



Tim Haggitt (BSc, MSc, PhD)

Nationality: New Zealand

Profession: Environmental Scientist/Consultant

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PRESENT POSITIONS:

- Director/Environmental Scientist, eCoast Ltd
- Vice-chairperson – Seaweed Association of New Zealand (SANZ)
- Aquatic Environments Working Group (Ministry for Primary industries) participant and member

SPECIALISATION:

Marine protected area (MPA) research and monitoring; environmental integrity monitoring; environmental impact assessments; audits/reviews; reef ecology; ecological enhancement; cultural (Māori) impact assessments; seaweed ecology and physiology; aquaculture; expert witness/reviewer.

YEARS OF EXPERIENCE: 13

KEY QUALIFICATIONS:

- PhD in Marine and Environmental Science, University of Auckland, New Zealand (2003)
- MSc (Hons) in Environmental Science, University of Auckland, New Zealand (1997)
- BSc in Zoology and Botany, University of Auckland, New Zealand (1994)

PROFESSIONAL MEMBERSHIPS:

- Seaweed Association of New Zealand
- New Zealand Marine Sciences Society
- New Zealand Coastal Society
- Member New Zealand Coastal Society (Technical Group of Engineering New Zealand)

SPECIALISED SKILLS/TRAINING AND OTHER BACKGROUND:

- Project management
- Design and analysis of marine monitoring programmes
- Design and analysis of impact assessment (AEE) studies
- GAPs analysis
- Review and audits of AEE reports and State of the Environment studies
- Seaweed ecophysiology
- Ecological enhancement
- Comprehensive knowledge of a range of marine ecological issues
- Statistical inference, data analysis and data management

PUBLICATIONS SUMMARY

TECHNICAL REPORTS (abridged)

Infrastructure and resecure use

2018

Mead, S. T., T. Haggitt, W. Mead and S. O'Neill, 2018. *Assessment of effects of Wairoa District Council's intertidal sewage discharge on benthic sediment characteristics and ecology – Wairoa Estuary.*

Prepared for Wairoa District Council, June 2018.

Mead, S. T., and T. **Haggitt**, 2018. *Rangitahi Bridge Environmental Monitoring 3rd 3-Monthly Report – Marine Ecology*. Prepared for Fulton Hogan Ltd, May 2018.

Mead, S. T., and T. **Haggitt**, 2018. *Rangitahi Bridge Environmental Monitoring 2nd 3-Monthly Report – Marine Ecology*. Prepared for Fulton Hogan Lid, February 2018.

2017

Mead, S., **Haggitt**, T. (2017) *Rangitahi Bridge Construction – Pre-Construction Environmental Monitoring – Marine Ecology Report* prepared for Raglan Land Company.

Mead, S. T., and T. Haggitt, 2017. *Rangitahi Environmental Monitoring Pre-Construction – Marine Ecology Survey*. Prepared for Raglan Land Company/Fulton Hogan, August 2017.

Haggitt, T. (2017) *Hawke's Bay Research Strategy and Roadmap*. Report prepared for Hawke's Bay Regional Council.

Haggitt, T. (2017) *43 Screen Rd Subdivision – Assessment of Environmental Effects*. Report prepared for Flukers Ltd.

Mead, S. T., and T. Haggitt, 2017. *Rangitahi Environmental Monitoring Programme – Marine Ecology*. Prepared for Raglan Land Company, February 2017.

2016

Haggitt, T., Phillips, P. (2016) *Gaps Review of Lincoln Road Corridor Improvements Assessment of Effects on Marine Ecological Values*. Report prepared for AECOM;

Atkin, E. A., S. T. Mead, T. Haggitt and R. Pollock, 2016. *Nearshore Survey of Mangawhai Beach for Optic Fibre Cable Crossing*. Surveys undertaken for EGS, December 2016.

Mead, S. T., T. and Haggitt, 2016. *Manukau Harbour and Firth of Thames Future Port Options*. Prepared for the Consensus Working Group (Auckland Council) within the Ernst and Young Consortium, March 2016.

