Biodiversity Report No. 298. Fisheries New Zealand, Wellington.

Thompson, D.; Beaumont, J.; Dunn, M.; Finucci, B.; Neill, K.; Nodder, S. (2022). Assessment of effects of an offshore, fixed-foundation wind farm in the South Taranaki Bight: Primary productivity and plankton, benthic invertebrates, macroalgae, fish and fishing and seabirds. NIWA Client Report 2022306WN. Prepared for Wind Quarry Zealandia Ltd.

Thompson, D.; Beaumont, J.; Dunn, M.; Gall, M.; Hale, R.; Mills, S.; Neill, K.; Nodder, S.; Steinmetz, T. (2022). Marine environment characterisation of South Taranaki Bight: primary productivity, plankton, macroalgae, benthic invertebrates, fish and fishing. NIWA Client Report 2022254WN. Prepared for Wind Quarry Zealandia Ltd.

Thompson, D.; MacDiarmid, A.; Rickard, G. (2022). Proposed windfarm, South Taranaki Bight: reviews of existing reports. NIWA Client Report 2022208WN. Prepared for Wind Quarry Zealandia Ltd.

Thompson, D.; Sagar, P. (2022). Population studies of southern Buller's albatross on The Snares. NIWA Client Report 2022109WN. Prepared for the Department of Conservation.

Rexer-Huber, K.; Parker, G.; Sagar, P.; **Thompson, D.** (2021). Salvin's albatross breeding dates: nest -camera analysis. Final report to the Conservation Services Programme, Department of Conservation. Parker Conservation.

Thompson, D. (2021). Survey of shorebird occurrence and abundance along the north and south coastlines adjacent to Wellington airport. NIWA Client Report 2021355WN. Prepared for Wellington International Airport Ltd.

Thompson, D.; Gall, M.; Gutiérrez-Rodríguez, A.; Hale, R.; Mills, S.; Neill, K.; Nodder, S.; Orpin, A.; Pande, A.; Smale, P.; Spain, E.; Sutton, P. (2021). Marine environment characterisation of central Te Ara a Kiwa/Foveaux Strait around Tiwai Point. NIWA Client Report 2021169WN. Prepared for Fortescue Future Industries Ltd.

Lundquist, C.; Stephenson, F.; McCartain, L.; Watson, S.; Brough, T.; Nelson, W.; Neill, K.; Anderson, T.; Anderson, O.; Bulmer, R.; Gee, E.; Pinkerton, M.; Rowden, A.; **Thompson, D.** (2020). Evaluating key ecological areas datasets for the New Zealand marine environment. NIWA Client Report 2020109HN. Prepared for Department of Conservation.

Rexer-Huber K.; Elliott G.; Walker K.; **Thompson D.**; Parker G.C. (2020). Gibson's albatross and white-capped albatross in the Auckland Islands 2019–20. Final report to the Conservation Services Programme, Department of Conservation. Parker Conservation.

Thompson, D. (2020). Sand extraction from the Mangawhai-Pakiri Embayment: assessment of effects on seabirds. NIWA Client Report 2020117WN. Prepared for McCallum Brothers Ltd.

Thompson, D.R. (2020). Assessment of the effects of monitoring buoys on Tïtï/sooty shearwater, and of lighting techniques and effects on migratory seabirds. Technical Advice. Prepared for New Zealand King Salmon Ltd.

Thompson, D.; Sagar, P. (2020). Population studies of southern Buller's albatrosses on The Snares. NIWA Client Report 2020200WN. Prepared for the Department of Conservation.

Thompson, D.; Sagar, P.; Briscoe, D.; Parker, G.; Rexer-Huber, K.; Charteris, M. (2020). Salvin's albatross: Bounty Islands population project. NIWA Client Report 2020193WN. Prepared for the Department of Conservation.

Anderson, T.; Pinkerton, M.; D'Archino, R.; Stewart, R.; Leduc, D.; Nodder, S.; Beaumont, J.; **Thompson, D.**; Hupman, K.; Stephenson, F.; Notman, P.; Anderson, O.; Halliday, J.; Gall, M.; Paul, V. (2019). Southern sea defences renewal: part 1 – ecological characterisation of inner Lyall Bay. NIWA Client Report 2019313WN. Prepared for Wellington International Airport Ltd.

Thompson, D.R. (2019). Data collection of demographic, distributional and trophic information on selected seabird species to allow estimation of effects of fishing on population viability: Synthesis of population and demographic work. New Zealand Aquatic Environment and Biodiversity Report No. 228. Fisheries New Zealand, Wellington.

Thompson, D.R.; Lundquist, C.J.; Nelson, W.A.; Nodder, S.; Francis, M.P.; Hupman, K.; Watson, S.; Woelz, S. (2019). Sites and habitats of significance within the Waikato region's coastal marine area. NIWA Client Report 2019245WN. Prepared for Waikato Regional Council.

Thompson, D.R.; Sagar, P.M. (2019). Population studies of southern Buller's albatrosses on The Snares. New Zealand Aquatic Environment and Biodiversity Report No. 231. Fisheries New Zealand, Wellington.

Leduc, D.; Anderson, O.; Cox, S.; Hupman, K.; **Thompson, D.** (2018). Technical review of Coastal Research Limited's marine dumping consent application. NIWA Client Report 2018316WN. Prepared for the Environmental Protection Authority.

Thompson, D. (2018). Proposed Colville mussel Farm: assessment of effects on seabirds. NIWA Client Report 2018064WN. Prepared for the Ministry for Primary Industries.

Lamarche, G.; MacDiarmid, A.; Anderson, O.; Baird, S.J.; Bowden, D.; Clark, M.; Goetz, K.; Hicker, C.; Ladroit, Y.; Schnabel, K.; **Thompson, D.**; Lundquist, D. (2017). Ecological risk assessment of the impact of debris from space launches on the marine environment. NIWA Client Report 2017068WN. Prepared for the Ministry for the Environment.

Thompson, D.; Sagar, P.; Baker, B.; Jensz, K. (2017). Southern Buller's albatross survey at the Solander Islands 2016. NIWA Client Report 2017079WN. Prepared for the Department of Conservation.

MacDiarmid, A.; Baird, S.J.; Clark, M.; Goetz, K.; Hickey, C.; Mills, S.; O'Driscoll, R.; Pinkerton, M.; **Thompson, D**. (2016). Marine ecological risk assessment of the

cumulative impact of Electron Rocket launches. NIWA Client Report 2016059WN. Prepared for Ministry for the Environment.

Sagar, P.; **Thompson, D.** (2016). Population study of southern Buller's albatrosses on the Snares. Draft NIWA Client Report. Prepared for the Ministry for Primary Industries.

Thompson, D. (2016). Seabirds - potential salmon farm relocations in the Marlborough Sounds. Update of existing report. NIWA Client Report 2016164WN. Prepared for the Ministry for Primary Industries.

James, M.; MacDiarmid, A.; Beaumont, J.; **Thompson, D.** (2015). Assessment of ecological effects of the reclamation and extension to Wellington Airport. AES and NIWA Client Report. Prepared for Wellington International Airport Company.

Lundquist, C.; Julian, K.; Costello, M.; Gordon, D.; Mackay, K.; Mills, S.; Neill, K.; Nelson, W.; **Thompson, D.** (2015). Development of a Tier 1 National Reporting Statistic for New Zealand's Marine Biodiversity. New Zealand Aquatic Environment and Biodiversity Report No. 147. Ministry for Primary Industries, Wellington, New Zealand.

MacDiarmid, A.; Anderson, T.; Beaumont, J.; Chang, H.; D'Archino, R.; Dunkin, M.; Fenwick, M.; Gall, M.; Gerring, P.; Leduc, D.; Nelson, W.; Nodder, S.; Roux, M.-J.; Stewart, R.; **Thompson, D.**; Watts, A. (2015). Ecological characterisation of Lyall Bay, Wellington. NIWA Client Report WLG2015-10. Prepared for Wellington International Airport Ltd.

MacDiarmid, A.; **Thompson, D.**; Grieve, J. (2015). Assessment of the scale of marine ecological effects: proposed iron sand mining in the South Taranaki Bight. NIWA Client Report WLG2015-13. Prepared for Trans-Tasman Resources Ltd.

MacDiarmid, A.; Wysoczanski, R.; Clark, M.; Goetz, K.; Hadfield, M.; Neil, H.; Pallentin, A.; Pinkerton, M.; **Thompson, D.**; Tracey, D. (2015). Environmental risk assessment of discharges of sediment during exploration for seabed minerals. Polymetallic nodules, placer gold, and polymetallic crusts. NIWA Client Report WLG2015-42. Prepared for the Ministry for the Environment.

Neil, H.; Barnes, P.; Mitchell, J.; Nodder, S.; Orpin, A.; Clark, M.; Gorman, R.; Rowden, A.; Sutton, P.; **Thompson, D**.; Mackay, K.; Pallentin, A. (2015). Interpretation of data within Permits PEP 57083, 57085 and 57087, including desktop and digital data delivery. NIWA Client Report WLG2015-49. Prepared for Chevron New Zealand Ltd.

Pinkerton, M.H.; MacDiarmid, A.; Beaumont, J.; Bradford-Grieve, J.; Francis, M.P.; Jones, E.; Lalas, C.; Lundquist, C.J.; McKenzie, A.; Nodder, S.D.; Paul, L.; Stenton-Dozey, J.; **Thompson, D.**; Zeldis, J. (2015). Changes to the food-web of the Hauraki Gulf during the period of human occupation: a mass-balance model approach. New Zealand Aquatic Environment and Biodiversity Report No. 160. Ministry for Primary Industries, Wellington, New Zealand.

Roberts, J.; Doonan, I.; **Thompson, D.** (2015). Assessment of mark-recapture sample size effects on demographic rate estimation of white-capped albatross. NIWA Client Report WLG2015-62. Prepared for the Department of Conservation.

Thompson, D.; Parker, G.; Rexer-Huber, K.; Sagar, P. (2015). Feasibility of monitoring white-capped albatross at Disappointment Island. NIWA Client Report WLG2015-20. Prepared for the Department of Conservation.

Hewitt, J.E.; Bell, R.; Costello, M.; Cummings, V.; Currie, K.; Ellis, J.; Francis, M.; Froude, V.; Gorman, R.; Hall, J.; Inglis, G.; MacDiarmid, A.; Mills, G.; Pinkerton, M.; Schiel, D.; Swales, A.; Law, C.; McBride, G.; Nodder, S.; Rowden, A.; Smith, M.; **Thompson, D.**; Torres, L.; Tuck, I.; Wing, S. (2014). Development of a National Marine Environment Monitoring Programme (MEMP) for New Zealand. New Zealand Aquatic Environment and Biodiversity Report No. 141. Ministry for Primary Industries, Wellington.

MacDiarmid, A.; Boschen, R.; Bowden, D.; Clark, M.; Hadfield, M.; Lamarche, G.; Nodder, S.; Pinkerton, M.; **Thompson, D.** (2014). Environmental risk assessment of discharges of sediment during prospecting and exploration for seabed minerals. NIWA Client Report WLG2013-66. Report prepared for the Ministry for the Environment.

Thompson, D.; Sagar, P.; Torres, L.; Charteris, M. (2014). Salvin's albatrosses at the Bounty Islands: at-sea distribution. NIWA Client Report WLG2014-79. Prepared for the Department of Conservation.

Sagar, P.; Torres, L.; **Thompson, D.**; Morrison, K.; Battley, P. (2013). Demography and tracking of Buller's albatrosses at the Snares, and tracking of Snares crested penguins and rockhopper penguins from the Snares and Campbell Island, respectively: final research report of the 2013 field season. NIWA Client Report CHC2013-064. Prepared for the Department of Conservation.

Thompson, D. (2013). Seabirds of the Chatham Rise in support of an environmental impact assessment for Chatham Rock Phosphate. NIWA Client Report WLG2012-60. Report prepared for Chatham Rock Phosphate Ltd.

Thompson, D. (2013). Seabirds of the South Taranaki Bight. NIWA Client Report WLG2013-15. Prepared for Trans-Tasman Resources Ltd.

Thompson, D. (2013). Effects of ships lights on fish, squid and seabirds. NIWA Client Report WLG2013-16. Prepared for Trans-Tasman Resources Ltd.

Thompson, D.R. (2013). A summary of NIWA's stable Isotope Data from the Chatham Rise. NIWA Client Report WLG2013-59. Prepared for Chatham Rock Phosphate Ltd.

MacDiarmid, A.; Beaumont, J.; Bostock, H.; Bowden, D.; Clark, M.; Hadfield, M.; Heath, P.; Lamarche, G.; Nodder, S.; Orpin, A.; Stevens, C.; **Thompson, D.**; Torres, L.; Wysoczanski, R. (2012). Expert risk assessment of activities in the New Zealand

Exclusive Economic Zone and Extended Continental Shelf. NIWA Client report WLG2011-39. Prepared for the Ministry for the Environment.

MacDiarmid, A.; **Thompson, D.**; Pinkerton, M.; Hume, T. (2012). Scoping analysis of matters to consider when reporting on the state of marine environment. NIWA Client Report WLG2012-31. Prepared for the Parliamentary Commissioner for the Environment.

Sagar, P.; Torres, L.; **Thompson, D.** (2012). Demography and distribution of Buller's albatrosses *Thalassarche bulleri bulleri*: final research report of the 2012 field season. NIWA Client Report CHC2012-063. Prepared for the Department of Conservation.

Thompson, D.R.; M.H. Pinkerton; D.W. Stevens; Y. Cherel; S.J. Bury (2012). The Ross Sea cephalopod community: insights from stable isotope analysis. CCAMLR document WG-EMM-12/55.

MacDiarmid, A.; Anderson, O.; Beaumont, J.; Gorman, R.; Hancock, N.; Julian, K.; Schwarz, J.; Stevens, C.; Sturman, J.; **Thompson, D.**; Torres, L. (2011). South Taranaki Bight factual baseline environmental report. NIWA Client Report WLG2011-43. Prepared for Trans-Tasman Resources Ltd.

Thompson D.R.; Bury S.J.; Brown, J. (2011). Stable isotope analysis of the chicks of black-fronted terns and their prey. Report on samples collected during the 2007-08 to 2010-11 breeding seasons at the Wairau River. Commercial client report prepared for Jolly Consulting Ltd. and Trust Power (Tauranga 3143, New Zealand).

Sagar, P.; Torres, L.; **Thompson, D.** (2010). Demography and distribution of Buller's albatrosses *Thalassarche bulleri bulleri*: final research report of the 2010 field season. NIWA Client Report CHC2010-156. Prepared for the Department of Conservation.

Thompson, D.R. (2010). Autopsy report for seabirds killed and returned from observed New Zealand fisheries. 1 October 2008 to 30 September 2009. DOC Marine Conservation Services Series 6. Department of Conservation, Wellington. 37p.

Thompson, D.R. (2010). Autopsy report for seabirds killed and returned from observed New Zealand fisheries: 1 October 2007 to 30 September 2008. *DOC Marine Conservation Services Series 5*. Department of Conservation, Wellington. 36p.

Thompson, D.R. (2010). Autopsy report for seabirds killed and returned from observed New Zealand fisheries: 1 October 2006 to 30 September 2007. *DOC Marine Conservation Services Series 3*. Department of Conservation, Wellington. 37p.

Thompson, D.R.; Bury S.J.; Brown, J. (2010). Stable isotope analysis of the chicks of black-fronted terns and their prey. Report on samples collected during the 2009-10 breeding season at the Wairau River. Commercial client report prepared for Jolly Consulting Ltd. and Trust Power (Tauranga 3143, New Zealand).

Thompson, D.R. (2009). Autopsy report for seabirds killed and returned from observed New Zealand fisheries: 1 October 2005 to 30 September 2006. *DOC Marine Conservation Services Series 2*. Department of Conservation, Wellington. 35p.

Thompson, D.; Imber, M.; Patuawa, T. (2007). Fulmars, petrels, prions and shearwaters (Families Procellariidae, Hydrobatidae, and Pelecanoididae). In MacDiarmid. A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Moore, P. (2007). Oystercatchers (Family Haematopodidae). In MacDiarmid, A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Moore, P.; Patuawa, T. (2007). Penguins (Family Spheniscidae). In MacDiarmid, A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Robertson, C.; Patuawa, T. (2007). Albatrosses. In MacDiarmid, A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Smith, F.; Patuawa, T. (2007). Cormorants and shags (Family Phalacrocoracidae). In MacDiarmid, A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Smith, F.; Patuawa, T. (2007). Terns, gulls, and skuas (Family Laridae). In MacDiarmid, A. (ed) The Treasures of the Sea: Ngā Taonga a Tangaroa. A summary of the biodiversity in the New Zealand marine ecoregion. WWF-New Zealand, Wellington.

Thompson, D.; Sagar, P. (2003). Penguin numbers continue to slide. *New Zealand Geographic 65*:14-15.

Baird, S.J.; **Thompson, D.R.** (2002). Seabirds and the hoki (*Macruronus novaezelandiae*) trawl fishery: a review of current knowledge. NIWA Client Report WLG2002/5. Report prepared for the Hoki Fishery Management Company Ltd.

Thompson, D.R. (2001). Assessment of the impact on waders for proposed oyster farm in Kaipara Harbour. NIWA Client Report WLG2001/84. Report prepared for Biomarine Ltd.

Thompson, D. (1998). Heavy metals in shorebirds from the Auckland region. NIWA Client Report WG98/24. Report prepared for the Auckland Regional Council.

Dr Eddie Beetham

Tonkin+Taylor

Dr Eddie Beetham

Senior Coastal Geomorphologist

PhD, MSc, BSc [Hons]

Dr Eddie Beetham is a senior coastal geomorphologist at Tonkin + Taylor with specialist experience in applying coastal process and geomorphology knowledge to coastal hazard and management applications and engineering design projects. Eddie has appeared as an expert witness to the Environment Court and council hearings.

Eddie has over 12 years' experience, including a PhD and Research Fellowship on the impacts of climate change on tropical reef coasts. Eddie joined Tonkin + Taylor in 2019, applying knowledge of coastal process and skills in numerical modelling to a range of projects across Australia, the Pacific Islands and New Zealand.

Eddie has experience working with councils to understand coastal hazards, including inundation modelling for Northland and Hawkes Bay Regions and coastal erosion susceptibility in Auckland and Northland and for multiple private developments. Eddie understands that robust technical advice based on the best available information is important for making decisions on coastal management, especially in areas of environmental uncertainty with diverging stakeholder values.

