

Key Outputs Produced from the MBIE-funded “Manaaki TaHa Moana” Research Programme

Journal Articles

- Patterson, M.G. 2011. Oceans Governance in the Twenty-First Century: Managing the Blue Planet, Marcus Haward and Joanna Vince, 2008, Edward Elgar Publishing. *Ecological Economics* 70: 4, 846-847.
- Patterson, M.G. 2012. Are All Processes Equally Efficient From an Emergy Perspective? Analysis of Ecological and Economic Networks Using Matrix Algebra Methods. *Ecological Modelling*, 226: 77-91, doi:10.1016/j.ecolmodel.2011.11.016
- Hardy DJ, Patterson MG. 2012. 2012. Cross-cultural environmental research in New Zealand: Insights for Ecological Economics research practice. *Ecological Economics* 73, 75-85.
- Allen P, Smith H. 2013. Research at the Interface: Bi-cultural Studio in New Zealand- a case study, MAI Journal Vol. 2, Ngā Pae of Te Māramatanga.
- Patterson M, Glavovic B. 2013. From frontier economics to an ecological economics of the oceans and coasts. *Sustainability Science*. 8(1), 11-24.
- Patterson, M.G. 2013. Evaluation of Matrix Algebra Methods for Calculating Transformities from Ecological and Economic Network Data. *Ecological Modelling* (Available on-line 15 May 2013, <http://dx.doi.org/10.1016/j.ecolmodel.2013.03.011>)
- Ellis J, Clark D, Taiapa C, Sinner J, Patterson M, Hewitt J. (submitted). Species distribution models along sediment, contaminant and nutrient gradients. *Marine Ecology Progress Series*.
- Tremblay L, Ellis J, Clark D, Sinner J. (submitted). Multivariate analysis of chemical and biological endpoints reveals observable effects below guideline thresholds in a large estuary. *Chemosphere*.
- Ellis J, Clark D, Taiapa C, Patterson M, Sinner J, Hewitt J, Hardy D. (To be submitted). Assessing ecological community health in coastal estuarine systems impacted by multiple stressors.
- Newcombe E, Poutama M, Allen C, Smith H, Clark D, Atalah J, Spinks A, Ellis J, Studer A, Sinner J (in prep) Shellfish distribution and faecal contamination along the Horowhenua Coast.
- Clark D, Goodwin E, Sinner J, Ellis J, Atalah J (in review). Validation and limitations of a cumulative impact model for an estuary. *PLOSOne*.
- Ellis J, Clark D, Taiapa C, Sinner J, Patterson M, Hewitt J. (final draft). Species distribution models along sediment, contaminant and nutrient gradients. *Marine Ecology Progress Series*.
- Tremblay L, Ellis J, Clark D, Sinner J (revise and resubmit). Multivariate analysis of chemical and biological endpoints reveals observable effects below guideline thresholds in a large estuary. *Chemosphere*
- Ellis J, Clark D, Taiapa C, Patterson M, Sinner J, Hewitt J, Hardy D (in press). Assessing ecological community health in coastal estuarine systems impacted by multiple stressors. *Journal of Experimental Marine Biology and Ecology*.

Books / Book Chapters

- Multiple book chapters by MTM team members on aspects of cross cultural environmental research (in development) (Edward Elgar)
- Hardy DJ, Patterson MG, Smith H, Taiapa C. 2015. Cross-cultural Environmental Research Processes, Principles and Methods – Coastal Examples from Aotearoa/New Zealand. In Ruth M (ed) *Handbook on Research Methods and Applications in Environmental Studies*. Edward Elgar.
- Patterson MG, Cole AO. 2013. ‘Total economic value’ of New Zealand land-based ecosystems and their services. In: Dymond, J. (ed.) *Ecosystem Services of New Zealand*. Christchurch, New Zealand (in press): Manaaki Whenua Press.
- Smith H. 2010. “Mā te whakaaro, mā te kotahitanga, ka whai oranga Te Taiao”, in *Kaitiakitanga and Māori, Te Wānanga-o-Raukawa and Huia Press: Wellington*.