Mead, S. T., T. Haggitt and D. J. Phillips, 2016. *Future Ports Study: Port of Auckland – Marine Environmental Impacts and Implications*. Prepared for the Consensus Working Group (Auckland Council) within the Ernst and Young Consortium, February 2016.

2015

Mead, S.T, **Haggitt** T. (2012-2015) *Makara Estuary Monitoring Programme – Mill Creek Wind Turbine Construction: Baseline and construction-phase surveys*. Report and data analysis prepared for Meridian Energy Ltd;

Haggitt T. and S. T., Mead, 2015. *Te Whanganui a Hei Marine Reserve Reef Fish Monitoring Programme*. Prepared for the Department of Conservation Waikato Conservancy, August 2015.

Mead, S. T., and T. Haggitt, 2015. *Makara Estuary Monitoring: Post-Construction Phase Surveys, Autumn 2015*. Report prepared for Meridian Energy Ltd, July 2015.

Mead, S. T., T. Haggitt, and H. Dennis, 2015. *First Order Marine Ecological Assessment Te awa o Whatapaka*. Prepared for Ngati Tamaoho Trust, May 2015.

Mead, S. T., and T. Haggitt, 2015. *Makara Estuary Monitoring: Post-Construction Phase Surveys, Spring 2015*. Report prepared for Meridian Energy Ltd, November 2015.

2014

Haggitt, T., Mead S.T (2014) Clyde Quay Boat Harbour baseline ecological survey and assessment of environmental effects associated with the upgrade of Clyde Quay Boat Harbour. Report prepared for OPUS;

Mead, S. T., and T. Haggitt, 2014. *Makara Estuary Data Collection: Construction-Phase Surveys, Autumn 2014*. Report prepared for Meridian Energy Ltd, June 2014.

Mead, S. T., and T. Haggitt, 2014. *Desktop Summary of Current Level of the Science and Understanding of the Cumulative Ecological Impacts of Mussel Farms Ring-Fencing Coastlines such as Beatrix Bay, Marlborough Sounds*. Expert report prepared for PBC and KCSRA in relation to and Application for Resource Consent – Coastal Permit – Beatrix Bay, Central Pelorus Sounds – U130797, May 2014

Mead, S. T., and T. Haggitt, 2014. *Makara Estuary Monitoring: Construction-Phase Surveys, Spring 2014*. Report prepared for Meridian Energy Ltd, November 2014.

Mead, S. T., and T. Haggitt, 2014. *Assessment of Waiwhakaiho Reef to Determine the Extent of the Disturbance After the MV Lake Triview Came into Contact with the Reef*. Prepared for P and I Ltd, November 2014.

2013

Mead, S. T., and T. Haggitt, 2013. *Marine Growth and Corrosion on the Wire Cable Legs of the Raroa FPSO*. Report prepared for OMV NZ Ltd, June 2013

Mead, S. T., D. Greer, E. Atkin, and T. Haggitt, 2013. *Puhoi-Warkworth Coastal Modelling and Field Data Collection*. Report prepared for the Further North Consortium, May 2013.

Mead, S. T., E. Atkin and T. Haggitt, 2013. *Fieldwork Report for the Mahurangi and Puhoi Estuaries for the Development of a Sediment Accumulation Model for the Highway of National Significance*. Prepared for the Far North Consortium, March 2013.

2012

Mead, S. T., and T. Haggitt, 2012. *Makara Estuary Baseline Data Collection: Spring 2012*. Report prepared for Meridian Energy Ltd, September 2012.

Mead, S. T., 2012. *Wooli Coastal Camera – Rectification*. Prepared for CCPA Wooli Inc., July 2012.

Haggitt T. and S. T., Mead, 2012. *Te Whanganui a Hei Marine Reserve Reef Fish Monitoring: Autumn 2012*. Prepared for the Department of Conservation Waikato Conservancy, June 2012.

Mead, S. T., and T. Haggitt, 2012. *Makara Estuary Baseline Data Collection: Autumn 2012*. Report prepared for Meridian Energy Ltd, May 2012.

