



"Where will our knowledge take you?"

Ports

Water and Environment Solutions



BMT WBM in Ports



BMT WBM Pty Ltd is a leading edge water and environmental consultancy with more than 40 years national and international experience assisting port and maritime clients.

We employ approximately 185 staff, consisting of highly qualified engineers, ecologists, water quality scientists, field technicians and office personnel. Founded in Brisbane, Australia, BMT WBM has expanded to include offices across Australia, North America and the United Kingdom.

BMT WBM is part of the BMT Group of Companies. Formed in 1985, BMT is the largest independent maritime research and technology organisation in the world with over 30 offices over 5 continents. BMT provides services to industry, commerce, policy-makers, regulators and public sector operators in the fields of energy and environment, transport and defence on a global basis.

BMT by the numbers

1969 WBM started	1900's BMT beginnings	40 Years of Port and Maritime projects
2&3D Coastal Modelling	20+ Current Port Authority clients	11 BMT WBM offices
21 BMT Companies	1200 BMT employees	40+ Specialist Marine staff

BMT WBM has a long history of providing consultancy services to the ports sector and we work closely with our clients through all stages of a project to provide solutions to engineering and environmental challenges.

Engaging BMT WBM provides our clients access to:

- Our staff who are continually pioneering ways to do things better for our clients and our industry-leading work
- Our cross-disciplinary expertise allowing us to provide an integrated marine engineering and environmental solution to our clients including field data collection
- Robust and defensible technical assessments using our in-house numerical modelling software TUFLOW FV and other state-of-the-art tools
- Our strong relationships with regulatory agencies and a proven track record with gaining approvals
- Our professional reporting, presentation and communication skills

Our Capabilities



Coasts and Metocean Processes

Our key services include:

- Baseline and impact data collection to support 2D and 3D modelling
- Hydrodynamic (HD), Advection Dispersion (AD) and morphological modelling in 2D and 3D
- Dredging impact and siltation assessments
- Turbidity plume and water quality assessments
- Model scenarios and outputs suitable for ship simulators
- Model output delivery through FEWS
- Erosion and storm tide inundation assessment and mapping
- Shoreline erosion and sea level rise hazard definition
- Tsunami modelling
- Specialist dredging advice
- Coastal structure design and construction supervision
- Expert services including peer review

Water and Sediment Quality

Our key services include:

- Marine water quality data collection and analysis
- Marine sediment quality sampling and analysis in accordance with the National Assessment Guidelines for Dredging and other standards
- Porewater nutrient and chemical analysis
- Assessment against regulatory water and sediment quality objectives
- Dredged material management including placement at sea, in reclamation and on land
- Dredged material placement option assessment including multicriteria analysis



Environmental Management

Our key services include:

- Environmental Impact Assessment and EIS documentation
- Environmental and Dredge Management Plans
- Marine ecology field survey and assessment
- Development and review of both project-specific and long term environmental monitoring programs
- Approval documentation and management
- Marine megafauna assessments
- Environmental audits and due diligence studies
- Marine pest surveys (vessel and facilities)
- Environmental offset strategies and plans (coastal and marine environments)

Water Management

Our key services include:

- Stormwater management strategies across Port lands and tenancies
- Flood hazard and risk assessments
- Integrated Water Cycle Management (IWCM) studies
- Incident reporting and oil spill management
- Water efficiency audits and advice



Our Experience

Port of Brisbane Environmental Monitoring Program

Client:

Port of Brisbane Pty Ltd
Brisbane, Queensland,
Australia

BMT WBM was engaged by the Port of Brisbane P/L to undertake the port's environmental monitoring sub-programs over the period 2013-19. The program includes monitoring of the condition of environmental assets (seagrass, mangroves, groundwater, surface water, reef flora and fauna), as well as potential stressors (weeds, dredge plumes, and marine pests).

Project Outcomes:

- Assessment of the health and long term trends in the condition of the environment both within and around the port; and
- Provision of environmental data and information that supports and informs current and future port planning and projects



Dredge Plume Monitoring and Model Validation Studies

Client: Port of Gladstone

Project Location: Gladstone, Queensland, Australia



BMT WBM was engaged by Gladstone Ports Corporation to measure the properties of suspended sediment plumes produced by dredging activity within the Port of Gladstone. The measurements were used to validate a numerical model of the system and to assess potential environmental effects.

Project Outcomes:

- Assessment of extent and influence of dredging-related plumes to determine potential environmental impacts; and
- Provide information that supports and informs environmental assessments, port planning and management activities.

Cairns Shipping Development Project EIS

Client: Ports North

Project Location: Cairns, Far North Queensland, Australia

BMT WBM with project partner Arup was engaged by Ports North to carry out a demand study, baseline data collection and prepare a draft Environmental Impact Statement for the Cairns Shipping Development Project. The project involved an extensive assessment of land and marine dredge material disposal options as well as a comprehensive assessment of potential impacts from capital dredging and placement associated with the proposed project.

Project Outcomes:

- Collection of an integrated marine field data set including waves and currents, water quality, sediment quality and benthic ecology
- Development of a fully three-dimensional coastal and water quality model of Trinity Bay that met strict regulatory guidelines for data collection and model calibration including independent peer review
- Preparation of an EIS that met the Terms of Reference and Guidelines set by the State and Federal Government



Kijing Greenfield Port Pre-Feasibility Metocean Study

Client:

BMT Asia Pacific

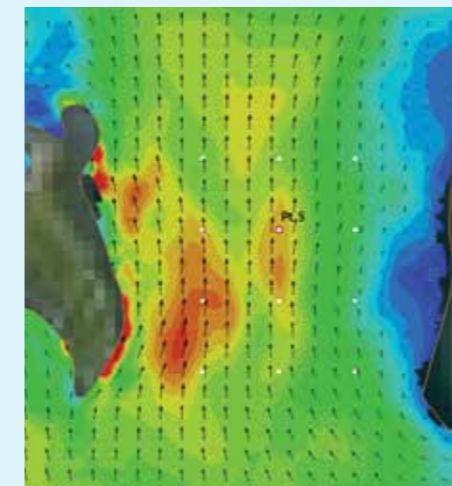
Project Location:

West Kalimantan, Indonesia

BMT WBM was engaged by BMT Asia Pacific to carry out a pre-feasibility metocean study to assess preliminary wave and current conditions for the proposed port. This included an assessment of the requirement for a breakwater to protect ships at berth and potential scour and sedimentation around the facility.

Project Outcomes:

- Development of two-dimensional wave and hydrodynamic models of the region using boundary data derived from global datasets
- Assessment of extreme wave and current fields suitable for pre-feasibility design
- Assessment of the requirements for a breakwater
- Assessment of sedimentation and scour around the facility



Darwin Harbour Marine Habitat Survey

Client:

iX Survey Australia for the NT Government

Project Location

Darwin, Northern Territory, Australia

The marine habitat survey of East Arm and other areas of Darwin Harbour provided an assessment of benthic habitats at representative areas throughout the harbour.

Project Outcomes:

- Definition of location, extent and characteristics of reefs and other sensitive ecological receptors
- Development of a baseline data set for use in impact assessment studies and port planning studies

BMT WBM has a proven record in addressing today's engineering and environmental issues.

We aim to continue to enhance our services, capabilities and areas of application to meet the community's future development and environmental protection needs.



1 Number of BMT WBM offices in region

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