Conference Presentations / Proceedings

Presentations at conferences throughout NZ, Australia, Europe, USA, South America, including:

- Taiapa C. 23 March 2015. Te Taiwhakapiri – Building Relationships through Cross-Cultural Research in Tauranga Harbour. MTM National Symposium, Massey University Wellington Campus.
- McCallion A. 23 March 2015. Use of Information Technology in Manaaki Taha Moana. MTM National Symposium, Massey University Wellington Campus.
- Allen P. 23 March 2015. Landscape Architecture and MTM Horowhenua Case Study Collaboration. MTM National Symposium, Massey University Wellington Campus.
- Ellis J & Garder B. 23 March 2015. Tauranga Harbour Survey. MTM National Symposium, Massey University Wellington Campus.
- Spinks A & Waaka R. 23 March 2015. Lake Wairongomai Restoration. MTM National Symposium, Massey University Wellington Campus.
- Doehring K, Seymour P & Smith H. 23 March 2015. Balancing Farming and Mahinga Kai: Ōhau Loop Restoration. MTM National Symposium, Massey University Wellington Campus.
- Poutama M, Newcombe E, Poutama L, Mitchell C. 23 March 2015. Waiwiri and Shellfish Survey. MTM National Symposium, Massey University Wellington Campus.
- Hardy DJ, Patterson MG, Smith H, Taiapa C, Sinner J, McCallion A. 23 March 2015. Reflections on Cross-Cultural Research. MTM National Symposium, Massey University Wellington Campus.
- Ellis J, Clark D, Sinner J, Taiapa C, Hewitt J, Thrush S 2015. Assessing ecological community health in coastal estuarine systems impacted by multiple stressors. New Zealand Marine Sciences Society Conference, 6-9 July, Auckland, New Zealand.
- Monahan B, Pilditch C, Bryan K, Ellis J, Broekhuizen 2015. Transport and retention of benthic invertebrate larvae in a large semi-enclosed meso-tidal estuary. New Zealand Marine Sciences Society Conference, 6-9 July, Auckland, New Zealand.
- Allen P & Smith H. 2014. The New NZ: Methods for Reimagining the Identify of Aotearoa NZ. Proceedings Architectural Design Research Symposium, Venice, 20-21 Nov 2014, (pp. 56-59).
- Allen P & Smith H. 2014. Bicultural Design Studio Exhibition Display. 8th International Biennial of Landscape Architecture in Barcelona, Spain (25 Sept 2014) –received a “Special Mention award for ‘heritage’ by the conference jury”.
- Smith, H. 2014. Keynote Presentation at Museums conference He Tau Whakawhiti: Shifting From Repositories of Objects, To Agents of a Holistic Reconnection- An Environmental Response To Indigenous Museum Collections, Museums, Collecting, Agency: A Symposium, 1-2 April 2014, Australian Museum, Sydney, Australia.
- Smith, H. Oct 2014. Presentation on MTM research at a workshop with key staff at Art + Environmental Conference, Nevada Art Museum, Reno, Nevada.
- Spinks, A. 2014. Presentation on Manaaki Taha Moana at Te Aho Summit (14 October 2014).
- Spinks, A. 2014. Presentation on Manaaki Taha Moana at Tainui-Waikato College for Research and Development (25 September 2014).
- Hardy, D.J. 2014. Integrative Wellbeing: From Theory to Implementation. International Ecological Economics Society Conference, Reykjavik, Iceland.
- Newcombe & Allen 2014. Hui presentation of report on shellfish survey: Kaimoana on beaches from Hokio to Ōtaki, Horowhenua coast.
- Newcombe E, Spinks A 2014. NZ Marine Sciences Society presentation: Kaimoana on beaches from Hokio to Ōtaki, Horowhenua coast.
- Clark, D, Ellis J, Taiapa C, et al. 2014. Tauranga Moana Broadcale survey. Presentation to Matariki hui, Tauranga.
- Patterson MG. 4 July 2014. An ecological economic analysis of the Tauranga Catchment. Presentation at Matariki Tauranga Harbour Symposium, Tauranga Yacht Club, Sulphur Point, Tauranga.

