Jeremy Visser
BMT WBM Pty Ltd

Presentation

The use of approval frameworks to secure long-term adaptation outcomes

Biography

BMT WBM Pty Ltd is a leading environmental and engineering consultancy, with over 40 years of experience working within the coastal and aquatic environments. The company provides expertise in coastal engineering and science, aquatic and terrestrial ecology, environmental planning and approvals, environmental impact assessment, water quality and sedimentation, hydrology and hydraulics, and expert legal services. BMT WBM has been responsible for the development of numerous shoreline erosion management plans (SEMPs) covering much of the Queensland and New South Wales coastline, and has also developed several guidelines and tools for assessing risk and coastal development.

Jeremy Visser is an Environmental Consultant with the Ecology and Environmental Management team of BMT WBM. Jeremy has a Bachelor of Laws (with Honours) and a Bachelor of Environmental Management (with Honours), has 7 years of experience in environmental planning, policy and management. During his time with BMT WBM, Jeremy has been heavily involved in coastal management and planning work, including numerous coastal and dredging approvals studies. He was the lead planning consultant for both SCC adaptive management approval projects, and has contributed significantly to developing planning and environmental management frameworks for similar approaches across southeast Queensland. Jeremy also co-authored an update to the Queensland Dune Management Guidelines.

Jeremy is an Associate Member of the Environment Institute of Australia and New Zealand and also a member of the Queensland Environmental Law Association (QELA). As part of his role as Environmental Consultant at BMT WBM, Jeremy also coordinates environmental auditing activities for the Marina Industries Association (MIA) as part of their Clean Marina and Fish Friendly Marina accreditation programs.

Abstract

The effects of climate change present unique challenges for long-term planning in coastal environments. In particular, sea level rise and increased storm intensity and frequency reduces the 'certainty' of decision-makers and proponents in regards to coastal development and infrastructure.

In light of this challenge, BMT WBM has been involved in pioneering an adaptive management approach for coastal development based on existing approvals

mechanisms. This approach is risk-based, drawing on parallels from adaptive management concepts that are already used in environmental management, but with specific application to decision-making for coastal development. The approach utilises 'triggers', identified through best practice coastal science and engineering, as the basis for an increasing intensity of management actions over an extended planning horizon. Once secured through an approvals framework, these triggers allow for proponents to progressively adapt to a changing environment while still providing certainty to regulators that all relevant environmental and planning interests will be met.

In order to adopt this approach into an approvals framework, it has been necessary to utilising existing approvals mechanisms in a novel way. This includes the use of Preliminary Approvals that map out future investigations and approval application, and the use of Compliance Assessment to ongoing agency involvement, where appropriate, in the management actions.

Practical examples will be provided in the paper based on successful proposals undertaken by BMT WBM for local government and other authorities in southeast Queensland.

BMT WBM

"Where will our knowledge take you?"

The use of approval frameworks to secure long-term adaptation outcomes

Jeremy Visser

Brisbane | November, 2016

Environment Institute of Australia and New Zealand Inc.