Expertise

- Coastal processes
- Coastal hazards
- Coastal effect assessments
- River mouth dynamics
- Numerical modelling
- Data analysis and technical computing

Employment

Tonkin & Taylor Ltd
Auckland, Mar 2019 - Current
Senior Coastal Scientist

The University of Auckland
2016 - 2018
Research Fellow | Lecturer

The University of Auckland
2012 - 2015
PhD Candidate | Research Assistant | Tutor

Affiliations

Management committee of the New Zealand Coastal Society

Relevant Experience

Expert Witness: Pakiri Sand Extraction (2023)

Appeared as an expert witness for the Department of Conservation regarding three proposals to extract marine sand off the coast of Mangawhai – Pakiri. My evidence was pivotal in identifying an error in the application and subsequent withdrawal of two applications. My contribution to the decision-making process was recognised by the environment court panel.

Expert Witness: Taharoa Ironsands (2024)

Presented expert evidence at a council hearing on the effects of sand export activities at Taharoa on coastal processes. Appearing for the applicant, Taharoa Ironsands Ltd.

Coastal Inundation Clifton to Tangoio (2023)

Project manager and technical lead on a coastal inundation assessment for Clifton to Tangoio in Hawkes Bay. This work included building and calibrating a coastal inundation model for the region, working with three councils (Napier City Council, Hastings District Council, Hawkes Bay Regional Council) and peer reviewers (NIWA) to develop a robust and defendable information basis for decision making. Also included briefing elected officials, council officers, and the Joint Coastal Committee on the report and meeting with the community in Hastings to discuss results with property owners.

Peer Review of Beach Response to Sea Level Rise (2024)

Undertook a peer review of a guidance document for Queensland State Government on methods for calculating beach response to sea level rise, including a review of the Bruun rule and how this is best applied in coastal hazard assessments.

Northland Coastal Erosion Hazard Assessment (2020)

Prepared detailed coastal erosion hazard assessments for 11 priority sites in the Northland Region of New Zealand. This involved site assessments, modelling of wave processes and calculation of areas susceptible to coastal erosion under different sea level rise scenarios and timeframes.

Northland Coastal Inundation Hazard Assessment (2021)

Assisted in the preparation of a coastal inundation assessment for the full Northland Region, including calculating inundation levels and mapping of specific inundation scenarios.

Far North Proposed District Plan change (2025)

Expert advice for Far North District Council related to coastal erosion and inundation submissions on their proposed district plan.

Auckland Region Coastal Erosion Susceptibility (2020)

Developed a new computational model for mapping areas susceptible to coastal instability and erosion (ASCIE) for cliff coastlines in the Auckland Region. This involved

programming a region wide 'cliff projection' method, where across shore coastal profile was extracted in 20 m intervals for the entire region. The entire process was automated, from loading elevation data to generating profile sections, running calculations and mapping of outputs. This is the first regional map for informing management of coastal erosion susceptibility in the Auckland Region.

Wairoa River Mouth: Flooding Review (2024)

In response to flooding in Wairoa on 25 June 2024, I was project manager and coastal lead on a technical review of the physical processes contributing to the flooding, commissioned by HBRC. This included reconstructing a data timeline of the event and modelling the contribution of coastal storm surge and waves acting on the river mouth.

Wairoa River Mouth: Bar management (2024)

Undertook a review of coastal processes acting on the bar, including satellite analysis of bar dynamic and options for improved management. Presented results at an interactive meeting with the community and Iwi in Wairoa.

Hawkes Bay Cyclone Gabrielle recovery (2023)

Analysis of river mouth influence on flooding in the lower Esk Valley to support local industry and Hawkes Bay Regional Council identify options for reducing flooding to a Category 2 community in Whirinaki, following cyclone Gabrielle. This involved satellite analysis of river outlet location, analysis of coastal process trends driving river dynamics, and options for managing the mouth, through structural and operational approaches.

Sandringham Beach Coastal Processes (2023)

This project involved developing and calibrating numerical models for representing coastal dynamics at different management timescales at Sandringham Beach, Port Phillip Bay Australia. This included a storm erosion and inundation model (XBeach-surfbeat), a multi-decadal shoreline position model (ShorelineS) and a profile adjustment model (ShoreTrans). The product is a powerful environment for iteratively and efficiently assessing coastal management pathways.

Gold Coast Resilience Project (2024)

To support The City of Gold Coast preparing the Gold Coast Resilience Scheme and inform the management of its ocean beaches over the coming century. A key consideration is maintaining beach width through sand management, and how the current level of service for sand management will be impacted by climate change. T+T partnered with Bluecoast consulting Engineers to analyse beach profile data model how beach width will be impacted by storms and sea level rise over the coming century. We developed a probabilistic model of beach adjustment to storms and sea level rise to identify priority sites for sand management investment.

Inundation of Newcastle Baths (2023)

The Newcastle Baths is an iconic ocean front swimming pool complex in New South Wales Australia. We worked with Bluecoast Consulting Engineers to assess exposure of the pool complex to wave inundation at present day, and with future sea level rise. This included deploying and analysing wave gauge data, camera monitoring imagery alongside a regional offshore wave buoy. Data analysis informed inundation thresholds, and calibration of a phase resolving XBeach model to assess exposure under different scenarios. Options to manage inundation through closure, and to reduce exposure to buildings were also identified and modelled.

IREX Coastal Processes Assessment, Wellington (2022)

To support new Interislander ferries for the Cook Strait, New Zealand, a major terminal upgrade was required in Wellington Harbour. I undertook a coastal processes and effects assessment and supported consent level design for the wharf and associated facilities. This considered the effects on long term vessel operation at the site and construction effects on coastal processes.

Te Ara Tupua Alliance, Coastal Modelling Specialist (2021 - 2023)

The Te Ara Tupua Alliance is responsible for the design and construction of a network of coastal cycleways around Wellington Harbour. In my role as a coastal modelling specialist, I was responsible for establishing design conditions for coastal protection structures from extreme wave and water level events. A range of phase averaging and phase resolving models, and data analysis methods were used to undertake this work.

Ōpōtiki Harbour Entrance: Detailed Design (2021)

The Ōpōtiki Harbour entrance project is the first major harbour opening in New Zealand in over 100 years. This includes construction of training wall breakwaters that have not been designed in New Zealand before. I was responsible for numerically modelling wave transformation around the structures for the purpose of optimising the sizing of concrete cast Hanbar armour units and rock armour for toe protection. A key consideration of this work was accurately representing wave reflection and convergence inside the breakwater channel.

Ōpōtiki Harbour Entrance: Beach Response (2021)

Beach and nearshore response to the Ōpōtiki Harbour Entrance design was modelled using a combination of numerical models. The tightly coupled wave, flow and morphodynamic model XBeach was used to simulate how the beach, entrance channel and nearshore will respond to different forcing events. This included coupling a large river flow event with a coastal storm to investigate the formation and dynamics of nearshore bars. The long-term shoreline response to the training wall design was also investigated using an advanced shoreline position model ShorelineS. This provides important insight into how the wider coastline is expected to adjust in response to the new structures. Ongoing monitoring data is being collected and analysed to continue this work.

Waihi Beach Monitoring (2024-25)

Beach profile monitoring assessment to understand the impact of coastal protection structures and storm water outflow channels on beach processes along Waihi Beach, Western Bay of Plenty.

Pauanui Beach Renourishment Feasibility (2021)

Unprecedented erosion in 2020 -2021 resulted in 20 m of reserve being lost at the south end of Pauanui Beach. We

worked with TCDC to understand the processes causing erosion and identified a unique La Nina driven storm sequence, produced extreme wave runup exceedance hours for the dune toe. A range of beach profile and wave climate data analysis methods were used to understand the problem. The Xbeach model, in combination with a shoreline translation model ShoreTrans were used to assess the placement volume and feasibility of nourishment. Source locations were also considered, and effects were identified.

Samoa East Coast Road Climate Resilience (2024)

The East Coast Road is a 16 km coastal corridor that is exposed to a range of natural hazards, including coastal inundation, overtopping and erosion. This project assessed coastal exposure along the alignment and identified priority sites for coastal protection and adaptation, as part of a wider climate resilience feasibility study for the Land Transport Agency, funded by the World Bank.

Aitutaki Airport Coastal Hazards and Risk (2025)

A detailed investigation of coastal processes, hazards and risk for Aitutaki Airport to inform adaptation options and investment. Includes numerical modelling, stakeholder workshops and

PRIF Guidance on monitoring coastal protection structures, Pacific (2024)

Prepared a chapter on coastal processes and coastal hazards in the Pacific Islands as part of a guidance document on monitoring the condition of coastal protection structures. Travelled to Fiji to deliver and capacity building training session on coastal processes, including interactive site demonstration on the Suva waterfront.

Select Publications

Beetham, E. P., & Kench, P. S. (2011). Field observations of infragravity waves and their behaviour on rock shore platforms. Earth Surface Processes and Landforms, 36(14), 1872-1888.

Beetham, E. P., & Kench, P. S. (2014). Wave energy gradients and shoreline change on Vabbinfaru platform, Maldives. Geomorphology, 209, 98-110.

Beetham, E., & Kench, P. S. (2018). Predicting wave overtopping thresholds on coral reef-island shorelines with future sea-level rise. Nature communications, 9(1), 3997.

Beetham, E., Kench, P. S., & Popinet, S. (2017). Future reef growth can mitigate physical impacts of sea-level rise on atoll islands. Earth's Future, 5(10), 1002-1014.

Beetham, E., Kench, P. S., & Popinet, S. (2018). Model skill and sensitivity for simulating wave processes on coral reefs using a shock-capturing Green-Naghdi Solver. Journal of Coastal Research, 34(5), 1087-1099.

Beetham, E., Kench, P. S., O'Callaghan, J., & Popinet, S. (2016). Wave transformation and shoreline water level on Funafuti Atoll, T uvalu. Journal of Geophysical Research: Oceans, 121(1), 311-326.

Beetham, E., Perry, B., McCarroll, J., Kennedy, D., Blakely, H., Shand, T. (2023) A multi-model workflow for assessing multi-scale beach dynamics. Australasian Coasts & Ports 2023 Conference.

Beetham, E., Shand, T., Pearce, G., Clarke, J., Knook, P., Flocard, F., and Partner, L. (2021) Combined Numerical and Physical Modelling of Waves for Ōpōtiki Harbour Entrance Design. Australasian Coasts & Ports 2021 Conference.

East, H. K., Perry, C. T., Beetham, E. P., Kench, P. S., & Liang, Y. (2020). Modelling reef hydrodynamics and sediment mobility under sea level rise in atoll reef island systems. Global and Planetary Change, 192, 103196.

Kench, P. S., Beetham, E. P., Turner, T., Morgan, K. M., Owen, S. D., & McLean, R. F. (2022). Sustained coral reef growth in the critical wave dissipation zone of a Maldivian atoll. Communications Earth & Environment, 3(1), 9.

Kench, P. S., Beetham, E., Bosserelle, C., Kruger, J., Pohler, S. M. L., Coco, G., & Ryan, E. J. (2017). Nearshore hydrodynamics, beachface cobble transport and morphodynamics on a Pacific atoll motu. Marine geology, 389, 17-31.

Kench, P. S., Liang, C., Ford, M. R., Owen, S. D., Aslam, M., Ryan, E. J., ... & McLean, R. F. (2023). Reef islands have continually adjusted to environmental change over the past two millennia. Nature Communications, 14(1), 508.

Kench, P. S., Owen, S. D., Beetham, E. P., Mann, T., McLean, R. F., & Ashton, A. (2020). Holocene sea level dynamics drive formation of a large atoll island in the central Indian Ocean. Global and Planetary Change, 195, 103354.

Masselink, G., Beetham, E., & Kench, P. (2020). Coral reef islands can accrete vertically in response to sea level rise. Science Advances, 6(24), eaay3656.

Masselink, G., McCall, R., Beetham, E., Kench, P., & Storlazzi, C. (2021). Role of Future Reef Growth on Morphological Response of Coral Reef Islands to Sea-Level Rise. Journal of Geophysical Research: Earth Surface, 126(2), e2020JF005749.

Education

PhD (Deans Award), *"Field and numerical investigations of wave transformation and inundation on atoll islands"*, 2016, University of Auckland, New Zealand

MSc (First Class Honours), Geography, 2011, University of Auckland, New Zealand

BSc (First Class Honours), Physical Geography, 2009, University of Auckland, New Zealand

BSc, Geography & Environmental Scientist, 2008, University of Auckland, New Zealand

For more information contact Eddie Beetham, [redacted]

Helen McConnell, MSc, BSc

Principal | Marine Science | Asia-Pacific

Helen is a trained marine ecologist whose professional experience started in 2002. Helen's career has spanned research, teaching, policy development, and environmental consultancy all with a strong focus on marine ecology and conservation. She has been involved in a wide range of marine and coastal projects both in the private and public sectors. Helen specialises in marine mammal ecology and effects of coastal developments, oil and gas activities, and aquaculture on marine mammals. Helen is skilled in communicating concepts of marine ecology to a broad audience and has authored numerous client reports, statements of evidence, best practice guidelines and scientific publications.

As well as extensive coastal experience, Helen has been involved with several offshore projects both in New Zealand and Australia. In recent years Helen has specialised in the preparation of environmental impact assessments, environmental plans, marine consent and resource consent applications, and the provision of expert witness services during consent hearings, with a particular focus on marine mammal impacts.

Helen has authored or co-authored 13 peer-reviewed publications relating to marine mammal ecology and oiled wildlife response.

Education

Master Science, Marine Science (Distinction), University of Otago (2001)

Bachelor of Science Zoology, University of Otago (1997)

Project Experience Examples

Resource Consent Applications

Wharf Reconstruction, Akaroa (2025)

Helen was engaged by Environment Canterbury (ECan) as a marine mammal expert to assist a Coastal Permit Application that was lodged by Christchurch City Council to reconstruct and expand the existing Akaroa Wharf facilities. Helen provided several technical reviews of the application documentation relating to marine mammals, including advising on conditions of consent. This application is still under consideration by ECan.

Marina Upgrade, Magazine Bay, Lyttelton (2025)

Helen was engaged by Environment Canterbury (ECan) as a marine mammal expert to assist a Coastal Permit Application that was lodged by Christchurch City Council to upgrade the existing Magazine Bay Marina facilities. Helen provided a comprehensive technical review of the application documentation relating to marine mammals, including advising on conditions of consent. This application is still under consideration by ECan.

Maintenance Dredging, Port Taranaki (2025)
Maintenance dredging is required at Port Taranaki to remove accumulated sediments to ensure an adequate depth is preserved for large cargo vessels to navigate the port safely and efficiently. SLR has been engaged by Port Taranaki to prepare a Coastal Permit Application to allow ongoing maintenance dredging. As part of this application, Helen has assessed the potential effects of dredging on marine mammals. The application will be ready to lodge mid-2025.

Maintenance Dredging, Port of Tauranga Ltd (2025)
Port of Tauranga (POTL) has historic resource consents that allow dredging to deepen and widen the existing shipping channels into Tauranga Harbour and to conduct routine maintenance dredging. These existing consents will expire in 2027, and a process is underway to renew these consents to allow ongoing maintenance dredging and spoil disposal. Helen is currently engaged by POTL as a marine mammal expert to assist with preparing the consent renewal application.

Wharf Extension, Reclamation and Dredging, Northland Regional Council (2023)
Helen was engaged by Northland Regional Council as a marine mammal expert to assist a Coastal Permit Application that was lodged by Northport Ltd to construct, operate, and maintain an expansion of the existing port facility to increase freight storage and handling capacity. This application, including Helen's expert evidence, was heard before the Council in October 2023.

Wharf Extension and Dredging, Port of Tauranga Ltd (2023)
Helen was engaged by Port of Tauranga Ltd as a marine mammal expert to assist with the port's Coastal Permit Application to extend the Sulphur Point and Mount Maunganui wharves and to conduct capital dredging works to extend the swing basin. This application, including Helen's expert evidence, was heard before the Environment Court in February 2023. An interim decision to provisionally grant the application was issued in December 2023.

Mussel Spat Farm, Waikato Regional Council (2023)
For this project Helen was engaged as a marine mammal expert by Waikato Regional Council to critically review the applicant's information pertaining to the potential effects of a proposed spat farm on marine mammals. This proposed farm overlaps with the distribution of New Zealand's critically endangered Māui dolphins. So very careful assessment of potential effects on this conservation dependant species was required.

Open Ocean Salmon Farm, Marlborough District Council (2021)
For this project Helen was engaged as a marine mammal expert by the Marlborough District Council to critically review the applicant's information pertaining to the potential effects of the proposed Blue Endeavour Marine Farm in the outer Marlborough Sounds on marine mammals. This application represents the first open ocean fish farm application to be granted in New Zealand. Helen presented expert evidence and participated in the hearing to assist with the decision-making process and with the drafting of consent conditions.

Mussel Farm Installation and Operation, Ponui Aquaculture Ltd Coastal (2020)
This application was to establish a new mussel farm in the Firth of Thames. Helen was engaged by the applicant as a marine mammal expert to assess the potential effects of the proposed farm structures and operations on marine mammals, preparing evidence and appearing before the Auckland Council hearing in 2020. This application was granted.

Mussel Spat Farm Installation and Operation, Ohinau Aquaculture Ltd (2019)
For this project, Helen was engaged as the marine mammal expert on behalf of the applicant to assess the potential effects on marine mammals from the establishment of a mussel spat collecting farm in Mercury Bay, Coromandel Peninsula. In association with this application, I prepared statements of evidence and appeared before the Waikato Regional Council hearing (2019) and an appeal hearing before the Environment Court (2020). The applicant was granted consent in 2023, and the first farm structures will be installed in 2024.

Aquaculture Management Plans, NZ King Salmon Ltd (2014)
Resource consent conditions for proposed marine finfish farms require the development of management plans. In 2014, Helen prepared a Marine Mammal and Shark Management Plan to minimise the impacts of salmon farms on protected species within the Marlborough Sounds, and a Nuisance Wildlife Management Plan to minimise the adverse effects from wildlife on residents and amenities around newly consented finfish farms.

Kaheru-1 Exploration Well, South Taranaki, NZ Oil & Gas Ltd (2014)
This project involved assessing environmental effects for a Coastal Permit to drill an exploration well 12 km off the South Taranaki Coast. Potential effects on the marine and coastal ecosystems, along with existing interests were assessed. Consent was granted in late 2014.