- Smith H. 4 July 2014. Manaaki Taha Moana: Enhancing Coastal Ecosystems for Māori: The Horowhenua experience. Presentation at Matariki Tauranga Harbour Symposium, Tauranga Yacht Club, Sulphur Point, Tauranga.
- McCallion A. 4 July 2014. Enhancing the expression of Kaitiakitanga: Information technology as an aid to community based monitoring. Presentation at Matariki Tauranga Harbour Symposium, Tauranga Yacht Club, Sulphur Point, Tauranga.
- Taiapa C. 4 July 2014. Mātauranga Māori and Marine Environmental Management. Presentation at Matariki Tauranga Harbour Symposium, Tauranga Yacht Club, Sulphur Point, Tauranga.
- Ellis J, Taiapa C, Clark D, et al. 4 July 2014. Tauranga Moana Broadscale Survey. Presentation at Matariki Tauranga Harbour Symposium, Tauranga Yacht Club, Sulphur Point, Tauranga.
- Allen & Smith 2013. Presentation of results of Waiwiri case study to NZ Hydrological Society
- Allen & Smith 2013. Presentation of results of Waiwiri case study to NZ Freshwater Sciences Society.
- Hardy DJ. March 2012. An introduction to Ecological Economics: socio-cultural, economic and ecological aspects of sustainability. Taiao Raukawa Wānanga, MTM Research with Victoria Univ 4th yr Landscape Architecture Students, Ngāti Tukorehe Marae ki Kuku, Horowhenua.
- Hardy D.J. 2012. Critical review of participatory action research methods for research with indigenous communities to restore socio-cultural, economic and ecological aspects of coastal health. ISEE 2012 Conference, Ecological Economics and Rio+20: Challenges and Contributions for a Green Economy, Rio de Janeiro, Brazil, 16-19 June 2012.
- Hardy, D.J. 2012. Coastal restoration research that considers socio-cultural, ecological and economic resilience of local communities with varying value systems: Insights from New Zealand. ISEE 2012 Conference, Ecological Economics and Rio+20: Challenges and Contributions for a Green Economy, Rio de Janeiro, Brazil, 16-19 June 2012.
- Hardy DJ. Dec 2011. Sustainable solutions for the wellbeing of socio-economic and ecological systems: an Ecological Economics perspective and an invitation to sociology. Paper presented at SAANZ annual conference. Victoria University of Wellington.
- Hardy DJ. 2011. Working across Cultures in Environmental Management: Bicultural Ecological Economics Research. Invited speaker, International Student Consortium, Tackling Global Issues hosted by Peter Horsley, 4 Feb 2011, Massey University.
- Hardy DJ. 2011. An Ecological Economics Approach to Addressing Issues of Over-Consumption, Ecosystem Degradation and Associated Socio-Cultural Decline. Invited lecture, Victoria University 4th year Landscape Design class, 7 April, Wellington.
- Ellis J. and Sinner J. 2011. Presentations on Health of Te Awanui Harbour (Sinner) and Broad scale survey (Ellis) at Tauranga Moana hui-a-iwi.
- Allen 2011. Presentation to landscape architecture class at Victoria Univ of Wellington.
- Hardy, D.J. 2010. Embracing Diverse Values and Knowledge Systems: The Challenges of Participatory Bicultural Research Programmes. 11th biennial ISEE Conference, Advancing Sustainability in a Time of Crisis, 24 Aug 2010, Bremen/ Oldenburg, Germany.
- Hoskins T. & Smith H. 2010. Presentation on Manaaki Taha Moana project and the concept of Mauri, at the 4th International Indigenous Conference on Traditional Knowledge, Kei muri i te awe kāpara he tangata kē – Recognising, engaging, understanding difference, held June 6–9, 2010 Auckland, New Zealand.
- Smith H. 2010. Enough is Enough Panel Address on research conducted for enhancing valued ecosystems within cultural landscape, at Landscape 10: The Power of Landscape, New Zealand Institute of Landscape Architects 2010 Conference, 15-16 April 2010, Museum of New Zealand Te Papa Tongarewa.
- Smith, H. 2010. Presentation on Manaaki Taha Moana research. Environment Institute of Australia and New Zealand, 23 March 2010.
- Smith, H. 2010. Presented seminar on MTM at Te Rau Whakapūawai: Māori Doctoral Symposium “Celebrating Māori Doctoral Achievement @ Massey”.