2011

Haggitt, T., and S. T., Mead, 2011. *Benthic Sampling of Porirua Harbour: Part II*. For Boffa Miskall Tauranga, April 2011.

Haggitt, T. (2011) Subtidal benthic survey of Porirua Harbour and associated sample acquisition. Report prepared for Boffa Miskell Ltd;

Haggitt, T. (2011-2013) Waitemata and Manukau Harbour shellfish condition analysis. Report and data analysis for Auckland Council;

2010

Grant, D., D. Greer, T. Haggitt and S. Mead, 2010. *South Taranaki Bight Iron Sands Environmental Baseline Study*. Report for Trans-Tasman Resources Limited, June, 2010.

Haggitt T. and S. T., Mead, 2010. *Te Whanganui a Hei Marine Reserve Reef Fish Monitoring: Autumn 2010*. Prepared for the Department of Conservation Waikato Conservancy, June 2010.

Grant, D., Greer, D., **Haggitt, T.**, Mead, S.T. (2010) South Taranaki Bight Iron Sands Environmental Baseline Study. Report for Trans-Tasman Resources Limited;

Haggitt T., Mead S.T. (2010) State of the Environment assessment - including impacts to nearshore marine ecological communities following wind turbine construction phase - Project West Wind. Report prepared for Meridian Energy Ltd;

Haggitt, T., and S. T., Mead, 2010. *Benthic Sampling of Porirua Harbour: Part I*. For Boffa Miskall Tauranga, December 2010.

2009

Mead, S.T., **Haggitt T.**, Frazerhurst J. (2009) Marine Ecological Survey of Raglan Footbridge and associated assessment of environmental effects. Report prepared for Aurecon Ltd;

Haggitt T. and S. T., Mead, 2009. *Te Whanganui-a-Hei Marine Reserve Benthic and Lobster Monitoring Programme: May-June 2009 Survey*. Prepared for the Department of Conservation Waikato Conservancy, June 2009

2008

Haggitt, T., and S. T. Mead, 2008. *Cape Rodney to Okakari Point Marine Reserve and Tawharanui Marine Park Reef Fish Monitoring: Autumn 2008*. Prepared for the Department of Conservation, June

Haggitt, T., Mead, S.T. (2008) Matakana Island Ecological Assessment and associated assessment of environmental effects. Report prepared for Prichard Group Ltd; April 2008

Haggitt, T., and S. T. Mead, 2008. *Great Barrier Island (Aotea) Benthic Monitoring Programme: May 2008 Survey*. Prepared for the Department of Conservation, May 2008

Haggitt, T., S. T. Mead and S. Green, 2008. *Classification of the Bay of Plenty coastal environment into MPA habitat classes*. Prepared for the Department of Conservation, May 2008.

Haggitt, T., Riddell, D., Mead S. T, (2008) Quantitative Assessment of Rocky Habitat Ecology at Opotoro Causeway. Prepared For C & M Planning, May 2008

Mead, S.T., **Haggitt, T.**, Phillips D. (2008) Identification of regionally significant marine receiving environments in the Auckland Region. Report prepared for the Auckland Regional Council;

Haggitt, T., Mead, S.T. (2008) Marine Ecological Survey of Opoturu Causeway and associated assessment of environmental effects, Raglan Harbour. Report Prepared for Maunsell Ltd;

Mead, S. T., **Haggitt T.**, (2008) Assessment of Ecological Effects of Multi-Purpose Reef for Beach Sand Retention at Orewa Beach. Prepared for the OBRT and RDC, March 2008

Mead, S. T., K. P. Black, J. Frazerhurst and T. Haggitt, 2008. *Likuri (Robinson Crusoe) Island Coastal Process and Ecological Investigations*. Report prepared for Daniel Defoe Ltd, February 2008.

2007

Mead, S. T., T. **Haggitt**, D. J. Phillips, 2007. *Identification of Regionally Significant Marine Receiving Environments in the Auckland Region*. Prepared for Auckland Regional Council, November 2007.