Marine Seismic Surveys – Marine Mammal Impact Assessments

Otway Basin 3D Seismic Survey, Victoria and South Australia, TGS Ltd (2023-2024)

An Environmental Plan (EP) has recently been prepared in relation to acquisition of a 3D marine seismic survey in the Otway Basin off the south coast of Australia (SA, VIC). The EP is currently with the Australian regulator (NOPSEMA) awaiting decision. The assessment of potential impacts of noise on marine mammals was a critical part of this EP as the proposed operational area overlaps with several Biologically Important Areas for marine mammal species (blue whales and southern right whales). On this basis numerous control measures have been developed to ensure that marine mammal populations will be sufficiently protected from the underwater noise generated by the seismic operations.

Bonaparte 3D Seismic Survey, Western Australia, Schlumberger Ltd (2023-2024)
An EP was prepared in relation to acquisition of a 3D marine seismic survey on the Northwest Shelf of Australia (WA). The EP was approved by NOPSEMA, and the survey was successfully acquired in early 2024.

3D Seismic Surveys, North Taranaki, NZ Surveys 2020 Ltd (2022)
Under the EEZ Act 2012 compliance with the Department of Conservation's (DOC) Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations is mandatory. In accordance with the Code of Conduct, Marine Mammal Impact Assessments (MMIA) for two transitional surveys in North Taranaki ('Turangi' and 'Waitara') were submitted to DOC in 2022. The transitional nature of these surveys saw them bridge a data gap between an existing marine 3D seismic survey and land-based 3D seismic data. Both surveys were successfully completed in 2022.

4D Seismic Survey, Taranaki, Shell Taranaki Ltd (2017)
In accordance with the Code of Conduct, a Marine Mammal Impact Assessment (MMIA) for the 'Māui' 4D marine seismic survey was prepared in late 2017 and the survey was successfully completed in early 2018.

3D Seismic Survey, Taranaki – Schlumberger Ltd (2017)
Helen prepared an MMIA for a large Operational Area along the west coast of the North Island in 2017 and the survey was successfully acquired in the summer of 2017/2018.

3D Seismic Survey, East Coast, Schlumberger Ltd (2016)
Helen prepared an MMIA for a large Operational Area along the east coast of the North Island and the top of the South Island. This survey was successfully acquired over a six-month operational period.

3D Seismic Survey, Taranaki, PGS Ltd (2016)
MMIAs were prepared for two survey blocks in Taranaki (south and west). These multi-client surveys were conducted successfully over the 2016/2017 summer. Stakeholder engagement during the preparation of the MMIAs resulted in collaborative revisions to the proposed Operational Areas to avoid acquiring data in the Territorial Sea.

3D Seismic Survey, Taranaki, Todd Energy Ltd (2015)
Helen prepared an MMIA for the 'Trestles' Seismic Survey off Cape Egmont Taranaki. This survey was successfully acquired in February 2015.

3D Seismic Survey, North Otago, NZ Oil & Gas (2013)
An MMIA was completed for the 'Endurance' Seismic Survey off the northern coast of Otago in late 2013. Atypical sound loss modelling results for this survey gave rise for the need for

additional mitigation measures (extended mitigation zones in shallow parts of the Operational Area). This survey was completed successfully in accordance with the additional mitigations.

Marine Consent Applications

Kupe Development Drilling, Taranaki, Beach Energy Ltd (2022)
This project involved drafting and lodging a Marine Consent application for a development drilling programme at the Kupe Field in the South Taranaki Bight. As part of this consent application, a thorough environmental impact assessment was undertaken, for which Helen drafted the sections of relevance to marine mammals and gave evidence at the Environment Protection Authority (EPA) hearing. This application was granted in March 2023.

Iron Sand Extraction, South Taranaki, Trans Tasman Resources Ltd (2016)
In 2016, Trans-Tasman Resources Ltd (TTR) obtained a marine consent to extract iron sand in the South Taranaki Bight. Helen assisted with the preparation of an environmental monitoring and management programme to be undertaken both prior to extraction activities commencing (baseline) and throughout the operational extraction period (impact). In particular, Helen drafted the Marine Mammal Management Plan and the Seabird Mitigation Management Plan. This application has been appealed and remains in the court system.

Māui Field Operations, Taranaki, Shell Todd Oil Services Ltd (2015)
This project involved the preparation of expert witness evidence relating to marine mammals and oiled wildlife response, and the presentation of this evidence at the STOS Marine Consent hearing. This evidence assessed the potential impacts of ongoing production at the Māui Field on marine mammals. It also outlined the potential effects of oil on wildlife and the suite of options available to respond to wildlife in the event of an oil spill. This application was granted by the Environmental Protection Authority in 2015.

Maari Development Drilling, Taranaki, OMV NZ Ltd (2014)
This project involved drafting and lodging a Marine Consent application for OMV to continue their development drilling programme at the Maari Field. As part of this consent application, a thorough environmental impact assessment was completed. This application was granted by the Environmental Protection Authority on 15 December 2014. This project also involved the preparation of expert witness evidence in relation to marine mammals and oiled wildlife response. This evidence provided a detailed assessment of the current knowledge regarding marine mammal distributions in Taranaki as well as discussing the potential impacts of the Maari field development drilling activities on marine mammals. Evidence was also presented in relation to the potential effects of oil on wildlife in the event of an oil spill and the available response options.

Oiled Wildlife Response

Oiled Wildlife Contingency Planning, New Zealand, Maritime NZ (2008-2013)
While working at Massey University, Helen played a key role in managing a large and ongoing oiled wildlife response contract with Maritime New Zealand. A key component of this contract was the maintenance of the wildlife specific information in NZ's national and regional oil spill contingency plans and the development of the National Oiled Wildlife Response Team through annual training courses. Standard Operating Procedures for Oiled Wildlife Response were also developed by Helen as part of this project.

Oiled Wildlife Contingency Planning, Western Australia, Apache, Chevron, Woodside, Vermillion, BHP Billiton, INPEX (2013)
Helen was instrumental in the preparation of an Oiled Wildlife Response Plan for the Northwest Shelf region of Western Australia. This project included the identification of wildlife sensitive sites, the development of preferred response strategies, and preparing recommendations on contingency equipment and response management structure.

Rena Wildlife Response, Bay of Plenty, Maritime NZ (2011-2012)
Helen was involved with the co-management of the oiled wildlife response component of the CV Rena oil spill: New Zealand's worst environmental maritime disaster in history. This project was complex and high profile. Specific tasks included:

Overall management of the Oiled Wildlife Response and the Oiled Wildlife Planning Team.

Identification of wildlife populations and priority wildlife habitats at risk of contamination.

Day-to-day planning for the recovery of oiled wildlife, the release of treated wildlife, and end-point determination for the clean-up of habitat.

Consultation with key stakeholders (Department of Conservation, local indigenous groups, non-government organisations, public), and

The preparation of plans for the post-release survival and reproductive monitoring of little blue penguins and New Zealand dotterels.

Marine Mammal Research

General Marine Mammal Field Research (1998-2015)
Throughout her academic and professional career, Helen has been involved in various marine mammal field research projects around the New Zealand mainland, in the New Zealand subantarctic and further afield in the Pacific islands. These projects were funded by several different private and public sources. Helen's key research experience includes:

Diet of NZ sea lions in the Subantarctic and Stewart Island.

Population monitoring of NZ sea lions at Otago Peninsula, Catlins and Stewart Island (photo identification and tagging studies); and

Cetacean surveys in coastal waters of NZ and Fiji (photo ID and biopsy techniques).

In particular, Helen has been involved in the following subantarctic expeditions:

Sea lion pup production survey of Campbell Island in autumn 2003.

Annual population monitoring of sea lions at the Auckland Islands during summer 2008.

Annual winter sea lion diet surveys at the Auckland Islands from 2010–2013; and

Sea lion diet survey at the Snares in 2013.

Publications

Hunter, S., Tennyson, A., Bartle, S., Miskelly, C., Waugh, S., **McConnell, H**., Morgan, K., Finlayson, S., Baylis, S., Chilvers, B.L., Gartrell, B. 2019. Assessing avian mortality during oil spills: a case study of the New Zealand MV 'Rena' oil spill, 2011. Endangered Species Research 39:303-314.

Sievwright, K.A., Battley, P.F., **McConnell, H**., Armstrong, D.P., Morgan, K.J. 2019. Survival rates of oil-rehabilitated and non-rehabilitated little penguins after the C/V Rena oil spill, New Zealand. Marine Pollution Bulletin 146: 317-325.

Gartrell, B.D., Browne, A., Clumpner, C., Dwyer, B., Hunter, S., Jensen, M., **McConnell, H**., Michael, S., Morgan, K.J., Nijman, P., White, B.J., Ziccardi, M. 2019. Captive husbandry and veterinary care of seabirds during the MV Rena oil spill response. Wildlife Research 46(7): 610-621.

Sievwright, K.A., Battley, P.F., **McConnell, H**., Chilvers, B.L., Morgan, K.J. 2019. Post-release breeding success of little blue penguins following the C/V Rena oil spill, New Zealand. Marine Pollution Bulletin 149 (2019) 110553.

Lalas, C., **McConnell, H.** Effects of seismic surveys on New Zealand fur seals during daylight hours. Marine Mammal Science 32 (2): 643 - 663. *DOI: 10.1111/mms.12293.*

McConnell, H., Morgan, K., Sine, A., Leung, Y., Ward, J., Chilvers, B.L., Gartrell, B. 2015. Using seawater for cleaning oil from sea bird feathers. Methods in Ecology and Evolution 6(10). *DOI: 10.1111/2041-210X.12413.*

McConnell, H.M., Gartrell, B.D., Chilvers, B.L., Finlayson, S.T., Bridgen, P.C.E., Morgan, K.J. 2015. Baseline hydrocarbon levels in New Zealand coastal and marine avifauna. Marine Pollution Bulletin 94(1): 290 – 298. *DOI: 10.1016/j.marpolbul.2015.02.001*

Lalas, C., **McConnell, H**., Meynier, L. 2014. Estimating size of opalfish (*Hemerocoetes* spp.) from otoliths: implications for analyses of New Zealand sea lion diet. New Zealand Journal of Marine and Freshwater Research 48(1): 1 – 14. *DOI: 10.1080/00288330.2013.816326.*

Gartrell, B.D., Collen, R., Dowding, J.E., Gummer, H., Hunter, S., King, E.J., Laurenson, L., Lilley, C.D., Morgan, K.J., **McConnell, H.M**., Simpson, K., Ward, J.M. 2013. Captive husbandry and veterinary care of northern New Zealand dotterels (*Charadrius obscurus aquilonius*) during the CV Rena oil-spill response. Wildlife Research 40: 624 – 632.

IPIECA-OGP (contributing author). 2014. Wildlife Response Preparedness: good practice guidelines for incident management and emergency response personnel. OGP report No. 516. Published by IPIECA, London, UK and OGP, Brussels, Belgium.

Lalas, C., **McConnell, H**. 2012. Prey of Auckland Island shags (*Leucocarbo colensoi*) in winter. Notornis 59: 130 – 137.

Childerhouse, S., Gibbs, N., McAlister, G., McConkey, S., **McConnell, H**., McNally, N., D. Sutherland. 2005. Distribution, abundance, and growth of New Zealand sea lion *Phocarctos hookeri* pups on Campbell Island. New Zealand Journal of Marine and Freshwater Research 39: 889 – 898.

McConkey, S.D., **McConnell, H**., Lalas, C., Heinrich, S., Ludmerer, A., McNally, N., Parker, E., Borofsky, C., Schimanski, K., G. McIntosh. 2002. A northward spread in the breeding distribution of the New Zealand sea lion *Phocarctos hookeri*. Australian Mammalogy 24: 97 – 106.

McConkey, S.D., Heinrich, S., Lalas, C., **McConnell, H**., N. McNally. 2002. Pattern of immigration of New Zealand sea lions *Phocarctos hookeri* to Otago, New Zealand: Implications for management. Australian Mammalogy 24: 107 – 116.

New Zealand RS&T Curriculum Vitae

PART 1

1a. Personal details				
Full name	Dr	Jennifer	Claire	Beaumont
Present position	Benthic Ecologist			
Organisation/Employer	Earth Sciences New Zealand (formerly NIWA)			
Contact Address	[redacted]			
	[redacted]			
	[redacted]		**Post code**	[redacted]
Work telephone	[redacted]	**Mobile**		
Email	[redacted]			

1b. Academic qualifications

1997 BSc (hons) Biology with Oceanography, University of Southampton, UK

2006 PhD Marine Ecology, Scottish Association for Marine Science and Open University, UK

1c. Professional positions held

1998-2001	Marine Biological Research Assistant, Rothera Base, British Antarctic Survey
2007-present	Benthic Ecologist, NIWA (now Earth Sciences NZ)

1d. Present research/professional speciality

Benthic (seabed) ecology with a particular interest in the reproduction of deep-sea corals and the recovery of benthic communities following anthropogenic disturbance.

1e. Total years research experience	20 years

1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)

- Member: Deep Sea Biology Society
- 2024 NIWA Excellence Award winner: Applied science
- 2020 NIWA Excellence Award (runner up): Project Delivery Excellence Award
- 2020 NIWA Excellence Award (runner up): Team Excellence Award

1g. Total number of *peer reviewed* publications and patents	Journal articles	Books, book chapters, books edited	Conference proceedings	Patents
	11			

PART 2

2a. Research publications and dissemination
Peer-reviewed journal articles
Hale, R., Thompson, D., Brough, T., Kregting, L., Hayden (Ngāti Huia ki Poroutāwhao, Ngāti Raukawa ki te Tonga, Te Ātiawa ki Whakarongotai, Ngāti Toa, Ngāti Pākeha), M., Parsons, D., Nodder, S.D., **Beaumont, J.**, Anderson, O., Stevens, C. (2024). Environmental implications of future offshore renewable energy development in Aotearoa New Zealand. *Journal of the Royal Society of New Zealand*, *55*(4), 912–945. https://doi.org/10.1080/03036758.2024.2406829 Kaikkonen, L., Clark, M.R., Leduc, D., Nodder, S.D., Rowden, A.A., Bowden, D.A., **Beaumont, J.**, Cummings, V. (2024) Probabilistic ecological risk assessment for deep-sea mining: a Bayesian Network for Chatham Rise, SW Pacific Ocean. Submitted to Ecological Applications. Preprint: https://doi.org/10.1002/eap.3064 **Beaumont, J.C.**, Moss, G., Tracey, D., Waller, R.G., Cummings, V.J., Marriott, P., Clark, M. (2023) Opportunistic observations of reproductive mode, larval settlement and development of a New Zealand deep-sea stony coral, Goniocorella dumosa. Marine Biology, 171:4. https://doi.org/10.1007/s00227-023-04323-z Venables, H., Meredith, M.P., Hendry, K.R., ten Hoopen, P., Peat, H., Chapman, A., **Beaumont, J.**, Piper, R., Miller, A.J., Mann, P., Rossetti, H., Massey, A., Souster, T., Reeves, S., Fenton, M., Heiser, S., Pountney, S., Reed, S., Waring, Z., Clark, M., Bolton, E., Mathews, R., London, H., Clement, A., Stuart, E., Reichardt, A., Brandon, M., Leng, M., Arrowsmith, C., Annett, A., Henley, S.F., Clarke, A. (2023) Sustained year-round oceanographic measurements from Rothera Research Station, Antarctica, 1997-2017. Scientific Data, 10(265). https://doi.org/10.1038/s41597-023-02172-5

Clarke, A., **Beaumont, J.C.** (2020) An extreme marine environment: a 14-month record of temperature in a polar tidepool. Polar Biology, 12: 2021-2030. https://doi.org/10.1007/s00300-020-02762-8

Cummings, V.J., **Beaumont J.**, Mobilia V., Bell J., Tracey, D., Clark M.R., Barr N. (2020) Responses of a common New Zealand coastal sponge to elevated suspended sediments: Indications of resilience. *Marine Environmental Research* (2020). doi: https://doi.org/10.1016/ j.marenvres.2020.104886.

Bowden, D., Rowden, A.A., Leduc, D., **Beaumont, J.**, Clark, M.R. (2016) Deep-sea seabed habitats: Do they support distinct mega-epifaunal communities that have different vulnerabilities to anthropogenic disturbance? Deep Sea Research Part I: Oceanographic Research Papers, 107: 31-47.

Nelson, W., Neill, K., D'Archino, R., Anderson, T., **Beaumont, J.**, Dalen, J. (2015) Beyond diving depths: deepwater macroalgae in the New Zealand region. Marine Biodiversity: 1-22. 10.1007/s12526-014-0293-5

Gordon, D.P., **Beaumont J.**, MacDiarmid, A., Robertson, D.A., Ahyong, S.T. (2010). Marine Biodiversity of Aotearoa New Zealand. *PLoS ONE*: Marine Biodiversity and Biogeography – Regional Comparisons of Global Issues (2010): http://dx.doi.org/10.1371/issue.pcol.v02.i09

Beaumont JC, Brown CJ, Sayer, MDJ (2007) Evaluation of techniques used in the assessment of subtidal epifaunal assemblage structure. *Biofouling* 23 (5): 343-356

Clarke A, Prothero-Thomas E, **Beaumont JC**, Chapman AL and Brey T (2004) Growth in the limpet *Nacella concinna* from contrasting sites in Antarctica. Polar Biology 28: 62-71

Other forms of dissemination (reports for clients, technical reports, popular press, etc)

J Beaumont, O Anderson, S Davidson, A Miller, R Peart (2025). Benthic data summary with respect to marine carbon dioxide removal (confidential). Earth Sciences NZ client report. 121 p.

Sadie Mills, Malcolm Clark, Owen Anderson, **Jennifer Beaumont**, Daniel Leduc, Jaret Bilewitch, Caroline Chin, Niki Davey, Ashley Rowden, Kareen Schnabel, Dong Dong, Lin Gong, Qi Kou, Hangshu Li, Yang Li, Rongye Tang, Yan Tang, Ning Xiao, Yu Xu, Junlong Zhang (2025). Deep-sea biodiversity in the western Pacific Ocean: regional scale patterns in benthic species

composition. NIWA technical report

Beaumont J., Marriott, P., Freiwald, A., Beuck L. (2025) POP2024-02: Improving knowledge on coral life history traits. Assessing reproductive capacity to infer productivity, vulnerability, and resilience of protected deep-sea corals in the New Zealand region. Progress report. NIWA Client report 2025140WN, 30p.