Other Technical Publications

Smith H. 2014. Kei Uta Exhibition Brief – Compelling Alternatives for Freshwater within Hinterlands.
Allan P and Smith H. 2013. The New New Zealand, Architectural Design Research Symposium. ISBN 978-0-475-12415-9

Online Tools, Software, Processes or Products

Various exhibitions - Victoria University 4th Year Landscape Architecture collaboration with Manaaki Taha Moana Horowhenua Case study. Ōtaki Library Exhibition (September 2014); exhibition at Overseas Passenger Terminal (31 October – 2 November 2014).

McCallion et al. 2011-2015. Participatory 3 dimensional modelling of Tauranga Harbour and its catchments (P3DM) (mtm.ac.nz) - a communicative tool to facilitate grassroots participation in problem analysis and decision-making. This tool utilises emerging information technology and systems design and has been designed to be used by hapū to develop participatory 3 dimensional modelling environments.

McCallion et al. 2012-2015. “Coastview” Aerial Capture using drone technology

McCallion et al. 2012-2015. Online Mapping Tools developed for the MTM project and Te Ohu Kaimoana.

McCallion et al. 2014-2015. Ikanet Fisheries toolset developed and deployed with Multiple Iwi

McCallion et al. 2010-2011. Online Digital Libraries for Tauranga Case study and Ngati Raukawa case study, Manaaki Taha Moana.

McCallion et al. 2009-2013 Pataka Whata and E-Fish Plus developed and deployed with multiple iwi.

MTM Monograph Series (Peer-Reviewed)

Sinner J, Clark D, Ellis J, Roberts B, Jiang W, Goodwin E, Hale L, Rolleston S, Patterson M, Hardy D, Prouse E, Brown S. 2011. Health of Te Awanui Tauranga Harbour. MTM Report 1.

Smith H, Spinks A, Hoskins T, Poutama M. 2011. State of Ecological/Cultural Landscape Decline of Horowhenua Coastline Between Hokio and Waitohu Streams. MTM Report 2.

Taiapa C, Bedford-Rolleston A, Rameka W. 2014. Ko te Hekenga i te Tai a Kupe, A Cultural Review of the Health of Te Awanui, Tauranga Harbour. MTM Report 3.

Van den Belt M, McCallion A, Wairepo S, Hardy D, Hale L, Berry M. 2012. Mediated Modelling of Coastal Ecosystem Services - a case study of Te Awanui Tauranga Harbour. MTM Report 4.

Allen C, Doehring K, Young R, Sinner J. 2011. Ōhau Loop Phase 1: Existing Status and Recommendations for Improvement. MTM Report 5.

Hardy DJ, Patterson MG, Smith H, Spinks A. 2011. Assessing the Holistic Health of Coastal Environments: Findings and Lessons from Cross-Cultural Participatory Research in Manaaki Taha Moana Research Phase 1. MTM Report 6.

Cole AC, McCallion A, Hardy DJ, Patterson MG. 2015. Utilising Information Technology to Assist Maori in Environmental Management: Vision for Manaaki Taha Moana. MTM Report 7.

Hale L, Wairepo S, Bedford-Rolleston A, Taiapa C. 2014. An Annotated Bibliography: Health of Te Awanui Tauranga Harbour. MTM Report 8.

Allen C, Sinner J, Banks J, Doehring K. 2012. Waiwiri Stream: Sources of Poor Water Quality and Impacts on the Coastal Environment. MTM Report 9.

Heasman KH, Keeley N, Sinner J. 2012. Factors Affecting Populations of Toheroa (*Paphies ventricosa*): A Literature Review. MTM Report 10.

Šunde C. 2012. Building Effective Cross-Cultural Relationships in Environmental Management: A Review and Critique of the International Literature. MTM Research Report 11.

Taiapa C, Rameka, W. (final draft). Mahinga Mataitai: An Assessment of Pipi & Tuangi Populations within Customary Harvesting Areas of Te Awanui Tauranga Harbour. MTM Report 12.