Haggitt, T., S. Mead and M. Bellingham, 2007. *Review of environmental information on the Kaipara Harbour marine environment*. Prepared for Auckland Regional Council, August 2007.

2006

Black, K. P., **Haggitt T.**, Mead S.T., Longdill, P., Prasetya, G., Bosserelle, C., (2006) Bay of Plenty Primary Production Modelling: Climate Impacts on Productivity. Report prepared for Bay of Plenty Regional Council;

Mead S.T. **Haggitt T.**, Frazerhurst J. (2004-2006) Pakiri Beach Pre-Dredging Assessment: Ecological Component- Assessment of environmental effects. Report prepared for Kaipara Excavators Ltd;

Longdill P.C., Black K.P., **Haggitt T.**, Mead S. T. (2006) Primary production modeling, and assessment of large scale impacts of aquaculture management areas on the productivity within the Bay of Plenty. Report prepared for Environment Bay of Plenty;

Haggitt T. and S. T., Mead, 2006. *Cape Rodney to Okakari Point Lobster Monitoring Programme: May 2006 Survey*. Prepared for the Department of Conservation, Warkworth Area Office, June 2006.

2005

Mead, S. T., **Haggitt** T., Beamsley, B. (2005) Soft-Sediment Biota in the Taranaki Iron Sand Exploration Areas. Report and interactive DVD prepared for Taranaki Regional Council;

Mead, S. T., A. Moores and T. **Haggitt**, 2005. *Assessment of Marine Ecological Effects of the Construction of an Access Berthing Structure at Ohau Bay, Wellington*. Prepared for Meridian Energy, May 2005

Mead, S. T., T. Haggitt, J. Frazerhurst, and A. Frederic, 2005. *East Island Marine Survey*. Prepared for East Coast Conservancy, Department of Conservation, October, 2005

2004

Haggitt T., Mead S. T., McComb P., Crofskey E. (2004) Subtidal communities and dominant species in the Vicinity of the Kupe Development Project - Assessment of Environmental Effects. Prepared for Origin Energy;

Haggitt, T., Mead S. T., McComb P., (2004) Assessment of the effect of seismic operations on breeding of dominant marine fauna and flora in northern Taranaki. Report prepared for Shell Todd Oil Services;

Mead, S.T., **Haggitt** T. (2004) Assessment of Marine Ecological Effects of the Construction of an Access Berthing Structure at Oteranga Bay, Wellington. Prepared for Meridian Energy (Project West Wind);

Mead, S. T.; Mathew, J.; Phillips, D.; **Haggitt**, T. (2004) Henderson-Otahuhu A Transmission Line Tower Refurbishment - Assessment of Environmental Effects. Report prepared for Transpower (NZ);

Mead, S. T.; **Haggitt**, T. (2004) Assessment of Ecological Effects of the Construction of a Jetty at Oteranga Bay, Wellington. Prepared for Meridian Energy Ltd;

Mead, S. T., McComb P., Crofskey, E., **Haggitt** T. (2004) Assessment of the Existing Intertidal Marine Ecology and Usage in the Vicinity of the Kupe Development Project. Prepared for Origin Energy;

Mead, S. T., McComb, P. J., Crofskey E. **Haggitt** T. (2004) Potential for Marine Growth on Structures at Maari for Design Purposes. Report prepared for OMV New Zealand Ltd;

Haggitt T., Mead S.T (2004) Northland Aquaculture Management Area (AMA) study. Literature review of: Environmental impacts of aquaculture and biological information within proposed Northland Aquaculture Management Areas. Report Prepared for Northland Regional Council.

2003

Mead, S. T., B. Beamsley and T. Haggitt, 2003. *Pre-Dredging Assessment: Ecological Component*. Prepared for Kaipara Excavators Ltd, Manukau City, New Zealand, September 2003.

