



## Rhys McIntosh

**Nationality:** New Zealand

**Profession:** Environmental Scientist

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### PRESENT POSITION:

- Environmental Scientist, eCoast Marine Consulting and Research

### SPECIALISATION:

Water quality modelling, hydrodynamic modelling, hydrological processes and modelling, coastal management, estuarine dynamics, environmental monitoring, data analysis, coastal geomorphology, web-based data delivery.

### YEARS OF EXPERIENCE:

- 4 years (consulting since 2014)

### KEY QUALIFICATIONS:

- Master in environmental Hydraulics, University of Granada, Spain.
- BSc with a double major in Environmental Science and Earth Sciences, University of Waikato, New Zealand.

### PERSONAL STATEMENT:

With a background ranging from inland hydrological processes to open ocean dynamics, Rhys McIntosh has a broad knowledge of the physical, biological and chemical properties of freshwater, marine and estuarine environments. Rhys specialises in modelling changes in hydrology, hydrodynamics and water quality under specific scenarios, as well as presenting model results in a web-based interactive format. In 2015 Rhys travelled to Granada, Spain to study a Master in Environmental Hydraulics, specialising in the Integral Management of Ports and Coastal Zones. In his master's thesis, which was undertaken in conjunction with eCoast, Rhys developed a method for modelling faecal coliform concentrations in Raglan Harbour. This process involved developing a suitable rainfall-runoff model to produce river flows, using multivariate linear regression to determine a relationship between coliform concentrations and an explanatory variable and modelling both hydrodynamics and water quality in Delft3D FLOW and Delwaq respectively.

### WORK HISTORY:

#### June 2017 – Present

Environmental Scientist, eCoast Marine Consulting and Research, Raglan, New Zealand.

#### November 2014 – August 2015, October 2016 – June 2017

Intern, eCoast Marine Consulting and Research, Raglan, New Zealand.

#### November 2012

Research Assistant, University of Waikato, Hamilton, New Zealand.

## SPECIALISED SKILLS/TRAINING AND OTHER BACKGROUND

- Numerical modelling: Delft3D FLOW, Delwaq, Delft3D Flexible Mesh, HEC-RAS, INCA, ComMIT, DualSPHysics, DHI Mike
- Computer programming and data processing: MATLAB, R, Blender, Surfer, CloudCompare
- Web-based data delivery: Leaflet, Shiny
- GIS: QGIS, Image rectification, Google Earth Pro
- Experienced with a range of environmental monitoring procedures including water sampling and the deployment of instruments such as sondes

## NATIONAL AND INTERNATIONAL CONFERENCES ATTENDED

- New Zealand Coastal Society (NZCS) Tairāwhiti – Gisborne, November 2018
- New Zealand Coastal Society (NZCS) Conference. Tauranga Moana, November 2017

## THESIS

- McIntosh, R. (2016). *Modelling coliform concentrations in the Raglan Harbour, New Zealand*. Unpublished Master in Environmental Hydraulics thesis, University of Granada, Granada, Spain.

## PUBLICATIONS SUMMARY:

### Peer-reviewed publications

#### 2015

Greer, D., **McIntosh, R.**, Harrison, S., Phillips, D., and Mead, S., (2015) Understanding Water Quality in Raglan Harbour, Australasian Coasts & Ports Conference 2015

### RESEARCH (Incomplete) – Note, many consulting projects incorporate components of research.

#### 2016-2018

Mead, S. T., E Atkin, **R. McIntosh**, S. O'Neill and N. Ducharneau. 2016-2018. *Development of an Inland Surfing Facility – Numerical and Physical Modelling*. Funded by Surf Generation and Callaghan Innovation.

### ABSTRACTS (Incomplete)

**McIntosh, R.**, Atkin, E.A., and Davies-Campbell, J., 2018. Development of an Automated Peel Angle Detection System for the Manu Bay Surf Break, Raglan, New Zealand. New Zealand Coastal Society (IPENZ) Conference. Gisborne, New Zealand, November 2018.

**McIntosh, R.**, Mead, S. T., D. Greer and S. O'Neill, 2017. Upgrading the Goodman Fielder Poultry Processing Facility in the Rewa River catchment, Fiji and subsequent impacts on downstream water quality. New Zealand Coastal Society (IPENZ) Conference, Tauranga, New Zealand, 15-17 November 2017.

### CONSULTING AND TECHNICAL REPORTS (incomplete)

#### 2021

Greer, D., **McIntosh, R.**, Mead, S., 2021, Clive River Dredge Disposal Fate Modelling, Prepared for Hawkes Bay Regional Council

#### 2020

Greer, D., **McIntosh, R.**, Borrero, J. (2020), Whangārei Harbour Stormwater Dilution Modelling, Prepared for Northland Regional Council.

#### 2019

Greer, D., **McIntosh, R.**, O'Neill, S., 2019, Long Term Hydrodynamic Modelling of Mozambique, Prepared for Deakin University, August 2019

Greer, D., **McIntosh**, R., O'Neill, S., E. Atkin, 2019. Phu Coung Soc Trang Offshore Wind Farm Project: Metocean Data Overview. Prepared for Mainstream Renewable Power and the Phu Cuong Group. Spencer gulf.

Mead, S. T., D. Greer, R. **McIntosh**, J. Davies-Campbell and E. Atkin, 2019. *Oceania Ocean Outfall Dispersion Modelling*. Prepared for Babbage Consultants, July 2019.

**2018**

Greer, D., **McIntosh**, R., O'Neill, S., 2018, Long Term Hydrodynamic Modelling of Sulawesi, Prepared for Deakin University, March 2018

**2017**

O'Neill, S. **McIntosh**, R., Borrero, J.C., and Mead, S.T., Hydrodynamic Modelling of Northlands CFHZ's. Prepared for Northland Regional Council, October 2017.

O'Neill, S., R. **McIntosh**, J. C. Borrero and Mead, S. T., 2017. Hydrodynamic Modelling of Northland CFHZ's. Prepared for Northland Regional Council, October 2017.

**McIntosh**, R, Mead, S. T., D. Greer and S. O'Neill, 2017. Hydrological Assessment for Goodman Fielder's Proposed Poultry Processing WWT Plant in Coloisuva. Prepared for Goodman Fielder, September 2017.

Mead, S. T., E Atkin, R. **McIntosh**, S. O'Neill and N. Ducharneau. 2017. SurfGen Physical Modelling Progress Summary: 8 April 2017. Report prepared for Surf Generation.

Mead, S. T., E. Atkin, R. **McIntosh**, S. O'Neill and N. Ducharneau, 2017. Surf Gen Modelling Progress

**2015**

**McIntosh**, R. and Greer, D., 2015, Raglan Water Quality Modelling – Domain Decomposition, Prepared for Waikato Regional Council.

**RESEARCH PROJECTS (incomplete)**

**2017-2018**

Development of an Automated Peel Angle Detection System for the Manu Bay Surf Break, Raglan, New Zealand. Funded by the Ministry of Business, Innovation and Employment.

**2016-2017**

Creation of a Web-Based Flow and Water Quality Forecast for Rivers in the Waikato Region, New Zealand. Funded by Callaghan Innovation.

**2014-2015**

Modelling Water Quality in the Raglan Harbour, New Zealand. Funded by Callaghan Innovation.