- Ellis J, Clark D, Hewitt J, Taiapa C, Sinner J, Patterson M, Hardy D, Park S, Gardner B, Morrison A, Culliford D, Battershill C, Hancock N, Hale L, Asher R, Gower F, Brown E, McCallion A. 2013. Ecological Survey of Tauranga Harbour. MTM Report 13.
- Patterson M, Gledhill L, Love A, Hardy DJ. (in peer review). Structure and Dynamics of the Tauranga Catchment Economy. MTM Report 14.
- Tangatatai T, Patterson MG, Hardy, DJ. (final draft). Cost Benefit Analysis of Riparian Planting of Waiwiri Stream, Horowhenua. MTM Report 15.
- Taiapa C, Hale L, Rameka W, Bedford-Rolleston A. 2014. Tauranga Moana, Tauranga Tangata: A Framework for Development of a Coastal Cultural Health Index for Te Awanui, Tauranga Harbour. MTM Report No 16.
- Taiapa C, Rameka W, Bedford-Rolleston A. (final draft). A Cultural Assessment of a Marine & Coastal Environment Using a Coastal Cultural Health Indicator Framework. MTM Report No 17.
- Smith H., Spinks A, Poutama M. (final draft). Matauranga Maori oral history narrative of the ecological and cultural health of Horowhenua coastline (working title). MTM Report 19.
- Smith H., Spinks A, Poutama M. 2015. HE TIROHANGA WHĀNUI : An Overview of Ecosystems undergoing Rehabilitation within Manaaki Taha Moana, Horowhenua Case Study. MTM Report 19.
- Clark D, Ellis J, Sinner J, Poutama M, Smith H, Spinks A. 2013. Proposal for Horowhenua surf zone shellfish study. Prepared for Manaaki Taha Moana (MTM). MTM Report 20.
- Goodwin E, Sinner J. 2013. Deriving a Sediment Pressure Layer for Tauranga Harbour. MTM Report 21.
- Newcombe E, Poutama M, Allen C, Smith H, Clark D, Atalah J, Spinks A, Ellis J, Sinner J. 2014. Kaimoana on beaches from Hōkio to Ōtaki, Horowhenua. MTM Report No. 22.
- Newcombe E, Smith H, Poutama M, Clark D, Spinks A, Ellis J, Sinner J. 2014. Faecal contamination of shellfish on the Horowhenua coast. MTM Report 23.
- *Newcombe et al. 2015. Towards reestablishment of toheroa in the Horowhenua: knowledge, risks, and next steps (working title). MTM Report 24.
- *TBD. 2015. Ōhau Loop Revitalisation Part 2 – Whitebait (working title). MTM Report 25.
- *TBD. 2015. Maori in Planning: Co-Management of Coastal-Marine areas and their Catchments. Massey University Planning Student Reports for Manaaki te Awanui MTM Case Study. MTM Report 26.

Media Reports Related to Manaaki Taha Moana Research

- 2014 Kuku Beach set for revitalisation. Horowhenua Mail, xx.
- 2013 Harbour health shows some moderate impacts. Bay of Plenty Times, March 8th.
- 2013 Who's doing what around Tauranga Harbour. Scoop News, February 28th.
- 2012 Harbour gets health check. Bay of Plenty Times, January 5th.
- 2011 Report states concerns for Tauranga Harbour health. Scoop News, December 2nd.
- 2011 Tauranga Harbour ecology survey underway. Taiao Raukawa. December 13th.
- 2011 Harbour health survey ahead. Sun Live, December 8th.
- 2011 Tauranga Harbour ecology survey underway. Voxy News, December 8th.

Exhibitions

Two national exhibitions have been held in relation to the Bicultural Design Studio work in MTM:

- Ōtaki Library Exhibition (September 2014); and
- Overseas Passenger Terminal (31 October – 2 November 2014).

A number of international presentations and exhibitions of MTM work have also been held:

- Architectural Design Research Symposium in Venice, Italy (20-21 Nov 2014); and
- 8th International Biennial of Landscape Architecture in Barcelona, Spain (25 Sept 2014) – at which it received a “Special Mention award for ‘heritage’ by the conference jury”