Conservation

Haggitt, T. (2016) Long Island Marine Reserve Habitat mapping Report and interactive GIS module prepared for the Department of Conservation;

Haggitt, T. (2016) Subtidal habitat mapping toolbox – Report prepared for the Department of Conservation;

Haggitt, T., Mead S.T (2009-2016) Te Whanganui-a-Hei Marine Reserve Monitoring – Reef fish Monitoring. Report prepared for the Department of Conservation;

Haggitt, T. (2016) CROP and TMR Lobster Monitoring. Report prepared for the Department of Conservation;

Haggitt, T. (2015) Te Whanganui a Hei Marine Reserve benthic habitat classification and mapping. Report and interactive GIS module prepared for the Department of Conservation;

Haggitt, T. (2015) Ulva Island Marine Reserve benthic habitat classification and mapping. Report and interactive GIS module prepared for the Department of Conservation;

Haggitt T., Shears N.T (2011) Baseline survey of Long-Bay Okura Marine Reserve lobster and reef fish. Report prepared for the Department of Conservation;

Haggitt, T., Mead S.T., Young K. (2010) Sites of biodiversity interest based on spatial predictive modeling in the Bay of Plenty region. Report and GIS module prepared for the Department of Conservation;

Haggitt, T.R., Mead, S.T. (2009) Classification of the Bay of Plenty coastal environment into MPA habitat classes. A report and GIS module to the Department of Conservation;

Haggitt, T.R., Mead, S.T., Young, K. (2008) Bay of Plenty Marine Protected Area Project, Development of ecological objectives and biological GAPs analysis methodology. A report to the Department of Conservation,

Māori

Haggitt, T., Walker, J. (2016) Māori perspectives in the developed world. Lecture series and associated reporting prepared for Unitec Department of Engineering;

Haggitt, T. (2015) Ngāruahine Cultural and Environmental Impact Statement In relation to Fonterra Whareroa Dairy Factory and Hāwera Waste Water Treatment Plant reconsenting. Report prepared for Nga Hapu o Ngāruahine iwi Inc.
Review and information collection

Haggitt, T., Wade, O. (2016) Review of Hawke's Bay marine information. Report and GIS module prepared for Hawke's Bay Regional Council.

Haggitt, T., Mead S. T, (2007) Review and audit of Whitford Bay estuarine monitoring programme. Prepared for Auckland Regional Council,

Haggitt, T., Mead S.T., Bellingham M. (2007) Review of environmental information on the Kaipara Harbour marine environment. Prepared for the Auckland Regional Council;

Haggitt, T. (2007) Review/audit of AEE for Manukau Harbour Crossing Project. Assessment of Environmental Effects on the Coastal Marine Area: Ecology and Water Quality. Report prepared for the Auckland Regional Council;

Haggitt T., Mead S. T., (2006) Audit of Long Bay Monitoring Programme. Prepared for Auckland Regional Council;

Haggitt T., Mead S. T, (2007) Review and audit of Meola Reef monitoring programme. Prepared for the Auckland Regional Council;

RECENT PEER-REVIEWED PUBLICATIONS

Haggitt, T.R., Mead, S. (2015) Makara Estuary. Effects-based monitoring in a degraded, yet dynamic, estuary. *Proceedings of the 2015 Australasian Coast and Ports Conference* 6p

Douglas, E.J., **Haggitt, T.R.**, Rees, T.A.V (2015) Relationship between tissue phosphorus and seawater phosphate in the brown alga *Hormosira banksii* *New Zealand Journal of Marine and Freshwater Research*. 49: 64-68

Douglas, E.J., **Haggitt, T.R.**, Rees, T.A.V (2014) Supply- and demand-driven phosphate uptake and tissue phosphorus in temperate seaweeds. *Aquatic Biology* 23:49-60

Freeman, D.J., MacDiarmid, A.B., Taylor, R.B., Davidson, R.J., Grace, R.G., **Haggitt, T.R.**, Kelly, S., Shears N.T. (2012) Trajectories of spiny lobster *Jasus edwardsii* recovery in New Zealand marine reserves: is settlement a driver? *Environmental Conservation* 37: 295-304