Freiwald, A., Beuck, L., Bach, A., Bazhenova, E., **Beaumont, J.,** Bostock, H., Brix, S., Davidson, S., Dehning, K., Eyrich, H., Hebbeln, D., Hoffman, L., Holland, L., Jeskulke, K., Kniest, J., Knorrn, A., Korfhage, S., Leymann, T., Linnemann, U., Lörz, A.-N., Marriott, P., McDonald, L., Meyer-Schack, B., Nowald, N., Okuma, E., Pfennings, K., Ruhland, G., Schillai, S., Schnabel, K., Seeliger, J., Suter, P., Titschack, J., Vittori, V., Walton, K., Wienberg, C., Wilsenack, M. (in press) Cold-water Coral Biology & Geology off Aotearoa New Zealand (Cruise No. SO309). January 16 – February 15, 2025 Wellington (New Zealand) – Wellington (New Zealand) - CoralNewZ .*SONNE-Berichte*.

Kareen Schnabel, **Jennifer Beaumont**, Peter Marriott, Sam Davidson (NIWA, New Zealand), Lyndsey Holland (Department of Conservation, New Zealand), Lydia Beuck, André Freiwald (Senckenberg am Meer, Germany) (2025). INT2024-04 Exploring impacts and recovery potential of protected deep-sea stony corals. Preliminary observations and summary of RV *Sonne* voyage SO309, 16 January - 15 February 2025. NIWA client report 2025141WN, prepared for Conservation Services Programme, Department of Conservation. 133p.

Beaumont, J., Anderson, O., Mills, S., (2024). Scleractinian cup corals at Whanga-a-Tamure Bream Bay. Literature review and distribution of cup corals identified within the proposed sand extraction area. Prepared for McCallum Brothers Limited.

Beaumont, J., Marriott, P., Connell. A., Moreno Moran, D., Waller, R., Tracey, D., (2024). POP2022-03 Protected Coral Reproduction. Final Report. NIWA Client Report 2024241WN. Prepared for Conservation Services Programme, Department of Conservation. 65p.

Anderson, **O., Beaumont, J**., Brough, T., Leunissen, E., MacGibbon, D., Mountjoy, J., Neill, K., Schnabel, K., Thompson, D. (2024). Desktop assessment of available data, environmental effects and survey design. For seabirds, marine mammals, fish and fishing, and benthic flora and fauna. NIWA client report 175 p.

Beaumont, J., Neill, K., Schnabel, K., Hayden, M., Williams, E. (2024). Baseline information and knowledge gaps for benthic ecology. Waikato and South Taranaki proposed offshore wind farms.

NIWA client report 128 p.

Stewart, R., **Beaumont J**. Chin, C. (2024). Descriptive analyses of DTIS stations conducted during TAN2213 to Rangitahua. Prepared for Auckland War Museum. September 2024.

Beaumont, J., Orpin, A., Peart, R., Barr, N., Connell, A., Davey, N., Eton, N., Schnabel, K, Stewart, R., Kelly, P., Mills, J., (2023). Environmental site-specific field report (confidential). NIWA Client report, 506p.

Thompson D., **Beaumont J**., Brough T. (2023). Site-specific synthesis of effects (confidential). NIWA client report. 31 p

Thompson, D., **Beaumont, J**., Dunn, M., Finucci, B., Neill, K., Nodder, S. (2022) Site-specific assessment of effects (confidential). NIWA Client report. 114p.

Thompson, D., **Beaumont, J**., Dunn, M., Gall, M., Hale, R., Mills, S., Neill, K., Nodder, S., Steinmetz, T. (2022). Site-specific marine environment characterisation report (confidential). NIWA client report, 138p.

Beaumont, J., Orpin, A., (2022). Site-specific environmental monitoring report (confidential). NIWA Client report, 164p.

Beaumont, J., Orpin, A., Anderson, O., Davey, N., George, S., Nodder, S., Peart, R., Schnabel, K, Kelly, P., Hill, D., (2022). Site-specific environmental field report (confidential). NIWA Client report, 551p.

Moss, G., **Beaumont J**., Cummings, V., Barr, N., Calle, A., Mobilia, V., Halliday, J., Williams, J. (2022). Effects of elevated suspended sediment concentrations on juvenile scallops (Pecten Novaezelandiae). NIWA Client Report 2022305AK. 35p.

Beaumont, J., Seaward, K., Hale, R. (2021). Marine environmental value mapping refresh. A summary of updates and methods. NIWA Client Report 2021168WN, prepared for MPI/Biosecurity NZ. 91 p.

Beaumont J (2021). Visual survey of the benthos in the vicinity of the Cuvier Disposal Site, with particular reference to rare of vulnerable ecosystems, or habitats of threatened species. NIWA Client report 2021018WN, prepared for Ports of Auckland Ltd. 55 pp.

Tracey, D., Goode, S., Waller, R., Marriott, P., **Beaumont, J**., Moss, G., Cummings, V., Mobilia, V. (2021). Protected coral reproduction. NIWA Client Report 2021097WN, Prepared for the Department of Conservation. 55 pp.

Beaumont J., Carter, M., Davey, N., Hart, A., Miller, A., Peart, R. (2020). Site-specific video imagery survey report (confidential). NIWA Client Report, 66 pp.

Beaumont J., Carter, M., Davey, N., Hart, A., Miller, A., Peart, R. (2020). Environmental survey report to contribute to marine consent application (confidential). NIWA Client report, 130 pp.

Beaumont et al. (2019). Site-specific environmental survey report (confidential). 368pp.

Joint Expert witness statement of experts in the field of benthic ecology (2019) 24pp.

Beaumont J., Rowden A. A. (2013) Potential for recolonisation and recovery by benthic communities following mining disturbance on the Chatham Rise. NIWA client report WLG2013-7. 35pp.

Beaumont J., Anderson, T.J., MacDiarmid, A.B. (2013). Benthic flora and fauna of the Patea Shoals region, South Taranaki Bight. NIWA client report WLG2012-55. 200pp.

Styles Group Acoustics & Vibration Consultants

Jon Styles

Director & Principal Consultant

[redacted]

Expertise

- Environmental Noise
- Policy and Review
- Underwater Noise

Qualifications & Professional Memberships

BAppSci
(Environmental Health)

Council Member & Professional Member (MASNZ) of the Acoustical Society NZ (6 consecutive two-year terms) and past two-term President of ASNZ (2016-2021)

Member and on the Board of Directors of the Association of Australasian Acoustic Consultants (AAAC)

Founder of Styles Group and the leader of the Styles Group team for 20 years, Jon is known for his thorough approach, ability to communicate concepts clearly and a fervent commitment to providing clients with the best advice and value for money. Jon has been practicing in the acoustics industry since 2001 and is particularly respected for his ability to integrate his advice into the resource management framework.

Jon is a Council Member and a Past President of the Acoustical Society of New Zealand (ASNZ). In 2022, Jon was appointed as an Executive Member of the Australasian Association of Acoustical Consultants (AAAC) and now serves on its Board of Directors.

Jon has significant experience in the development, assessment and review of noise and vibration provisions under the RMA, enabling his technical expertise to be directly adopted into the RMA decision making framework. Having completed the Ministry for the Environment's Making Good Decisions programme and being highly familiar with the requirements for the submission and presentation of expert evidence, his advice can be seamlessly integrated to all stages of the planning process.

Jon is committed to raising awareness and understanding of noise effects across the resource management professions and delivers a significant number of training courses each year to members of the New Zealand Planning Institute, the New Zealand Institute of Environmental Health and a number of local authorities across New Zealand. To date, over 1500 resource management professionals have attended Jon's training courses. His regular interaction and close relationship with the planning industry and the ability to converse directly with experts in the field has given him a very detailed insight into the way that technical advice on noise and vibration is applied in the resource management framework.

Jon is an active participant in resource management reform. In his capacity as President of the ASNZ, Jon convened a working group to assist the Ministry for the Environment's ongoing development of National Planning Standards for noise and vibration, bringing together the nation's top experts to determine best practice in a number of areas.

Jon has over 20 years' experience working across New Zealand for the EPA, local government and private clients on a variety of plans and projects, including District Plan changes and reviews and major infrastructure projects across New Zealand. Jon is a regular and experienced expert witness in the Environment Court and has appeared before six Board of Inquiry Hearings, including as the Boards' expert.

Jon was engaged by Auckland Council to provide expert noise and vibration advice and evidence to inform the development of noise and vibration objectives, policies and rules for the Auckland Unitary Plan and regularly participates in District Plan reviews and plan changes throughout New Zealand.

[redacted]

Lawrence McIlrath

Director

MBA (2004)

B.A. et Sc (Planning & Economics) (1999)

- [redacted]
- [redacted]

Professional Experience

- 2017 –Director, Market Economics
- 2016 – Associate Director, PwC (Finance and Economics)
- 2008 – 2016 – Senior Consultant, Market Economics Ltd
- 2006 – 2008, Senior Economic Analyst, Christchurch City Council
- 2001-2006, Economic researcher and Team Leader, Urban-Econ.

Lawrence has 25 years' experience as a consulting economist gained while working for the private sector, one of the big four and local government sectors. Lawrence enjoys the challenges of working in the economic development field and has assisted clients in understanding the dynamic forces affecting their businesses and the markets within which they operate. Lawrence typically focuses on industry and sector interactions, relationships and financial characteristics. He is also interested in wider 'socio-environmental' implications of everyday economic activities.

Lawrence integrates economic and financial analysis tools and models, making it possible to complete assessments in an integrated and holistic fashion. Lawrence is accomplished in designing and developing models that cover spatial, economic, demographics and business dimensions. This capability is used in sector analyses and forecasts, strategic assessments, policy formulation and evaluation and impact assessments.

Lawrence has appeared as expert witness in Council hearings and in the Environment Court.

Relevant Areas of Expertise

Spatial and Economic Modelling | Economic Efficiency Assessment | Cost Benefit Analysis | Economic Modelling including Input-Output, Computable General Equilibrium | Urban and Regional Economics | Economic Growth Modelling | Financial Modelling | Local Government Funding | Infrastructure Funding and Investment | Supply and Demand Analysis | Sectoral Analysis | Demand Analysis and Forecasting | Policy Analysis and Advice | Strategic Advice |

Project Management

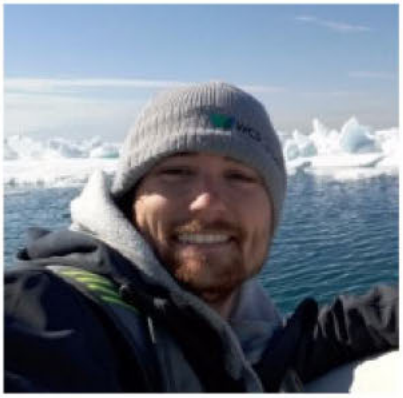
Lawrence has successfully completed a range of economic assessments with the following showing the breadth of relevant experience.

- Pakiri consent renewals – economic effects assessment (consent assessment, council hearings, Environment Court)
- Brookby Quarry Stage 3. Economic assessment to support Covid Fast-Track Application
- RS Sand (Cambridge) Consent application. Economic assessment and Council hearing
- Whitehills Quarry Consent application. Economic assessment and Council hearing
- Waitewheta Quarry Consent application. Economic assessment
- Christchurch Red Zone. Economic assessment in support of business case, assessment in support of Fast Track Approval Act applications (substantive, current project)
- Christchurch Red Zone Land-use Options – Economic Analysis (Economic Impacts, Cost-benefit Analysis and Multi-Criteria Analysis (Regenerate Christchurch)
- Hananui Aquaculture Project. Economic Assessment for FFTA substantive application
- Economic effects of establishing the Marton Rail Hub and Industrial Area (Plan Change, Environment Court appearance, a PGF project)
- Economic assessment to support the Food North Business Case
- Flooding in Canterbury – Economic Impact Model to assess the rural economy impacts (model for Environment Canterbury)
- Hekeao-Hinds- Managed Aquifer Recharge Scheme (MAR) Economic Assessment
- Economic benefits of Unmanned Aircraft (drones, assessment for MoT)
- Waitaki Whitestone GeoPark (UNESCO application) Business Case (EIA and CBA)
- Chatham Islands – economic assessment of runway lengthening and strengthening to support aquaculture growth and development.
- Bay of Plenty Aquaculture – economic assessments of four different development options (in support of funding applications and business case processes)
- Domestic Burners – Economic assessment of Management Options (Air Quality Cost Benefit Model for MfE and Auckland Council)
- Economic and Social Contribution of NZ's Airport Network
- Cost and Benefit Model of NZ Airports (Model developed for Ministry of Transport)
- Tongariro Alpine Crossing Visitor Limits – peer review of economic assessment, and undertaking full economic assessment (prepared for Department of Conservation)
- Opua Wharf extension – economic assessment
- Open Oceans Aquaculture – economic assessment for the business case submitted to NZTE
- Napier-Hastings Industrial Capacity Assessment (part of HBA)
- Tauranga Business Land Assessment (part of HBA)
- Tauranga Multi-function Stadium Development, EIA, CBA and Social Impact Assessment
- Taranaki Food and Fibre Value Chain Assessments (prepared for Venture Taranaki)
- Tataki Auckland Unlimited (Auckland Tourism, Events and Economic Development/Tataki Auckland Unlimited)
    - Economic Impacts of the agency's economic development initiatives.
    - Economic impacts of the film sector.
    - Value chain analysis of the food and beverage sector

    - GridAKL (Auckland) Economic Contribution and Long Term outlook
- Auckland Community Recycling Centre – Business Case, market analysis, opportunity scoping and pro forma financial statements (Auckland Council)
- Wynyard Quarter Super Yachts – Development Options Assessment
- Cook Island Investment Corporation – Government Building Consolidation Project – Economic assessment of the costs and benefits, and the economic impacts.
- Several assessments to support Provincial Growth Fund applications, completed both EIA and CBAs
    - Opua wharf and Russell wharves expansion
    - Ngawha Springs
    - Bay of Islands Airport expansion (CBA)
    - Opua – Marine servicing and Oyster Landing Facility (current)
    - Bay of Plenty Aquaculture Development – economic assessment of different species
    - Port Tarakohe expansion – wharf expansion to support aquaculture development
    - 90-Mile Beach Mussel Farming (EIA and CBA)
    - Sugarloaf Wharf and Aquaculture Development
    - Te Aroha Visitor Complex Business Case and Economic Assessment
- Economic contribution of the Whangarei Airport (Whangarei Airport Locations Option Study)
- Kaipara Water Transport Network and Wharves Feasibility Assessment (economic assessment)
- Okara Marina (Whangarei) – economic impact assessment and business case roadmap
- Oceania Marine- Marine business survey and market assessment and EIA for new travel lift.
- Northland Rail Opportunity CBA.
- Whakatane Marina development - economic impact assessment of proposed development
- Wynyard Quarter Super Yachts – Development Options Assessment
- Queenstown Airport Economic Impact Assessment (general aviation)

Dr Matthew Pine

StylesGroup Underwater Acoustics



Dr. Matthew Pine

Principal – Marine Acoustics/Bioacoustics

[redacted]

Expertise

Underwater Noise

Environmental Noise

Policy and Review

Qualifications & Professional Memberships

Doctor of Philosophy in Marine Science (Underwater Bioacoustics), The University of Auckland: 2014.

Postgraduate Diploma in Marine Science, Distinction, The University of Auckland: 2011.

Bachelor of Science (Marine Biology), The University of Auckland: 2010.

Member of the Acoustical Society of New Zealand (MASNZ).

Matt is a preeminent expert in the field of underwater noise effects. He has diverse experience in acoustic monitoring of marine mammals and anthropogenic noise, sound source verification and advanced underwater noise modelling. He has extensive experience providing policy expertise, and preparation of expert evidence for council hearings on development applications and consents. His policy experience also includes assisting Auckland Council with developing their policies on underwater noise management, the Marine Mammal Management Plan for Lyttelton Port Company's channel deepening and cruise berth terminal, as well as reviewing New Zealand's 2013 Code of Conduct for Minimising Acoustic Disturbance from Seismic Surveys on Marine Mammals. He was involved with the 2019 State of Knowledge Review on underwater noise in the Arctic marine environment, commissioned by the Arctic Council and Protection of the Arctic Marine Environment (PAME).

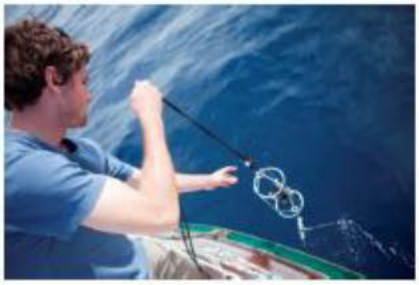
Matt completed his Ph.D. at the Institute of Marine Science, University of Auckland, and has also completed two post-doctoral research fellowships at the Institute of Hydrobiology, Chinese Academy of Sciences in Beijing (2 years) and the Department of Biology at the University of Victoria in British Columbia, Canada (3 years). These positions were scientific research appointments that focused on the prediction of noise effects on marine mammals and fish due to changing environments (both acute such as construction activities and chronic, such as climate change). The research programmes, largely involving long term passive acoustic monitoring, are still ongoing in four countries and Matt has developed a suite of sophisticated computer programmes that analyses months of acoustic data on marine mammals, fish, anthropogenic noise and soundscapes in very short time frames. Matt continues to hold an academic affiliation with the Institute of Earth & Life Sciences at Heriot-Watt University in Edinburgh, U.K.

Project Experience

- Marine mammal monitoring, soundscape characterisation and sound source verification of pile-driving and dredging noise for Lyttelton Ports Company's (LPC) Channel Deepening Project, Lyttelton, Christchurch, New Zealand.
- Passive acoustic surveys and marine mammal detection and underwater noise modelling to inform the assessment of effects of dredging noise on marine mammals for Refining NZ's Crude Shipping Project, Whangarei Harbour.
- Characterising tidal turbine sound emissions and predicting impact zones on marine mammals for Queens University Belfast, Belfast, United Kingdom.
- Passive acoustic monitoring of marine mammals and fish, soundscape characterisation, vessel detection and classification for World Wide Fund for Nature Hong Kong (WWF-HK), Hong Kong, PR China.
- Vessel monitoring and tracking using passive acoustics in the Torres Strait for Blue Planet Marine, Torres Strait, Australia.
- Sound source verification and monitoring of pile-driving noise for Ports of Eden, Eden, New South Wales, Australia.

