



Jamie Ruprecht

Research Associate

Jamie is an internationally recognised estuaries and wetlands expert specialising in field, laboratory and numerical modelling studies related to estuarine dynamics and wetland hydrology. Jamie completed his PhD on biophysical linkages in estuaries in 2021. He was born and raised in the Manning Valley, where his family operates a fourth-generation oyster farming business on the Manning River.

Jamie completed his Masters Thesis in 2015 on the stability of tidal inlets in restored coastal wetlands. He was the lead project engineer working on the Big Swamp Restoration Project and the Lower Manning River Drainage Remediation Action Plan, and a 3-year, water quality monitoring program at the Big Swamp site.

Jamie has also recently completed several extensive boat wave-riverbank vulnerability assessments on the Hawkesbury, Clarence, and Williams Rivers, NSW. Jamie is currently working on several large wetland restoration projects (both research and applied) throughout NSW.

Qualifications

BE Hons 1 (Civil Engineering), UNSW, 2009
MEngSc (Water Resources), UNSW, 2015
PhD, UNSW, 2021

Professional history

2021-: Research Associate, UNSW WRL
2010-: Project Engineer, UNSW WRL
2009: Junior Engineer, Pells Sullivan Meynink
2008-2009: Research Student, UNSW

Awards and Grants

2016: Finalist International River Foundation Emerging River Professional Award
2015: NSW Green Globe Award, Big Swamp Recovery
2014: Engineers Australia's Excellence Award (Sydney Division), Tomago Wetlands Rehabilitation Project
2014: NSW Environmental Trust Grant for Restoration and Rehabilitation, Tomago Wetlands
2014: Habitat Action Grants, Manning and Shoalhaven River
2013: Habitat Action Grant, Tomago Wetlands
2013: National Trust of Australia's Natural Heritage Award, Tomago Wetlands
2009: D.N. Foster Memorial Fellowship Award
2008: UNSW Australia Taste of Research Scholarship
2005-2009: Stan Hall Rural Scholarship

Expertise

- Coastal wetland restoration, upland peat swamps
- Catchment hydrology, estuarine processes, ecohydraulics
- Riverbank vulnerability via Decision Support System
- Field data collection, surveying and spatial data analysis
- Numerical and physical modelling
- Contaminant fate and transport (tracer studies)

Summary of relevant experience

Physical modelling

Adelaide desalination plant drop structure, SA
Abbot Point MCF baseline 2D/Q3D and ECI stage 2D, QLD
Gladstone tug berth marina pontoons, QLD
Coffs Harbour eastern breakwater, NSW
Assessment of barotrauma on fish health, NSW Fisheries

Numerical modelling

Hunter River water quality, NSW
Shoalhaven Heads water quality improvement study, NSW
Big Swamp hydrologic study, NSW
Rarotonga climate change investigation, Cook Islands
Ranger Mine hydrodynamic modelling, QLD

Coastal and estuarine processes

Melville Bay wave hindcasting and particle tracer study, NT
Coastal zone management plan for Eurobodalla Shire Council
Assessment of air-sea-land interaction processes on modelled and observed coastal extratropical cyclones

Wetland hydrology and restoration

Upland peat swamp hydrology and research, NSW
Tomago Wetlands rehabilitation project, NSW
Gumma Gumma Swamp hydrological assessment, NSW
Big Swamp restoration project, NSW
Area E wetland restoration, Kooragang Island, NSW
Wyong salt marsh investigation, NSW
Jersey Avenue wetland remediation, NSW
Manning River ASS drainage remediation action plan, NSW
Everlasting Swamp restoration project, NSW

Environmental monitoring

Riverbank vulnerability assessment using a decision support system (DSS): Williams, Clarence, Hawkesbury Rivers.
Christchurch ocean outfall, New Zealand
Sydney desalination plant compliance, NSW
Brooklyn/Dangar Island outfall, NSW
Hawkesbury-Nepean River flow gauging, NSW