Adaptive Management through Development Approvals

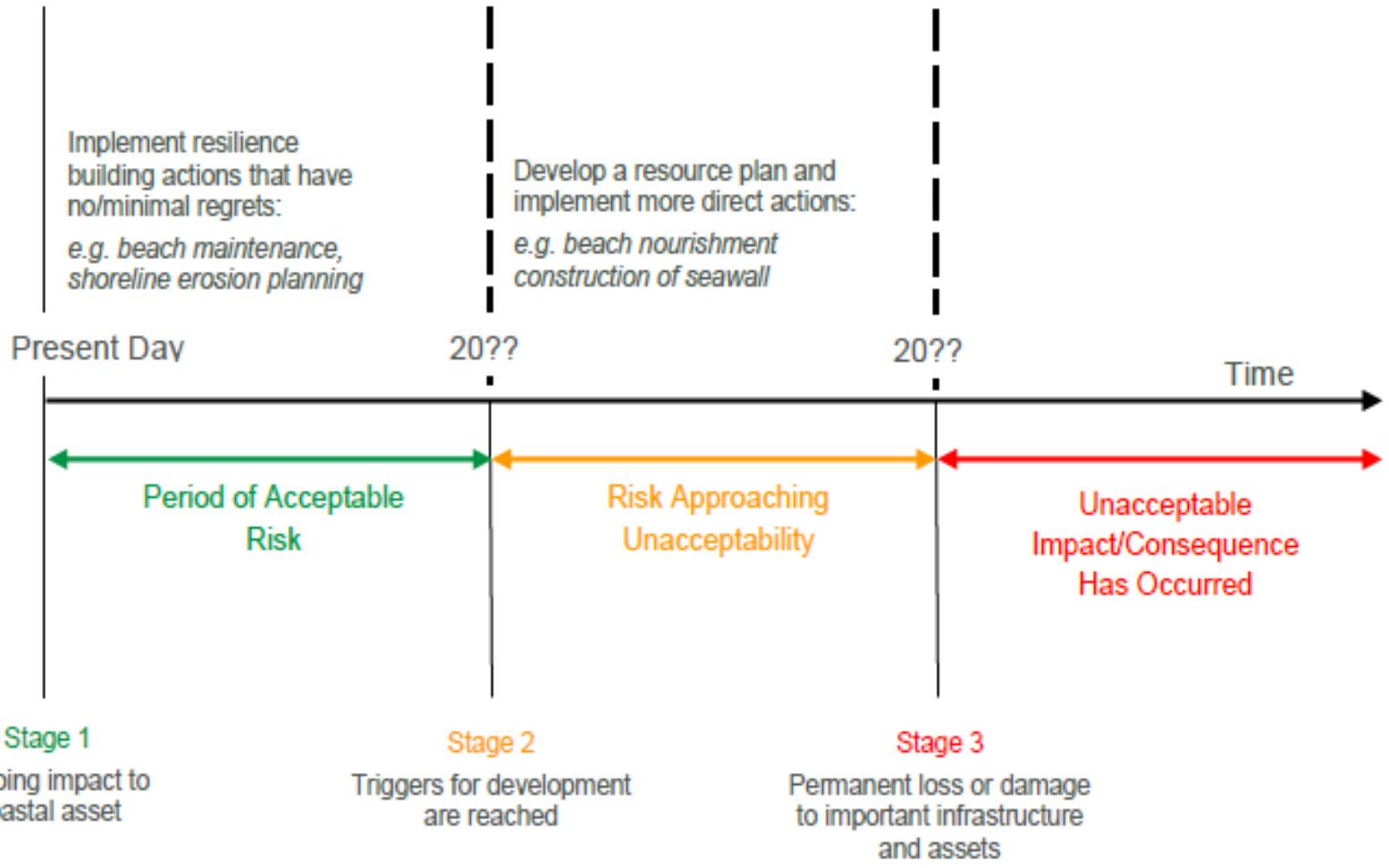
Key elements to DA approach:

- Conceptual planning outcome to be achieved
- Interim implementation actions linked to triggers
- Monitoring actions to verify when triggers are reached
- Extended ‘sunset clause’

Applicable for Development Permits, Preliminary Approvals and Environmental Authorities

Opportunities for linkages to Compliance Assessment under *Sustainable Planning Act 2009*