[redacted]

Dr. Matthew Pine Principal Consultant



- Passive acoustic monitoring and soundscape processing of coral reef systems for University of Victoria, Victoria, British Columbia, Canada.
- Sound source verification of air-gun pulses during seismic surveys for Blue Planet Marine off Taranaki, New Zealand.
- Passive acoustic monitoring of marine mammals and fish in the Canada's western Arctic for Wildlife Conservation Society (WCS) Canada, Northwest Territories, Canada.
- Underwater noise modelling of shipping within the Northwest Passage to predict impacts of vessel traffic and change on Arctic marine mammals and fish for Wildlife Conservation Society (WCS) Canada, Northwest Territories and Nunavut, Canada.
- Soundscape characterisation of glass sponge reefs to provide information on the status and health of the ecosystems for University of Victoria, Victoria, British Columbia, Canada.
- Passive acoustic monitoring of marine mammals within the Cook Strait, New Zealand for Cawthron Institute, Nelson, New Zealand.
- Underwater noise modelling and impact assessment of offshore sand extraction operations on marine mammals and fish for McCallum Brothers Limited and again for Kaipara Limited, Pakiri Coast, New Zealand.
- Monitoring of pile-driving noise during the downtown construction for the 2021 America's Cup for Auckland Council, Auckland, New Zealand.

Peer Reviewed Publications

Peer-reviewed journal articles:

Hendricks, B., **Pine, M.K.**, Bear, G., Alidina, H., Welton, M., Symonds, H.K., Picard, C., Wray, J. (2025). Quantifying vessel noise and acoustic habitat loss in coastal marine soundscapes. Marine Pollution Bulletin 219: 118150.

Clement, D., Pavanato, H., Lenky, C., **Pine, M.K.** (2025). Immediate and short-term effects of pile-driving on Hector's dolphin in Lyttelton Harbour, Aotearoa New Zealand. Frontiers in Marine Science 12: 1154536.

Crowe, L., Corne, C., Dawson, S., **Pine, M.**, Rayment, W., Schofield, M. and Stanley, J. (2025), If These Walls Could Talk: Investigating Bottlenose Dolphin Occupancy and Range in Fiord Ecosystems Using Passive Acoustic Monitoring and Visual Surveys. *Aquatic Conservation: Marine & Freshwater Ecosystems* 35: e70084.

Darras, K.F.A., Rountree, R., **et al.** (2025). Worldwide Soundscapes: A synthesis of passive acoustic monitoring across realms. Global Ecology and Biogeography 34:e70021

Pine, M.K., Hague, E., Kebke, A., McWhinnie, L., Findlay, C.R. (2024). Not so silent spectators: how spectator vessels at international sailing regattas alter marine soundscapes. *Marine Pollution Bulletin* 202(3):116309.

Pine, M.K. (In Production). The influence of underwater noise from small vessels and what we can now expect. *Acoustics New Zealand.*

Wilson, L., Rochelle, C., **Pine, M.K.**, Farcas, A., Radford, C.A. (2023). Small boat sound diminishes the particle motion and pressure listening spaces of fishes and crustaceans. *Scientific Reports* 13: 7007.

Cheng, Z., Li, Y., **Pine, M.K.**, Wan, X., Zuo, T., Niu, M., Wang, J. (2023). Acoustic presence of cetaceans in the Miaodao Archipelago, China. *Animals* 13(8): 1306.

Cheng, Z., Li, Y., **Pine, M.K.**, Zuo, T., Niu, M., Wang, J. (2022). Association between porpoise presence and fish choruses: implications for feeding strategies and ecosystem-based conservation of the East Asian finless porpoise. *Integrative Zoology* 18(1): 169-182.

Wilson, L., **Pine, M.K.**, Radford, C.A. (2022). Small recreational boats: a ubiquitous source of sound pollution in shallow coastal habitats. *Marine Pollution Bulletin*, 174: 113295.

Pine, M.K., Wilson,L., Jeffs, A.G., McWhinnie, L., Juanes, F., Sceuderi, A., Radford C.A. (2021). A Gulf in Lockdown: how an enforced ban on recreational vessels increased dolphin and fish communication ranges. *Global Change Biology* 27(19): 4839 – 4848. doi:10.1111/gcb.15798.

Bates, A.E., Primack, R.B., PAN-Environmental Working Group, Duarte, C.M. (2021). Global COVID-19 lockdown highlights humans as both threats and custodians of the environment. *Biological Conservation*, 109175.

Halliday, W.D., Barclay, D., Barkley, A.N., Cook, E., Dawson, J., Hilliard, C., Hussey, N.E., Jones, J.M., Juanes, F., Marcoux, M., Niemi, A., Nudds, S., **Pine, M.K.**, Richards, C., Kevin, S., Westdal, K., Insley, S.J. (2021). Underwater sound levels in the Canadian Arctic, 2014-2019. *Marine Pollution Bulletin* 168: 112437.

Dimoff, S.A., Halliday, W.D., **Pine, M.K.**, Tietjen, K.L., Juanes, F., Baum, J.K. (2021). The utility of different acoustic indicators to describe biological sounds of a coral reef soundscape. *Ecological Indicators* 124: 107435.

Hopkins, G.A., Gilbertson, F., Floerl, O., Casanovas, P., **Pine, M.K.**, Cahill, P. (2021). Continuous bubble streams for controlling marine biofouling on static artificial structures. *Peer J* 9: e11323.

Halliday, W.D., **Pine, M.K.**, Citta, J., Harwood, L., Hauser, R., Hilliard, C., Lea, E.V., Loseto, L.L., Quakenbush, L., Insley, S.J. (2021). Potential exposure of beluga and bowhead whales to underwater noise from ship traffic in the Beaufort and Chukchi Seas. *Ocean & Coastal Management* 204: 105473.

Nikolich, K., Halliday, W.D., **Pine, M.K.**, Cox, K., Black, M., Morris, C., Juanes, F. (2021). The sources and prevalence of anthropogenic noise in Rockfish Conservation Areas with implications for marine reserve planning. *Marine Pollution Bulletin* 164: 112017.

Cheng, Z., **Pine, M.K.**, Li, Y., Zou, T., Niu, M., Wan, X., Zhao, X., Wang, K., Wang, J. (2021). Using local ecological knowledge to determine ecological status and threats of the East Asian finless porpoise, Neophocaena asiaeorientalis sunameri, in south Bohai Sea, China. *Ocean & Coastal Management* 203: 105516.

Fang, L., Lin, W., Guo, L.,Cai, H., **Pine, M.K.**, Wu, Y. (2020). Monitoring Indo-Pacific humpback dolphin occurrences in a highly urbanized estuary for informing conservation and management. *Aquatic Conservation, Marine and Freshwater Ecosystems* 31(3): 685-695.

Heimrich, A.F., Halliday, W.D., Frouin-Mouy, H., **Pine, M.K.**, Juanes, F., Insley, S.J. (2020). Vocalizations of bearded seals (Erignathus barbatus) and their influence on the soundscape of the western Canadian Arctic. *Marine Mammal Science*. https://doi.org/10.1111/mms.12732.

Cominelli, S., Halliday, W.D., **Pine, M.K.**, Hilliard R.C., Lawson, J.W., Duman, N.I., Devillers, R. (2020). Vessel noise in spatially constricted areas: Modeling acoustic footprints of large vessels in the Cabot Strait, Eastern Canada. *Ocean & Coastal Management* 194:105255.

Pine, M.K., Halliday, W.D., Insley, S.J., Juanes, F. (2020). Fish sounds near Sachs Harbour and Ulukhaktok in Canada's Western Arctic. *Polar Biology* 43:1207-1216.

Halliday, W.D., **Pine, M.K.**, Insley, S.J. (2020). Underwater noise and Arctic marine mammals: review and policy recommendations. *Environmental Reviews*. https://doi.org/10.1139/er-2019-0033.

Pine, M.K., Nikolich, K., Martin, B., Morris, C., Juanes, F. (2020). Assessing auditory masking for the management of anthropogenic sound sources. *Journal of the Acoustical Society of America* 147(5):1-10.

Halliday, W.D., **Pine, M.K.**, Mouy, X., Kortsalo, P., Hilliard, R.C., Insley, S.J. (2020). The coastal Arctic marine soundscape near Ulukhaktok, Northwest Territories, Canada. *Polar Biology* 43:623-636.

Bruno, D., Lake, M., **Pine, M.K.**, Smith, J., Boubee J. (2019). The use of a novel acoustic 'listening' method for detecting pump impellor strike on down stteam migrating eels. *Marine and Freshwater Research*. https://doi.org/10.1071/MF19205

Pine, M.K., Schmitt, P., Culloch, R.M., Lieber, L., Kregting, L.T. (2019). Providing ecological context to anthropogenic subsea noise: Assessing listening space reductions of marine mammals from tidal energy devices. *Renewable and Sustainable Energy Reveiws* 103: 49-57.

Halliday, W.D., **Pine, M.K.**, Insley, S.J., Soares, R.N., Kortsalo, P., Mouy, X. (2019) Acoustic detections of Arctic marine mammals near Ulukhaktok, Northwest Territories. *Canadian Journal of Zoology* 97:72-80.

Schmitt, P., **Pine, M.K.**, Culloch, R.M., Lieber, L., Kregting, L.T. (2018). Noise characterization of a sub-sea tidal kite. *Journal of the Acoustical Society of America* 144(5): EL441.

Halliday, W.D., **Pine, M.K.**, Bose, A.P.H., Balshine, S., Juanes, F. (2018) The plainfin midshipman's soundscape at two sites around Vancouver Island, British Columbia. *Marine Ecology Progress Series* 603:189-200.

Cheng, Z., **Pine, M.K.**, Huang, S., Wang, D., Wu, H. Wang, K. (2018). A case of epimeletic behavior and associated acoustic records of Indo-Pacific humpback dolphins (*Sousa chinensis*). *Journal of Mammalogy* 99(5): 1112-1119.

Pine, M.K., Hannay, D.E., Insley, S.J., Halliday, W.D., Juanes, F. (2018). Assessing vessel slowdown for reducing auditory masking for marine mammals and fish of the western Canadian Arctic. *Marine Pollution Bulletin* 135: 290-302.

Archer, S.K., Halliday, W.D., Riera, A. Mouy X., **Pine, M.K.**, Chu, J.W.F., Dunham, A., Juanes, F. (2018). The first description of a glass sponge reef soundscape reveals fish calls and elevated sound pressure levels. *Marine Ecology Progress Series* 595: 245-252

Riera, A., Rountree, R.A., **Pine, M.K.**, Juanes, F. (2018). Sounds of Arctic cod (*Boreogadus saida*) in captivity: A preliminary description. *The Journal of the Acoustical Society of America* 143(5):EL317-EL321.

Pine, M.K., Wang, D., Porter, L., Wang, K. (2018). Investigating the spatiotemporal variation of fish choruses to help identify important foraging habitat for Indo-Pacific humpback dolphins, *Sousa chinensis*. *ICES Journal of Marine Science* doi:10.1093/icesjms/fsx197.

Halliday, W.D., Insley, S.J., Hilliard, C., de Jong, T., **Pine, M.K.** (2017). Potential impacts of shipping noise on marine mammals in the western Canadian Arctic. *Marine Pollution Bulletin* 123: 73-82.

Fang, L., Wu, Y., Wang, K., Pine, M.K., Wang, D., Li, S. (2017). The echolocation transmission beam of free-ranging Indo-Pacific humpback dolphins (*Sousa chinensis*). *Journal of the Acoustical Society of America* 142(2):771-779.

Platto, S., Zhang, C. **Pine, M.K.**, Yang, L.G., Feng, W.K., Irwin, A., Wang, D. (2017). Behavioural laterality in Yangtze finless porpoises (*Neophocaena asiaeorientalis asiaeorientalis*): Preliminary observations. *Behavioural Processes* 140:104-114.

Cheng, Z. Wang, D., Wu, H., Huang, S., **Pine, M.K.**, Peng, C., Wang, K. (2017). Evidence suggests signature whistle production in an injured free-ranging adult Indo-Pacific humpback dolphin (*Sousa chinensis*). *Aquatic Mammals* 43(2):185-192.

Pine, M.K., Wang, K., Wang D. (2017). Fine-scale habitat use in Indo-Pacific humpback dolphins, *Sousa chinesis*, may be more influenced by fish rather than vessel noise. *Marine Mammal Science* 33(1):291-312.

Pine, M.K., Jeffs, A.G., Wang, D., Radford, C.A. (2016). The potential for vessel noise to mask biologically important sounds within ecologically significant embayments. *Ocean & Coastal Management* 127: 67-73.

Pine, M.K., Jeffs, A.G., Radford, C.A. (2015). Eavesdropping on the Kaipara Harbour: characterising underwater soundscapes within a seagrass bed and a subtidal mudflat. *New Zealand Journal of Marine & Freshwater Research* 49(2): 247-258.

Fang, L., Wang, D. Li, Y., Cheng, Z., **Pine, M.K.**, Wang, K., Li, S. (2015). The source parameters of echolocation clicks from captive and free-ranging Yangtze finless porpoises (*Neocphocaena asiaorientalis asiaeorientalis*). *PLoS One* 10(6): e0129143.

Pine, M.K. (2014). Marine Bioacoustics: The importance of sound in the marine environment. *New Zealand Acoustics* 27(2): 5-12.

Pine, M.K., Jeffs, A.G., Radford, C.A. (2014). The cumulative effect on sound levels from multiple underwater anthropogenic sound sources in shallow coastal waters. *Journal of Applied Ecology* 51: 23-30.

Pine, M.K., Styles, J.R. (2014). Underwater Noise Pollution and the Act: Simple guidelines for planners to assess reasonable noise levels underwater. *Planning Quarterly* 194:18-21.

Pine, M.K., Jeffs, A.G., Radford, C.A. (2013). Underwater Sound Pollution: Planners are advised to consider the impacts of underwater sound pollution around our coasts. *Planning Quarterly* 188: 15-19.

Pine, M.K., Jeffs, A.G, Radford, C.A. (2012). Turbine sound may influence the metamorphosis behaviour of estuarine crab megalopae. *PLoS ONE* 7(12): e51790.

Refereed Conference Proceedings:

Pine, M.K. (2021). The influence of underwater noise from small vessels and what we can now expect. Acoustical society of New Zealand Conference.

Buchanan, C., Bi, Y., Xue, B., Vennell, R., Childerhouse, S., **Pine, M.K.**, Briscoe, D., Zhang, M. (2021). Deep convolutional neural networks for detecting dolphin echolocation clicks. In 2021 36th International Conference on Image and Vision Computing New Zealand (IVCNZ): Proceedings. 10.1109/IVCNZ54163.2021.9653250.

Schmitt, P., **Pine, M. K.**, Lieber, L., & Kregting, L. (2021). Noise emissions from two tidal turbines; an experimental field campaign. In The European Wave and Tidal Energy Conference 2021 (EWTEC 2021): Proceedings.

Pine, M.K. Wang, K., Wang, D. (2016). Monitoring rising ambient sound levels from vessels and impacts on Indo-Pacific humpback dolphins (*Sousa chinensis*) dolphin occurrences. Proceedings of Meetings on Acoustics 27:1-12.

Pine, M.K., Jeffs, A.G., Radford, C.A. (2016). Effects of underwater turbine noise on crab larval metamorphosis. Advances in Experimental Marine Biology 875: 847-52.

Over 50 technical reports for Industry as a professional marine acoustician (in New Zealand, Australia, United Kingdom, Canada and China).

Paul Donoghue

CIRRICULUM VITAE

PAUL DONOGHUE

EDUCATION

Matric 1982 De La Salle College, Victory Park
National Diploma Civil Engineering Technikon, Witwatersrand, 1993.
National Higher Diploma Material Testing Technikon Pretoria, 1995.
City and Guilds of London Institute Certificate in Concrete Technology Parts 1 and 2, 1992 – 1993. New Zealand Diploma in Engineering (Civil) 2011 Wintec

Institute Membership :

Associate Member Institute of Concrete Technology (UK)
Registered Engineering Associate (Civil- concrete production engineering)

EMPLOYMENT HISTORY

Concrete New Zealand , Wellington New Zealand May 2022 onwards

Manager Training and Certification

- Chair Plant Audit Committee

  This committee oversees the certification of the 196 readymix concrete plants across New Zealand ensuring compliance with NZS3104:2021.
- Training officer for CNZ providing the training for concrete testing technicians and concrete construction courses to various NZQA requirements.
- Convenor of CNZ cement technical committee and CNZ readymix technical committee.
- Provides technical support to CNZ team for any customer or public queries.
- Management of the plant audit scheme ISO9001 certification.
- CNZ representative on the Aggregate and Quarry Association (AQA) technical committee

Concreteman Ltd 2018 onwards

Director

Concreteman ltd was started as a small consultancy when I was contracted to CNZ as an auditor for the CNZ plant audit scheme.

Since I joined CNZ on a 30 hour per week basis Concreteman has become more active. Currently Concreteman supports 5 independent readymix producers for their plant audit process to ensure they maintain their CNZ audit certification. The service also includes customer support.

Dispute resolution and report writing for any person that may have a concrete dispute

Firth Industries Hamilton New Zealand August 2007 – May 2022

Materials Manager Central region

- Plant engineer for Waikato, Taranaki and Hawkes Bay

  Responsible for all technical issues and maintenance of plant audit scheme requirements

  Alkon Command Batch system support

  Resolving customer technical issues

  President , New Zealand Readymix Concrete Association October 2016 to October 2018

  NZRMCA council member for 8 years

  NZRMCA Plant audit committee member and plant auditor

BBI BUILDING SUPPLIES (PTY) LTD, Steelpoort South Africa. May 2005 – February 2007

General Manager Readymix Concrete Plant Project Lion Xstrata Alloys. 90 000 m³

Technical Operations Manager Gauteng region

GEOAFRICA Mozambique LDA. September 2002 – May 2005 Technical Manager

- Civil engineering materials and geotechnical investigations

MOZAMBIQUE PORTLAND CEMENT, Maputo. August 2000 – August 2002 Production Manager , Cement blending operation

SLAGMENT (PTY) LIMITED. March 1998 – July 2000
Manager Research and Development Laboratory for GGBS producer

AL NABOODAH CIVIL ENGINEERING DUBAI. December 1996 – December 1997 Concrete Quality Control Engineer Dubai International Airport

- Concrete quality control engineer on new airport terminal building and surrounding concrete apron slabs placing on average 1000 cubic meters per day.

ALPHA TECHNICAL SERVICES (PTY) LIMITED. November 1995 – December 1996
Laboratory Manager

- Management of the ATS group concrete laboratory.

SLAGMENT (PTY) LIMITED. March 1994 – October 1995

Technical Consultant / Technical consultant dealing with the Civil Consulting Engineering companies and specifying bodies and the mine backfill industries.

SOUTH AFRICAN BUREAU OF STANDARDS. September 1992 - February 1994 Quality Systems Auditor

- The assessment and auditing of SABS 9002 quality management systems in the Civil Engineering and packaging fields.

-

CONCOR STRUCTURES (PTY) LIMITED. September 1988 – August 1992

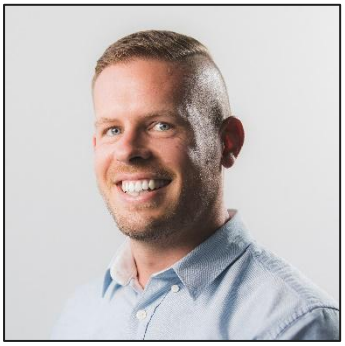
Graduate site Engineer
Rand Refinery Germiston
Majuba Power Station
Head office tender department
Rainbow Chicken Farms Feed mill Rustenburg.

BASIL READ (PTY) LIMITED. January 1986 – August 1988

Trainee Civil Engineering Technician

Dr Pete Wilson, PhD, MSc (Hons), BSc, CEnvP

Principal Consultant, Team Manager – Upper North Island,
Ecology & Marine Science | Asia Pacific



Pete has over 12 years of experience in local government, consulting, and academia. He is experienced in resource management, ecological impact assessments, and designing, implementing, and reporting on monitoring programmes, including regional state of the environment programmes. His approach typically relies on robust monitoring design and analysis using a range of statistical approaches. Pete's expertise is primarily in marine sediment and water quality.

Pete conducts technical peer reviews and prepares ecology and water quality reports supporting resource consent applications, including wastewater and stormwater discharges into freshwater and marine environments, coastal developments, and aquaculture (mussel and fish farms). He routinely assesses ecological effects against national policies and standards and regional and district plans. He has also prepared and presented expert evidence at Council hearings and the Environment Court.

Pete is currently the President of the New Zealand Marine Sciences Society and a General Certified Environmental Practitioner (CEnvP) under the Environment Institute of Australia and New Zealand programme.

Education

PhD in Marine Biogeochemistry, Auckland University of Technology (2016)
MSc (Hons) in Chemistry, University of Waikato (2009)
BSc in Chemistry, University of Waikato (2006)

Project Experience

Hananui Aquaculture Project – Water Quality, Ngāi Tahu Seafood (2025)
Pete is the lead water quality expert for Ngāi Tahu Seafood as they prepare a fast-track consenting application for a new salmon farm off the coast of Rakiura/Stewart Island. His responsibilities include analysing and reporting water quality data, preparing an Ecological Impact Assessment to support the consent application, and advising on appropriate consent conditions to manage environmental effects.

Waikato Coastal Plan Water Quality Submission – Aquaculture New Zealand and Coromandel Marine Farmers Association (2024–2025)
Pete provided water quality expertise and prepared evidence to support a joint submission on the proposed Waikato Coastal Plan. He summarised known water quality effects of marine farms in the region, justified industry-proposed changes to the provisions, and presented evidence at the Council hearing.

Big Glory Bay Salmon Farm Reconsenting – Water Quality, Sanford (2023-2024)
Pete provided water quality advice and technical support during the consent renewal process for salmon farms in Big Glory Bay. His work included data analysis, reporting, preparation of an Ecological Impact Assessment, and input into consent conditions to manage environmental effects.

Project East – Open Ocean Salmon Farm, Sanford (2023-ongoing)
Pete is the lead water quality expert for Sanford to support applications for new salmon farms off the Otago coast. He reviewed previous technical reports and prepared a revised Ecological Impact Assessment based on existing information to support consent applications.

Beachlands South Private Plan Change, Auckland Council (2022-2023)
Pete was the marine sediment and water quality expert for Auckland Council, reviewing technical reports supporting a private plan change application. He assessed methodologies, identified issues, and confirmed suitability for decision-making, providing technical memos and ongoing advice throughout the process.

Our Marine Environment 2022, Ministry for the Environment (2022, 2025)
Pete was the marine science lead for Our Marine Environment 2022 and 2025 state of the environment reports. He was responsible for supporting the reporting team to ensure the scientific integrity of the report and that such content met statutory reporting requirements. This included peer review of existing information, ensuring all relevant information was included, and report writing. Pete also provided technical input into the preparation of media responses used by Ministry for the Environment staff and the Minister for the Environment, David Parker in 2023.

Regional Catchment Stormwater Monitoring Plans, Western Bay of Plenty District Council (2022-ongoing)
Pete reviewed previous monitoring plans and consent conditions to develop revised stormwater monitoring plans for the Western Bay of Plenty central and eastern catchments. This included a review of monitoring locations and parameters to determine whether they were best practice and appropriate to monitor the effects of stormwater discharges on fresh and marine receiving environments. He has overseen the monitoring and reporting of these catchments each year since the plans were certified.

Gisborne Wastewater Overflows – Water quality, Gisborne District Council (as applicant) (2021)
Pete was the lead water quality expert and provided technical support to Gisborne District Council throughout the process of applying for consents for wastewater overflows from the Gisborne wastewater network. He conducted data analysis and reporting and prepared and presented evidence at the council hearing. This role included peer-reviewing previous technical reports and preparing a revised report suitable to support the consent application

Scuttling Vessel with Known Asbestos Containing Materials, EPA (2021)
Pete provided technical support to the EPA regarding the scuttling of a vessel with known asbestos-containing materials. His role was to review the applicant's technical reports, specifically with regard to the potential and actual effects of the activity on marine ecology and water quality and prepare a report to advise the EPA and assist with their decision-making.

Waiheke Marina, Kennedy Point Boatharbour Ltd (2020-ongoing)
Pete designed, implemented, and reported on a sediment and water quality monitoring plan required by the marina's consents. Monitoring was initiated pre-construction, and Pete continues to support the marina with ongoing sediment and water quality compliance requirements.

Stormwater Discharges from Fuel Storage Terminals, BP Oil New Zealand Ltd, Mobil Oil New Zealand Ltd, Z Energy Ltd (2019-ongoing)
Pete provided water quality advice for resource consent applications for stormwater discharges from fuel storage terminals in Lyttelton, Christchurch, Timaru, and Mt Maunganui. His work included data analysis, reporting, and advice to planners and operators regarding the quality of stormwater from these sites..

Mussel Farms, Various Clients (2016-ongoing)
Pete has conducted fieldwork and prepared Ecological Impact Assessments for many mussel farm consents across the Northland, Auckland, and Waikato regions. He has also peer-reviewed technical reports for councils and presented expert evidence at council hearings.

Memberships and Associations

Certified Environmental Practitioner - General (CEnvP)

Environment Institute of Australia and New Zealand (EIANZ) - Member

New Zealand Marine Sciences Society – President (2023 – 2025); Member (2010 – Present)

Richard Reinen-Hamill, BE (Hons), ME, CPEng, FEngNZ

Tonkin+Taylor

Richard Reinen-Hamill

Technical Director: Coastal Engineering

BE (Hons), ME, CPEng, FEngNZ

Richard is a Chartered Engineer and an industry leader in coastal processes, coastal engineering and adaptation response development along the coastal edge.

Richard has more than 35 years' extensive professional experience in coastal engineering, coastal process, hazards and risk assessments and coastal edge design.

He is the Technical Director for coastal engineering asset renewal panel work for Auckland Council and was the subject matter expert for the coastal compartment management plan pilot for Auckland Council.

He has carried out many specialist reviews at consent level and worked on many private plan change applications both for the applicant and Councils, including for Fast Track Applications. He has presented at more than 30 Council Hearings, Environment Court and for Boards of Inquiry. He has worked on technical guidance notes and design support for a range of audiences. He has experience as designer, specifier, reviewer, Engineers Rep. and Engineer to the Contract.

Expertise

- Coastal processes and optioneering assessment
- Coastal engineering design: erosion protection
- Coastal engineering design: coastal access
- Peer review and expert witness

Port and Dredging Experience

Northport Vision for Growth Project

Technical specialist evaluating coastal process effects of the proposed dredging and reclamation for the extension.

Marsden Point Channel Deepening Project

Coastal process baseline reporting and effects assessment of the proposed channel deepening at Marsden Point.

Marsden Cove

Coastal engineer for consent level design and effects assessment for Marsden Cove marina and land development

Manukau Harbour Port Feasibility Study

Project Director for study on technical feasibility of Manukau Harbour to be a major port facility.

CentrePort Channel Deepening

Technical reviewer of hydrodynamic studies for the proposed channel deepening and marine disposal of dredged material and technical specialist completing the coastal process assessment.

CentrePort Reclamation Damage Assessment

Specialist advisor on damage sustained by coastal protection works from recent earthquakes, design of temporary and permanent protection works.

Napier Port Breakwater and Dredging Assessment

Technical peer reviewer for the consent authority of a new breakwater and dredging plan by Napier Port.

Port of Auckland Channel Deepening

Technical reviewer of coastal effects assessment of the proposed channel deepening.

Kaiwharawhara Ferry Terminal Upgrade (IREX)

Technical specialist completing the coastal process assessment of the new ferry terminal in Wellington Harbour and Picton.

America's Cup Base, Viaduct Harbour, Auckland, NZ

Part of multi-agency technical team to evaluate options and effects associated with a new America's Cup base in the Viaduct Basin, Auckland, specifically focussing on boat wake and wind-wave penetration effects and tidal flushing.

Downtown Enhancement Project, Auckland

Project Director and lead coastal engineering for a $600m enhancement of Auckland's Downtown Precinct along the edges of the Waitemata Harbour including coastal edge design, reclamation and assessment of effects.

Upper North Island Supply Chain Strategy

Technical reviewer of the coastal process components of the Sapere evaluation of possible port locations, including the Manukau Harbour.

Port Future Study, Manukau

Technical reviewer of the navigability of Manukau Harbour analysis.

Clifford Bay Ferry Terminal

Detailed technical review of consent application concerning the potential effects of a new port and ferry terminal at Clifford Bay. Evidence was peer reviewed by Per Bruun an internationally recognised coastal and port specialist.

Westgate Transport Ltd Dredging and Spoil Disposal Consent

Technical assistance in the field of hydrodynamics and sedimentation with respect for Westgate Transport Ltd's proposed application to annually dredge 100,000 cubic metres of sand for maintenance and dispose of in the nearshore. Consideration of potential effects and reporting.

Fergusson Wharf Extension

Expert technical reviewer of hydraulics and sedimentation processes for Port of Auckland's proposed 10 ha port reclamation on behalf of the consent authority.

Port of Tauranga Dredging and Spoil Disposal Consent

Providing technical assistance in the field of hydrodynamics and sedimentation with respect for the Port of Tauranga's

proposed application to dredge 650,000 cubic metres of sand.

Coastal hazard assessment expertise

Ocean Beach hazard and option assessment, Dunedin 2018

Evaluation of the coastal hazards acting on Ocean Beach, Dunedin and development of remedial options to manage existing and future erosion hazard.

Auckland Coastal Hazard Susceptibility Assessment (2006 & 2019)

Lead author and contributor to an assessment of hard and soft shore areas susceptible to coastal erosion, including climate change effects, for the entire Auckland region over a 100-year period.

Christchurch Coastal Hazard Assessment (2017)

Best practice and internationally peer reviewed coastal hazard assessment for the harbour and open coast including sea level rise effects using probabilistic methods and the latest guidance on sea level rise. Role including management of specialists and multiple inputs and liaison with Technical Review Panel and Client.

Northland Regional Erosion Hazard Assessment (2017)

Technical reviewer and Project Director for the evaluation of coastal erosion and inundation hazards for Northland Region including climate change effects using best practice probabilistic methods and the latest guidance on sea level rise.

Wellington Sea Level Rise Hazard Assessment (2011)

Evaluation of the extent and consequences (environmental, social and economic) of coastal inundation taking into account a range of projected sea level rise changes. Development of GIS tools and assessment criteria.

Hawkes Bay Regional Coastal Hazard Assessment (2004)

Lead coastal hazard specialist assisting in the development of a regional coastal hazard strategy for 150 km of shoreline, comprising gravel and sand beaches and cliffs. The project included deriving a comprehensive hazard assessment methodology, site inspections, detailed analysis of data, GIS hazard mapping and development of management policy and objectives, supporting Council through stakeholder feedback and presentations and the plan change hearing. The project was peer reviewed by both national (Dr. W. de Lange) and international experts (Dr. Komar).

Herald Island Coastal Hazard Assessment, Auckland

Evaluation of erosion risk around Herald Island and evaluation of coastal protection options.

Whakatane Coastal Hazard Management Strategy

Detailed study to develop coastal erosion and inundation hazard zones for Ohope, Ohiwa Harbour, Whakatane and Matata sandy foreshore within the Whakatane District. The study involved hydrodynamic and sediment transport process assessment, cross-shore sediment and inundation modelling and hazard delineation, development of coastal management strategies and legislative analysis.

Tauranga District Coastal Hazard Zone Assessment

Detailed study including the cross-shore sediment transport numerical modelling of beach profiles from Mt. Maunganui to the Kaituna River to assess storm demands. Results of the study were used to develop an empirical model to delineate coastal hazard zones for the Papamoa township. The empirical model included the assessment of long-term and short-term shoreline trends, IPO fluctuations, climate change and sea level rise. The study also included a technical review of a study evaluating storm cuts along the Papamoa shoreline and preparation of expert evidence for Environment Court.

Omaha Coastal Hazard Zone Assessment, NZ

Evaluation of coastal processes and the determination of a coastal hazard zone along a 2 km sand spit to provide an allowance for storm impacts, existing erosion cycles and expected sea level rise.

Buffalo Beach Erosion Study, Whitianga, NZ

Study to identify the extent of the current and potential effects of coastal erosion and sand migration at Whitianga and to identify and assess appropriate measures to manage the effects including managed retreat, beach replenishment and structural options.

Onetangi Beach Coastal Process Assessment, Waiheke Is

A detailed review of the coastal processes and associated potential coastal hazards along the shoreline of Onetangi Bay and Mawhitipana Bay, Waiheke Island. The study included an assessment of potential erosion control options including a range of seawalls and revetment options, indicative costings and recommendations for future work or studies.

Riversdale Beach Coastal Hazard Assessment, Masterton

Development of a coastal hazard zone for Riversdale Beach. The study included a successful preparation and presentation of evidence for an Environment Court hearing.

Maraetai Coastal Hazard Assessment, NZ

Evaluation of coastal processes and the determination of coastal hazard zones for Maraetai Beach. The study evaluated storm impacts, existing erosion cycles, inundation and expected sea level rise impacts. Numerical modelling was used to assess inundation and cross-shore sediment transport. The study also involved the development of mitigation measures for future inundation and coastal erosion including road diversion, hard and soft engineering solutions.

Adaptation planning

Dynamic Adaptation Plan Pathway pilot (Auckland Unlimited), in progress

Technical lead preparing an adaptation plan to support AUL. The adaptation plan included a review of risks already identified, develop dynamic adaptive planning pathways (DAPP) for two pilot AUL assets based on pre-identified physical risks

Regional Shoreline Adaptation Plan Pilot No. 2 (Auckland Council) 2022

Vulnerability assessment and high-level adaptation plans for council owned land and assets from Beachlands to the eastern border, as part of collaborative Council team. Including engagement with community groups, stakeholders and iwi.

Regional Shoreline Adaptation Plan Pilots (Auckland Council) 2021

Risk and vulnerability assessment and high-level adaptation plans for council owned land and assets in Whangaparaoa, Beachlands and East, Awhitu and Manukau South, including engagement with community groups, stakeholders and iwi.

Clifton to Tangoio Coastal Hazard Strategy, Hawke's Bay (2016)

Detailed coastal hazard and risk assessment for a 22 km stretch of the Hawke's Bay including the evaluation of present day and future coastal hazard risk (erosion, inundation and tsunami) for the dynamic Hawkes Bay coastline using best practice probabilistic risk assessment framework and adaptive pathway modelling for option assessment. Role included the management of specialists and multiple inputs and multiple presentations and workshops with the Technical Advisory Group, Councillors and community stakeholders.

Technical review experience

PC120 Section 36 support, Auckland Council (in progress)

Technical expert on natural hazard plan change development for PC120

Marlborough Seawall, 2024

Expert review of effects of unauthorised seawall in Waikawa for legal proceedings to remove.

Port of Tauranga dredge channel and port extension, 2023

Technical reviewer for BOPRC of specialist coastal reports for new dredged channel and port extension.

Hokitika Seawall consent review

Engineering and coastal process review of proposed rock revetment on behalf of Consent Authority.

Lincoln Road, Interchange, Auckland, NZ, Auckland Regional Council

Technical review on behalf of the consent authorities on the effects of the proposed bridge on coastal processes.

Pine Harbour Marina, Consent application, Auckland, NZ, Manukau City Council

Evaluation of a consent application to dredge Pine Harbour Marina on behalf of a submitter. The commission included detailed review of the consent application, research and the preparation and presentation of Evidence at the Hearing.

Mexted Appeal, Mahunga, Hawke's Bay, NZ, Hawkes Bay Regional Council

Expert witness for Hawkes Bay Regional Council on coastal erosion and inundation hazard assessments for a proposed subdivision.

St Heliers Beach, Restoration, Auckland, NZ, Auckland City Council

Review of the coastal process assessment report and designs for the beach restoration project at St Heliers, including stormwater outlet controls and beach nourishment for the consent authority.

Upper Harbour bridge duplication, Auckland Regional Council

Technical review of consent application regarding the effects of the proposed bridge work on the coastal environment on behalf of Consent Authority.

West Park Marina, Te Atatu, Auckland Regional Council

Assisting an arbitration process to determine rating limits for the marina seabed. The project included a review of the operating marina, identification of issues and constraints affect the performance of the marina and their origin. Preparation of statements of technical evidence for a hearing.

Westshore, Artificial Reef Review, Napier, NZ, Napier City Council

Review of the applicability of the use of the GENESIS model for evaluating shoreline protection options and the appropriateness of implementing offshore reefs or artificial surfing reefs as a method of managing existing shoreline erosion.

Wynyard Quarter, Plan Change Appeal, Auckland, NZ

Evaluation of rules and policies to support the plan change for the proposed development at Wynyard Quarter in terms of coastal processes and climate change.

Urenui Seawall, Consent, Taranaki, NZ

Technical review of the consent application for the proposed seawall at Urenui for consent authority.

Milford Marina, Bridge, Auckland, NZ

Technical assessment of effects of the public bridge crossing Milford Marina for the consent authority.

Puhoi River, Walkway and Bridge, Auckland, NZ

High level coastal process effects review of the proposed coastal walkway and bridge across Puhoi River for the consent authority.

Education

BE (Hons), Civil, 1985, University of Auckland, New Zealand

ME, Coastal, 1989, University of Auckland, New Zealand

RMA: Making good decisions, 2005, University of Auckland, New Zealand

Management, 2002, New Zealand Institute of Management (NZIM), New Zealand

Certificate in Multi Hazard Risk Assessment, 2014, University of Twente

Te Whāinga o te Ao Tikanga, 2022, Te Wānanga o Aotearoa.

Qualifications/Memberships

Engineering New Zealand (CMEngNZ) Chartered Professional Engineer

Engineering New Zealand (MEngNZ) International Professional Engineer register

Engineering New Zealand (FEngNZ) Fellow

New Zealand Coastal Society (NZCS)

For more information contact Richard Reinen-Hamill, [redacted]

Richard Owen BOYD

[redacted]

Position: Senior Consultant [redacted]

Qualifications: Bachelor of Science (Hons) in Zoology,University of British Columbia, Canada, 1969.

Master of Science (First Class Hons) in Zoology, University of Auckland, 1972.

Expertise Fisheries Management & Policy

Fisheries Science

Fisheries Environment

Overview and Career Summary

Rick Boyd was born and raised in Canada and has been involved in fisheries biology, fisheries science and management in Canada and in New Zealand for over 50 years.

After several years working part-time as a biological assistant he was employed as a Fisheries Biologist for Environment Canada, Fisheries Service, in Vancouver for seven years in the 1970s after completing his Master of Science degree. There he worked in the salmon, herring and shellfish fisheries on the Central Coast and in Georgia Strait on the west coast of Canada. Experience in the analysis of fisheries data and management of these intensively managed fisheries provided a foundation to understanding how good data and its interpretation was crucial for managing fisheries successfully.

He moved to New Zealand in 1978, continuing his career in fisheries management and research, taking up a role with the then Fisheries Management Division of the Ministry of Agriculture and Fisheries (MAF). His initial responsibility was to develop an improved management regime for the Hauraki Gulf snapper fishery – New Zealand's then most valuable inshore finfish fishery. He spent 11 years with MAF from 1978 to 1989.

In 1980 he chaired a Ministry of Fisheries working group that developed the conceptual framework for the 1983 Fisheries Act which replaced the outdated 1908 Fisheries Act.

Over the period 1983 to 1986 he was closely involved in assessing inshore fishery statistics and related data as part of developing fishery management plans for northern New Zealand under the 1983 Fisheries Act. He subsequently assisted in the formation of policies leading up to the development and implementation of the fisheries Quota Management System in 1986. In 1986 and 1987 he was a member of the Crown's team that provided evidence to the Waitangi Tribunal in response to the Muriwhenua Fisheries Claim, the first major Treaty claim on fisheries.

In 1989 he resigned from the Ministry of Agriculture and Fisheries to become a consultant. As a fisheries consultant he has worked on a wide range of projects for Government, industry, the recreational sector and Māori and has a wide knowledge of New Zealand fisheries, fisheries management, fisheries research and the fisheries environment.

In 1990 he assisted Māori on the Ngai Tahu Fisheries Claim before the Waitangi Tribunal. Project for New Zealand. In 1992 he was appointed by the Ministry of Research, Science and Technology as a member of a review team to identify the quality and relevance of current government funded fisheries and aquaculture research in New Zealand. In 1994 he was asked by the New Zealand Ministry of Foreign Affairs to arrange and manage an ASEAN fisheries trade mission to New Zealand.

Over the period 1990 to 1997 he provided a range of reports and advice to clients on the impacts of proposed coastal developments on fisheries resources and commercial and recreational fishing. In 1990 he provided a fisheries assessment and report on the distribution and abundance of fish and shellfish species and the distribution of commercial and recreational fishing in the inner Hauraki Gulf for an area under investigation by the Ports of Auckland Ltd to locate a new dredge spoil disposal site. In 1991 he undertook a fisheries assessment of Shakespeare Bay and Queen Charlotte Sound for a proposed Shakespeare Bay development. In 1994 he provided an updated fishery assessment of the outer Hauraki Gulf in relation to selection of a site for disposal of dredged material, including consultation with the fishing industry. For Metocean PLC, UK, he undertook a fishery resource assessment for the west coast of the North Island from Manukau Harbour to Cook Strait in relation to oil extraction from Maui B. In 1996-97 he undertook a fisheries assessment of the Karamea Bight for Solid Energy in relation to a proposed offshore coal export jetty near Westport and subsequently was the project manager for the development of resource consent applications and preparation of technical evidence for the proposal. In a project for Port Otago Limited, 2007-2012 he undertook a fisheries assessment in relation to dredging of Port Chalmers and approaches and the disposal of dredged material at sea outside Otago Harbour. In 2016-2018 he provided a fisheries assessment for Refining NZ Ltd for proposed dredging of the approaches to Whangarei Harbour and disposal of the dredged material at sites in Bream Bay. In 2022 he provided a fisheries assessment for McCallum Bros Ltd for resource consent applications for sand extraction at Pakiri.

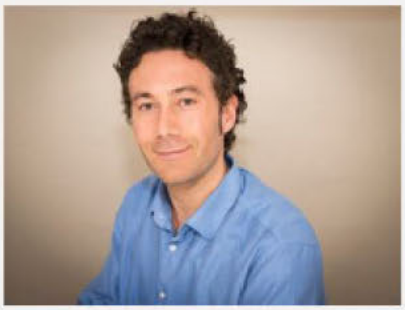
Experience includes preparation of expert evidence on a range of matters in different hearings and courts. These include in relation to judicial review of the Minister of Fisheries' SNA1 snapper fishery TAC decision for the New Zealand Fishing Industry Association Inc in 1996; in 2004 for Sanford Ltd in relation to the methodology for measuring orange roughy conversion factors under the Fisheries Act 1996; from 2005-2007 for an application for judicial review by New Zealand Recreational Fishing Council and the New Zealand Big Game Fishing Council in relation to decisions of the Minister of Fisheries on the setting of TAC, TACC and recreational allocations for the kahawai fishery; as a witness for the defence in in relation to prosecution of Ross Forbes under the Fisheries Act 1996; for Refining NZ Ltd in relation to consent applications for dredging and disposal in Whangarei Harbour and Bream Bay; and on certain fisheries matters in relation to the application by the owners of the MV *Rena* for resource consents for disposal of vessel parts and related material on Astrolabe Reef in the Bay of Plenty.

Dr Séverin Thiébaut

Dr Séverin Thiébaut

Senior Scientist (Ocean)

MetService
TE RATONGA TIRORANGI



Specialisation

Séverin is a specialist in ocean waves, storm surges, meteorological tsunamis, extreme statistics and signal processing. Séverin has a PhD in Physical Oceanography from the University of Otago and over 15 years of professional experience. At MetOcean Solutions, Séverin manages the production of metocean consultancy services and analytical work scope and provides leadership for the development of analytical code.

Contact

T: [redacted]
E:

Recent Project History

- Project Manager for numerous offshore and nearshore metocean design and operability studies.
- Statistical analysis of measured and modelled oceanographic data, including extreme value analysis.
- Analysis of long period waves such as infragravity, far-infragravity and continental shelf waves.
- Development of software for analysis of oceanographic data.
- Development of an analytical model on the resonance of storm-generated long period waves.
- Wavelet analysis of coastal trapped waves.
- Analysis of the statistical distribution of wave-induced orbital velocities.
- Wave and tidal energy assessment.
- Prediction of long period waves from sea-swell spectra.
- Ensemble forecasting of wave conditions for ports and coastal regions.

Academic Qualifications

- Ph.D. in Physical Oceanography, University of Otago, NZ. Storm-generated long period ocean waves. 2011. Thesis available at: http://hdl.handle.net/10523/1992.
- M.Res. in Physical Oceanography, University of Las Palmas de GC, Spain. 2005. The Azores Current from an inverse box model.
- M.Sc. in Oceanography, 2003. University of Bordeaux, France.
- B.Sc. in Physics and Chemistry, 2002. University of La Rochelle, France.

Peer-reviewed Journal Articles

Thlebaut, S., McComb, P., and Vennell, R. (2013). Prediction of Coastal Far Infragravity Waves from Sea-Swell Spectra. J. Waterway, Port, Coastal, Ocean Eng., 139(1), 34–44.

Thlebaut, S. and R. Vennell. (2011). Resonance of long waves generated by storms obliquely crossing shelf topography in a rotating ocean. J. Fluid Mechanics. 682, 261-288.

Thlebaut, S. and R. Vennell, (2010). Observation of a fast continental shelf wave generated by a storm impacting Newfoundland using wavelet and cross wavelet analyses. J. Physical Oceanography. 40 (2), 417-428.

Conference Papers

Cussioli, M., Berthot, A., **Thlebaut, S.**, Watson, H., Meirelles, S., Gardiner, S., Knight, S. (2023). One Beach... Many Models! Combining Models to Predict Multidecadal Coastal Erosion. Australasian Coasts & Ports 2023 Conference – Twin Waters, Australia, 10pp.

Knight, S., Hegarty, R., Strewart, J., Leaman, C., **Thlebaut, S.**, Atkinson, A., Folan, A. (2023). Woody Point – Foreshore Coastal Protection Upgrade Project. Australasian Coasts & Ports 2023 Conference – Twin Waters, Australia, 8pp.

Rapizo, H., **Thlebaut S.** (2023). Fetch-limited wind-waves in the Auckland Harbour. Australasian Coasts & Ports 2023 Conference – Twin Waters, Australia, 7pp.

Arnaud G. E., **Thlebaut S.**, Berthot A., Harper B., Tran H. (2021). Assessment of future storm surge hazard in Darwin Harbour, Australia. Australasian Coasts & Ports 2021 Conference – Christchurch, New Zealand, 8pp.

Thlebaut, S. (2019). Non-linear derivation of near-bed wave-induced orbital velocities from surface wave spectra. Proceedings of the Australasian Coasts and Ports Conference, Hobart, Australia, 6pp.

Thlebaut, S., McComb, P. (2015). Bivariate distribution of extreme wave height and period in shallow water. Proceedings of the Australasian Coasts and Ports Conference, Auckland, New Zealand, 5pp.

Thlebaut, S., McComb, P., Johson, D. (2013). A note on the statistical distribution of wave-induced orbital velocities. Proceedings of the Australasian Coasts and Ports Conference, Sydney, Australia, 4pp.

Johnson, D., and **Thlebaut, S.**, (2013). Ensemble forecasting of wave conditions for ports and coastal regions. Proceedings of the Australasian Coasts and Ports Conference, Sydney, Australia, 5pp.

Thlebaut, S., R. Vennell, Bell, R. (2009). Observation of storm-generated long waves on New Zealand's eastern seaboard. Proceedings of the Australasian Coasts and Ports Conference, Wellington, New Zealand, 6pp.

Simon West, MSc (Hons)

Simon West

Technical Director, Marine Ecology

BSc Biology & Earth Sciences, MSc (Hons) Zoology

Bioresearches
A Babbage Company

Professional Profile

Simon West is a senior marine ecologist and technical director with more than 30 years of experience in marine ecological assessment, environmental monitoring, and multidisciplinary project management. He specialises in benthic ecology, sediment quality assessment, water quality investigations and the design and implementation of long-term environmental monitoring programmes. His expertise includes taxonomic identification, technical peer review, development of impact assessment methodologies, and expert witness testimony in Local and Environment Court proceedings.

Simon has led major environmental programmes across New Zealand, working with clients in marine construction, dredging and disposal, sand extraction, wastewater and industrial discharges, coastal infrastructure, and large-scale urban development. He provides strategic technical advice for consent applications, supports clients in meeting regional and national regulatory requirements, and delivers high-quality ecological reporting informed by robust statistical and environmental analysis.

Career Summary

2020-present	Technical Director Marine Ecology| Bioresearches, a division of Babbage
2015-2020	Senior Marine Ecologist | Bioresearches, a division of Babbage
1991-2015	Senior Marine Ecologist | Bioresearches

Core Expertise

- Marine ecological survey design and implementation
- Benthic ecology, sediment quality and shellfish resource assessments
- Water quality investigations (stormwater, wastewater, industrial discharges)
- Environmental impact assessments (EIA) and compliance monitoring
- Statistical analysis of ecological data, including multivariate techniques
- Technical review, gap analysis and expert evidence
- Management of large-scale, multi-disciplinary field and laboratory programmes
- Coastal consenting support for regional and national authorities

Key Projects

- **Pakiri Sand Extraction (2011-present).** Assessment of the ecological effects of offshore sand mining between Pakiri and Mangawhai. Responsibilities include design of monitoring programmes, seabed sediment and benthic biota sampling, and quantification of ecological recovery following extraction activities.
- **Hawaiki Submarine Cable Route Assessment (2017).** Assessment of benthic habitats along the route of the international submarine fibre optic cable, including collection of seabed sediment, benthic biota samples and photographic ground truthing survey intertidal to 60 m depth.
- **Refining NZ Dredge and Disposal Ecological Assessment (2013 – 2015).** Assessment of benthic ecology including grain size and sediment quality at proposed dredge sites and assisted in defining suitable disposal sites.
- **Pre-dredging Sediment and Biosecurity Characterisation (2012-present).** Design and delivery of sampling programmes to EPA and MPI guidelines to assess the suitability of marine sediments for offshore disposal, incorporating biosecurity screening.
- **Outer Gulf Disposal Area (2010-present).** Technical advice and assessment of ecological effects for a deep-sea sediment disposal consent application. Ongoing monitoring of benthic ecology and sediment quality, with technical reporting to the EPA.
- **New Zealand Steel Annual Shellfish Monitoring (1991-present).** Long-term programme assessing the effects of industrial discharges on shellfish, sediment quality and benthic ecology around Glenbrook Mill. Monitoring informs compliance with resource consents and long-term environmental change.
- **Watercare Project Manukau (1995-2011).** Lead marine ecologist for the Harbour Ecological Monitoring Programme supporting the Mangere Wastewater Treatment Plant upgrade. The programme covered water quality, shellfish and sediment quality, benthic biota and macroalgae, with technical reporting identifying temporal trends and post-upgrade environmental improvements.
- **Watercare Pond Recovery Monitoring (2002 – 2024).** The PRMP was designed to monitor the physical, chemical and biological changes which occur as the distribution of residual sludge-rich sediments, which were present in the ponds when the seawalls were breached, changes as a result of scouring, redistribution, export from the pond areas and mixing with marine sediments imported to the pond areas.

  The PRMP monitors the following components of the natural environment of the ponds area.

  - Sediment texture and quality
  - Benthic biota species diversity and abundance
  - Edible shellfish species distribution, abundance, size and quality
  - Benthic macroalgae distribution and abundance
  - Major habitat distribution

  Technical reports documented and identified improvements in shellfish and sediment quality and documented changes in the benthic ecology of the intertidal areas near the Wastewater Treatment Plant.
- **Watercare, Project Storm (1998-2000).** Project Storm evaluated the effects of overflows from the trunk sewer overflow points. We developed a methodology for the rapid assessment of effects of overflows on aquatic receiving environments and ground trothed computer based sewer overflow models.
- **Pine Harbour Marina Ltd (1997-present).** Assessment of stormwater effects on intertidal shellfish and sediment quality; analysis of changes to subtidal benthic communities using multivariate statistical techniques; evaluation of dredging and disposal effects in nearshore environments.
- **Pauanui Waterways (1993-present).** Baseline and post-construction water quality, sediment quality, and intertidal ecology surveys of the Tairua Estuary and Pauanui Waterways Canals.
- **Whitianga Waterways (2001-present).** Baseline and post-construction monitoring of water, sediment and shellfish quality, plus intertidal ecology within the estuary and canal development.
- **Marsden Cove Limited – marina and waterways (2000-present).** Comprehensive benthic ecology, sediment and water quality monitoring for a 40-ha marina and waterways development, including ongoing post-construction assessments and liaison with the Northland Regional Council.
- **Royal New Zealand Navy (1993–1994).** Monitoring of ecological effects from underwater explosive training activities in the Hauraki Gulf.
- **Auckland Council – Seafood Resource Assessment (1990–1995).** Quantitative assessment of the distribution, condition and abundance of edible shellfish resources across the Auckland Region.
- **New Zealand Refining Company – Lichen Monitoring (1993–2016).** Analysis of lichen community changes as indicators of air quality, applying multivariate statistical techniques to detect long-term trends.
- **Ravensdown Fertiliser Monitoring – Dunedin (1991–2005).** Assessment of ecological effects of fertiliser manufacturing discharges, including benthic biota, sediment quality, marine flora and toxicity testing.
- **Carter Holt Forest – Wharekawa Estuary Monitoring (1997–2011).** Annual ecological monitoring to determine the effects of pine forest harvesting on estuarine ecosystems.

Stephen Brown LANDSCAPE ARCHITECT, BROWN NZ LTD

Stephen has practised as a landscape architect for 44 years. During that period, he has specialised in landscape assessment and planning and has been involved in projects ranging from the evaluation of the Channel Tunnel Rail options in the UK, to the Waterview Connection Project in Auckland, and current proposals for a cable car network in Queenstown. He has assessed the effects of sixteen wind farm projects in the past, including three in Australia, and he is currently working on another in Southland. He has also very recently completed the review of a solar farm application for Silverdale, north of Auckland (for Auckland Council), and has assisted Meridian with reconsenting of the Waitaki Hydro Electric Power Scheme (hearing in November 2025). He is currently assisting Manawa Energy with the reconsenting of the Lake Coleridge HEPS.

Other projects that Stephen has been involved with include the following:

Queenstown Cable Car Project (2025)

Port of Tauranga Berthage Expansion (2019-25)

Northport Wharf Extensions (2018-25)

Auckland Council Plan Change 78 – Housing intensification (2022-25)

Kennedy Point Marina Application (2017)

East West Link Review (2016/17)

Northern Corridor Improvements Review (2017)

MV Rena Shipwreck Assessment (2015)

Hagley Park Cricket Oval Application (2013)

Waterview Connection Project / SH16 (2009)

Waterview Connection Project / SH20 (2009).

Eden Park Rugby World Cup 2011 (2006 - 10)

Sky Tower Assessment (1991)

Site Selection Studies for P.W.R. Stations at Trawsfynydd and Wylfa - North Wales (1984-6)

Channel Tunnel Railway Connections Study (1986)

Stephen has participated in strategic landscape and natural character assessments for local districts and regions, ranging from the Far North, Whangarei and Auckland to the Waikato, and the West Coast of the South Island. He has not undertaken the 'Making Good Decisions Course', but has in the past been a specialist commissioner on panels addressing such matters as telecommunication masts and an application for The Warehouse (Gisborne) and has appeared in the Environment Court over 100 times. He has a basic understanding of Te Reo but is not fluent in it.

Stephen Brown LANDSCAPE ARCHITECT, BROWN NZ LTD

Academic

Qualifications: Bachelor of Town Planning 1978 (Auckland University)

Diploma of Landscape Architecture 1981 (Lincoln University)

Professional

Qualifications: Fellow & Past President of the NZ Institute of Landscape Architects

---

PROJECT ASSESSMENTS:

Queenstown Cable Car Project (2025): assessment of the landscape, amenity and natural character effects generated by a proposed cable car network stretching from central Queenstown to the airport and Ladies Mile – for Southern Infrastructure Ltd.

Lower Waiau River Flow Effects Assessment (2024): evaluation of the landscape and natural character effects associated with different flow rates down the Waiau River (managed by the Manapouri PS) – for Meridian Energy Ltd.

Waitaki Hydro-electric Power Scheme Reconsenting (2022-25): assessment of the landscape and natural character effects associated with the lake levels and river flow rates – from Lakes Pūkaki and Ōhau to the Pacific Ocean – that are currently consented for the Waitaki HEPS – for Meridian Energy Ltd.

Port of Tauranga Berthage Expansion (2019-24): assessment of the landscape and natural character effects associated with an area of reclamation and extension of berthage facilities – both at Sulphur Point and along the Mt Maunganui shoreline – for Port of Tauranga Ltd.

Northport Wharf Extensions (2018-23): assessment of the landscape, natural character and amenity effects of the eastern extension to the current port at Marsden Point, together with the provision of new berths, cranes, cargo storage areas, lighting and a control 'tower' for management of harbour traffic and port operations – for Northport.

Te Rere Hau Wind Farm Repower Project (2018-22): assessment of the landscape and amenity effects associated with 'repowering' of the existing Te Rere Hau Wind Farm with 30 turbines (each up to 162m high), together with a new switchyard and transmission line – for NZ Windfarms Ltd & Meridian Energy Ltd.

Aokautere Extension Wind Farm Project (2023): evaluation of the landscape and amenity effects with development of the Aokautere Extension WF and its 9 proposed turbines, to be connected to the consented (repowered) Te Rere Hau Wind Farm – for NZ Wind Farms Ltd.

Marsden Point Crude Shipping Project (2017): evaluation of the natural character and landscape effects associated with formation of new, realigned navigation and berthage channel for the Marsden Point Oil Refinery, addressing effects on outstanding landscapes and areas of high natural character derived from changes to the sea floor, dredging, sand deposition, lighting, and navigation markers - for Refining NZ Ltd.

Klondyke Water Storage Facility (2015/16): assessment of the effects of the development and operation of a 53Mm^3 water storage dam near the Rangitata River in South Canterbury, together with related modifications to the existing Rangitata Diversion Race canal system – for RDR Management Ltd.

Project Mill Creek (2010): assessment of the landscape, natural character and amenity effects of a proposed 31 turbine wind farm proposed in close proximity to Makara and Ohariu Valley, near Wellington – for Wellington City Council

Puketoi Wind Farm Project (2011 / 12): assessment of the landscape, amenity and natural character effects of a 54 turbine wind farm to be located on the Puketoi Range in the Tararua District together with a 220 kV transmission corridor to the Turitea substation on the northern Tararua Range – for Mighty River Power Ltd

Project Central Wind (2009): evaluation of the landscape, natural character and amenity effects of a proposed 51 turbine wind farm proposed for the southern margins of the North Island's Volcanic Plateau near Taihape and SH1, including a sub-regional assessment of alternative locations – for Meridian Energy Ltd.

Project West Wind (2006): assessment of the strategic, regional implications, of the Project West Wind wind farm relative to the Wellington region and the southern halves of the Wairarapa and Manawatu coastlines – for the NZ Wind Energy Association.

Turitea Wind Farm (2006 - 10): preliminary assessment of the landscape and amenity effects of a proposed 80 turbine wind farm on the Tararua Ranges near Palmerston North – for Might River Power Ltd

Puketoi Wind Farm Project (2011 / 12): assessment of the landscape, amenity and natural character effects of a 54 turbine wind farm to be located on the Puketoi Range in the Tararua District together with a 220 kV transmission corridor to the Turitea substation on the northern Tararua Range – for Mighty River Power Ltd

Moorabool Wind Farm (2009/10): assessment of the landscape and amenity implications of a proposed 110 turbine wind farm east of Ballarat in the Moorabool Shire of Victoria – for WestWind Pty Ltd.

Allandale Wind Farm (2008): evaluation of the landscape and amenity effects of a proposed 50 turbine wind farm near Mt Gambier and Port MacDonnell in South Australia – for Acciona Ltd

Waterview Connection Project / SH16 (2009): assessment of landscape, amenity and natural character effects associated with redevelopment of the Te Atatu – Waterview section of Auckland's North-western Motorway and the Te Atatu interchange – for the NZ Transport Agency.

Waterview Connection Project / SH20 (2009): evaluation of the landscape and amenity effects associated with development of SH20 from Stoddard Rd to Waterview in Auckland – for the NZ Transport Agency.

Waitemata Harbour Crossing Options Assessment (2002/3): Evaluation of the visual and amenity effects of 9 harbour crossing options, including bridges, tunnels, submerged tubes, reclamations, ventilation and service structures, trenches and motorway interchanges - for Opus International and Transit NZ.

Marsden Point Port Impact Assessment (1997 & 2002): responsible for assessment of the visual and amenity implications of a major new port facility covering some 37 ha and associated infrastructure development - including preparation of proposals for amelioration & enhancement around Blacksmith's Creek, followed by assessment of the effects of additional berths in 2002 - for the Northland Port Corporation / Northport.

Eden Park Rugby World Cup 2011 (2006 - 10): detailed evaluation of the amenity and landscape effects of the proposed redevelopment of the Eden Park stadium and grounds for the Rugby World Cup 2011, addressing both 'legacy' and temporary stand alternatives – for the Eden Park Redevelopment Board.

Remarkables Park: development of concepts for the residential, retail, school and reserve components of a wider master plan that includes a new village centre and conference centre, in conjunction with landscape concepts and detailing for all components of the Remarkables Park development – for Remarkables Park Ltd.

Long Bay Structure Planning & Design (1998 - 2005): design team leader for preparation of development concepts for approx. 400 ha.s of land that is to be urbanised – encompassing: residential development designed to accommodate approximately 2000 households, a commercial / community centre, a comprehensive roading network, walkways, connection with & extension of Long Bay Regional Park, new reserves, and an extensive stormwater management system – for the Long Bay Structure Plan Group (representing North Shore city Council, the Auckland Regional Council, Durafort Investments & other local landowners).

Omokoroa Stage I & Stage II Structure Plans (1999 - 2006): responsible for the development of an urban design framework to guide future urbanisation at both locations – incorporating a range of residential densities and housing types (from multi-unit to large lot), commercial and industrial development, community facilities, roading, stormwater reserves and recreation reserves – for Western Bay of Plenty District Council.

Viaduct Basin Development (1989 - 94): preparation (with Clinton Bird) of the initial concepts for the Viaduct Basin including reformation of the existing basin, rearrangement of the fishing fleet berthage, two international hotels, 20,000 sq metres of space for retailing, entertainment, commercial activity, accommodation, plazas and a park: providing the basis for the special zone applied to the Viaduct Basin area - for the Ports of Auckland Company, Fletcher Challenge Developments and Turners and Growers Ltd; Auckland City Council in 1993-4.

Waitemata Harbour Crossing Options Assessment (2002/3): Evaluation of the visual and amenity effects of 9 harbour crossing options, including bridges, tunnels, submerged tubes, reclamations, ventilation and service structures, trenches and motorway interchanges - for Opus International and Transit NZ.

Sylvia Park Commercial Centre Assessment (1999): detailed assessment of the implications of a plan change to accommodate 150,000 sq metres of retail, office, and residential development at Mt Wellington, including community facilities, a railway station and new access road - for Kiwi Property Management Ltd.

Marsden Point Port Impact Assessment (1997 & 2002): responsible for assessment of the visual and amenity implications of a major new port facility covering some 37 ha and associated infrastructure development - including preparation of proposals for amelioration & enhancement around Blacksmith's Creek, followed by assessment of the effects of additional berths in 2002 - for the Northland Port Corporation / Northport.

Eden Park Floodlighting & North Stand Assessment (1996/7): evaluation of a proposal for floodlighting of the No.1 ground and a new north stand; and design of landscape treatment in front of the north stand - for the Eden Park Trust Board.

Auckland International Airport Eastern Accessway Impact Assessment (1989 / 1991): appraisal of a new entry route and bridge options across Pukaki Inlet for Mangere International Airport and development of broad guidelines for the design of the entry road and its immediate surrounds - for the Auckland International Airport Company Ltd.

A.R.C. Reservoir / Bulk Water Supply Options Study (1988): responsible for detailed evaluation of eight different dam and/or river extraction options for supplying Auckland with water into the 21st century - for the Water Dept of the Auckland Regional Authority.

Sky Tower Assessment (1991): assessment of the Sky Tower proposal for upper Symonds St, Grafton, and presentation of evidence at the Planning Tribunal in relation to its effects - for Auckland City Council & the Auckland Regional Council.

Site Selection Studies for P.W.R. Stations at Trawsfynydd and Wylfa - North Wales (1984-6): evaluation of a wide range of different siting options for two power stations proposed for North Wales based on landscape/visual impact criteria - for the (U.K.) Central Electricity Generating

Channel Tunnel Railway Connections Study (1986): evaluation of route options and landscape impacts associated with provision of railway connections to the Channel Tunnel immediately north-west of Folkestone - for the United Kingdom Department of Transport.

STRATEGIC ASSESSMENTS:

Auckland Council Plan Change 78 S. 35 Assessment (2023): analysis of –

- Different building height and built form options for Auckland's City Centre, Viaduct Basin and Quay Park Precincts, Devonport, Ellerslie and Sylvia Park;
- Potential changes to the Region's Maunga Viewshaft and Height & Building Sensitive Area controls; and
- Protection mechanisms for Outstanding Natural Landscapes and Areas of High Natural Character on the edge of metropolitan Auckland.

Warkworth Structure Plan (2018): assessment of the landscape and amenity values of the Warkworth Structure Plan area, including the identification of key features and landscape elements that should be retained in the future, leading to recommendations about the pattern of development at Warkworth – for Auckland Council.

Volcanic Cone Sightlines & Blanket Height Control Review (2015/16): re-appraisal of 87 sightlines within Auckland City to Mt Victoria, Mt Albert, Mt Roskill, Mt Eden, Mt Hobson, Mt Wellington, One Tree Hill, Mangere Mountain, Browns Island and Rangitoto, together with a complete review of the Blanket Height Control Areas that flank all of the major cones across and near the Auckland Isthmus: analysis of the sensitivity of each cone and the key threats to their visual integrity followed by the mapping of areas that should be subject to a new regime of building height controls under the Proposed Auckland Unitary Plan - for Auckland Council.

West Coast Region & Buller / Grey / Westland Districts Landscape Study & Natural Character Assessment (20011-14): assessment of the Buller, Grey and Westland Districts to identify the combined Districts' / Region's Outstanding Natural Landscapes and those part of the Region's coasts and lake / river / wetland margins that display High and Outstanding levels of Natural Character – for the West Coast Regional Council & District Councils

Thames Coromandel Landscape Review & Assessment (2007 - 14): peer review of the Thames Coromandel landscape assessment leading to a complete re-assessment of the Peninsula, identification of its Outstanding and Amenity Landscapes, as well as coastal environments displaying high to outstanding natural character values – for Thames Coromandel District Council.

Auckland Geomorphic / Geological Features Assessment (2011): analysis of past case law, the RMA and current policy, together with field evaluation of 207 features to determine if they qualify as ONFs – for Auckland Council: NZILA Distinction (Landscape Planning & Environmental Studies Category) 2014

West Coast Rural Policy Area (2011): evaluation of the coastal environment, areas of coastal influence and assessment of amenity values to determine the extent of the proposed West Coast Rural Policy Area overlay – for Auckland Council

Buller District Landscape & Natural Character Assessment (2011): assessment of the Buller Districts Outstanding Natural Features and Landscapes, together with identification of its coastal environment, lake / river / wetland margins and identification of those areas displaying high Natural Character – for Meridian Energy Ltd & the Environment Court (in relation to the Mokihinui hydro-electric project appeals)

Waikato Regional Policy Statement Chapter 12 – Landscape Review (2011/12): review of proposed ONLs and areas of high natural character across the Waikato Region, taking into account public submissions and the 2010 NZ Coastal Policy Statement – for the Waikato regional Council

Auckland Geomorphic / Geological Features Assessment (2011): analysis of past case law, the RMA and current policy, together with field evaluation of 207 features to determine if they qualify as ONFs – for Auckland Council

Auckland Region: Outstanding Natural Features Study (2011): assessment of over 220 geomorphic and ecological features (mainly volcanic remnants such as the Wiri Lava Cave, Orakei Basin / crater) to determine which of those should be classified as an Outstanding Natural Feature under section 6(b) of the RMA – for Auckland Council

Auckland Region: Amenity Areas Study (2011): description and mapping of those areas within the Region that qualify as Amenity Landscapes within the Auckland – in terms of their aesthetic and natural characteristics, recreational appeal, etc – with reference to section 7(c) of the RMA – for Auckland Council

Auckland Region: Natural Character Assessment (2012/13): delineation of the coastal environment for the Auckland Region and identification of areas of high natural character employing key environmental indicators / parameters – for the Auckland Regional Council.

Otorohanga District Landscape Assessment (2009 - 11): identification of Outstanding Natural Features and Landscapes, Amenity Landscapes and parts of the District's coastline – together with lake and river / stream margins – that display high Natural Character values – for Otorohanga District Council.

Kawhia Aotea West Coast Assessment (2006): assessment of the landscape and natural character values of the catchments around Kawhia and Aotea Harbours, including the identification of the area's outstanding landscapes, visual amenity landscapes and parts of the coastline displaying high natural character – for Environment Waikato and the Waikato, Waipa and Otorohonga District Councils.

Landscape Value Mapping of Hong Kong (2001 – 5): development of the methodology and assessment criteria for the 'landscape values and sensitivity mapping' of Hong Kong undertaken by Urbis Ltd for the Hong Kong Government – awarded the Strategic Planning Award by the (UK) Landscape Institute in 2006.

Whangarei District Landscape review / Assessment (2005): assessment of landscape values across Whangarei District to identify its Outstanding Landscape and Visual Amenity Landscapes, involving use of past public preference research, public consultation, identification of natural character values, landscape heritage values - in conjunction with Beca Carter Hollings & Ferner Ltd for Whangarei District Council.

Assessment of the Auckland Region's Landscape (2001-4): responsible for a review of landscape assessment methodologies appropriate for re-assessment of the Auckland Region's landscape, including literature search and organisation of workshops to review theoretical options - designed to address identification of Auckland's outstanding / iconic landscapes; followed by Q-Sort testing of public attitudes to landscape, and mapping of the Auckland Region's Outstanding Landscapes - for the Auckland Regional Council.

Auckland Urban Coastline Assessment:

Waiheke Island Coastal Landscape Assessment:

Great Barrier Island Coastal Landscape Assessment:

(1993-5): Assessment of the VALUE, VULNERABILITY and overall SENSITIVITY of each of these coastal areas - involving their breakdown into landscape units, description and discussion of landscape character types and preparation of preliminary policies for landscape management - for the Auckland Regional Council.

Mahia Peninsula / Wairoa Coastal Strategy (2003): assessment of the landscape and natural character values of the Mahia Peninsula and nearby coastal areas, including Mahanga and Opoutama, to provide input on both conservation and strategic development strategies for the Wairoa District Coastal Strategy Study - for Beca Carter Hollings & Ferner and Wairoa District Council.

North Shore City Significant Landscape Features Assessment (1998-2001): identification, analysis and description of all significant landscape features within the Albany, Greenhithe, Paremoremo and Long Bay / Okura parts of North Shore City - for North Shore City Council.

Whangarei District Coastal Management Study (2003): assessment of the landscape values and 'carrying capacity' of settlement areas down the eastern Whangarei coastline leading to recommendations about future development and conservation strategies - in relation to: Oakura, Moureeses Bay, Woolleys Bay, Matapouri, Pataua South & North, Ocean Beach, Urquharts Bay, Taurikura, Reotahi and McLeods Bay - for Beca Carter & Whangarei District Council.

Waitakere City Northern Strategic Growth Area Study (2000 - 2001 & 2003): Analysis of existing landscape features, character areas and resources within the Whenuapai / Hobsonville / Brighams Creek catchment as the basis for evaluation of future growth options. This work includes the identification of key landscape sensitivities within the catchment, the identification of development constraints and opportunities in relation to the local landscape and the preliminary assessment of effects associated with shifting Auckland's MUL in the subject area - for URS New Zealand Ltd and Waitakere City Council (Eco Water). In 2003 this work was extended to cover Herald Island and the Red Hills area - for Landcare Research.

Franklin District Rural Plan Change Study (2002/3): responsible for re-evaluation of most of Franklin District - in relation to landscape values, sensitivities and residential development potential / appeal - to determine areas that present opportunities for residential growth, rural areas that should be specifically excluded from rural-residential development and generic features that should be conserved throughout the District - for Franklin District Council.

Assessment of the Auckland Region's Landscape (1983-4): region-wide appraisal of both the aesthetic quality and the visual absorption capability of different parts of Auckland's extra-urban landscape (covering 425,000 has). This study involved breaking the Region down into 633 landscape units and incorporated a public preference study with over 1100 public participants. It has enabled planners to come to terms with both public perceptions of landscape value and the relative vulnerability of different parts of the Region to development - for the ARC.

Whangarei District North-eastern Coastal Settlements Assessment (1996): assessment of key landscape features and elements that should be conserved to help define the margins of urban growth around Whangarei District's north-eastern coastline - from Ocean Beach in the south to Oakura and Whangaruru - for Whangarei District Council.

Volcanic Cone Sightlines Review (1997- 2003, 2022 & 2025): appraisal of current sightlines to Auckland's volcanic cones leading to suggestions about the addition, deletion and location of sightlines, and the specification of controls in relation to each - for the ARC and Auckland City Council.