Management/Adaptation Toolkit



Maroochydore Ocean Beaches Seawall

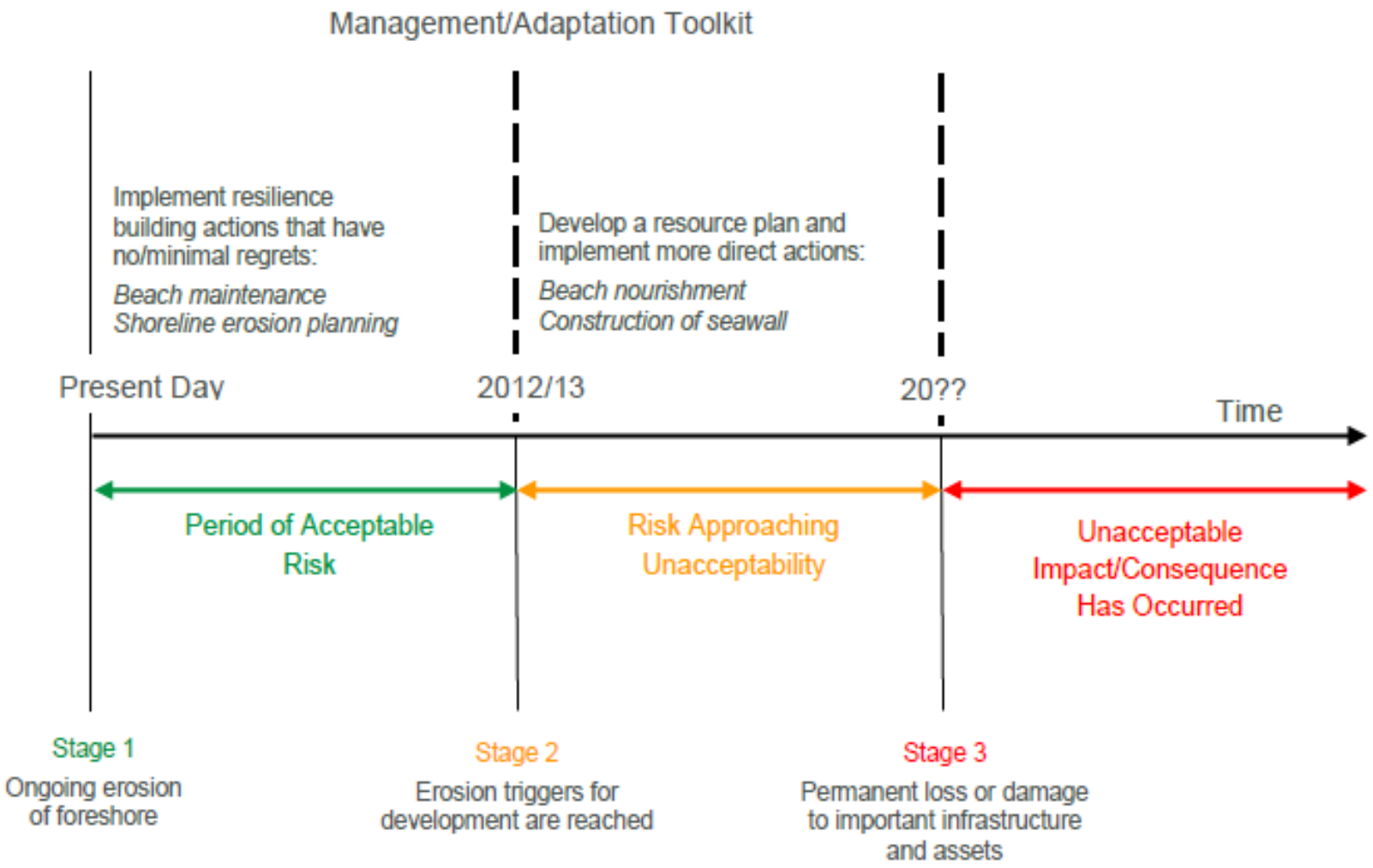
Risk that infrastructure could be significantly impacted from erosion caused by a design event

Preferred development outcome:
Construction of a seawall before assets were under immediate risk

Maroochydore Ocean Beaches Seawall

Key DA Elements:

- Single seawall alignment across the beach unit, with clearly state planning outcomes to be achieved
- Trigger levels for three smaller management units, based on erosion buffer between the crest of the foredune and edge of assets
- Monitoring actions linked to triggers
- Currency period up to 2050
- Requirement for submission of detailed design information and Construction EMP to EHP for compliance assessment prior to commencement of construction

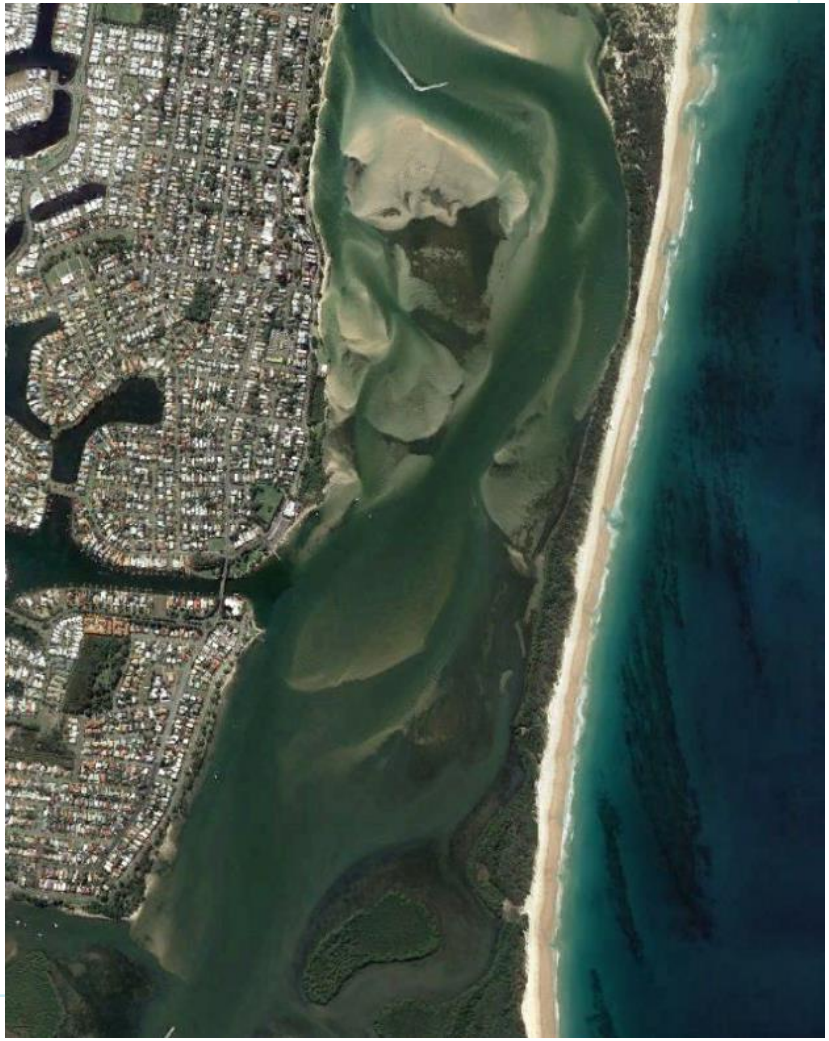

Management/Adaptation Toolkit
Implement resilience building actions that have no/minimal regrets:
Beach maintenance
Shoreline erosion planning
Develop a resource plan and implement more direct actions:
Beach nourishment
Construction of seawall
Present Day
2012/13
20??
Time
Period of Acceptable Risk
Risk Approaching Unacceptability
Unacceptable Impact/Consequence Has Occurred
Stage 1
Ongoing erosion of foreshore
Stage 2
Erosion triggers for development are reached
Stage 3
Permanent loss or damage to important infrastructure and assets

Pumicestone Passage Dredging

Risk of significant erosion at Golden Beach as a result of Bribie Island breakthrough and/or sea level rise

Preferred development outcome: Large-scale beach nourishment works using material accessed from Pumicestone Passage

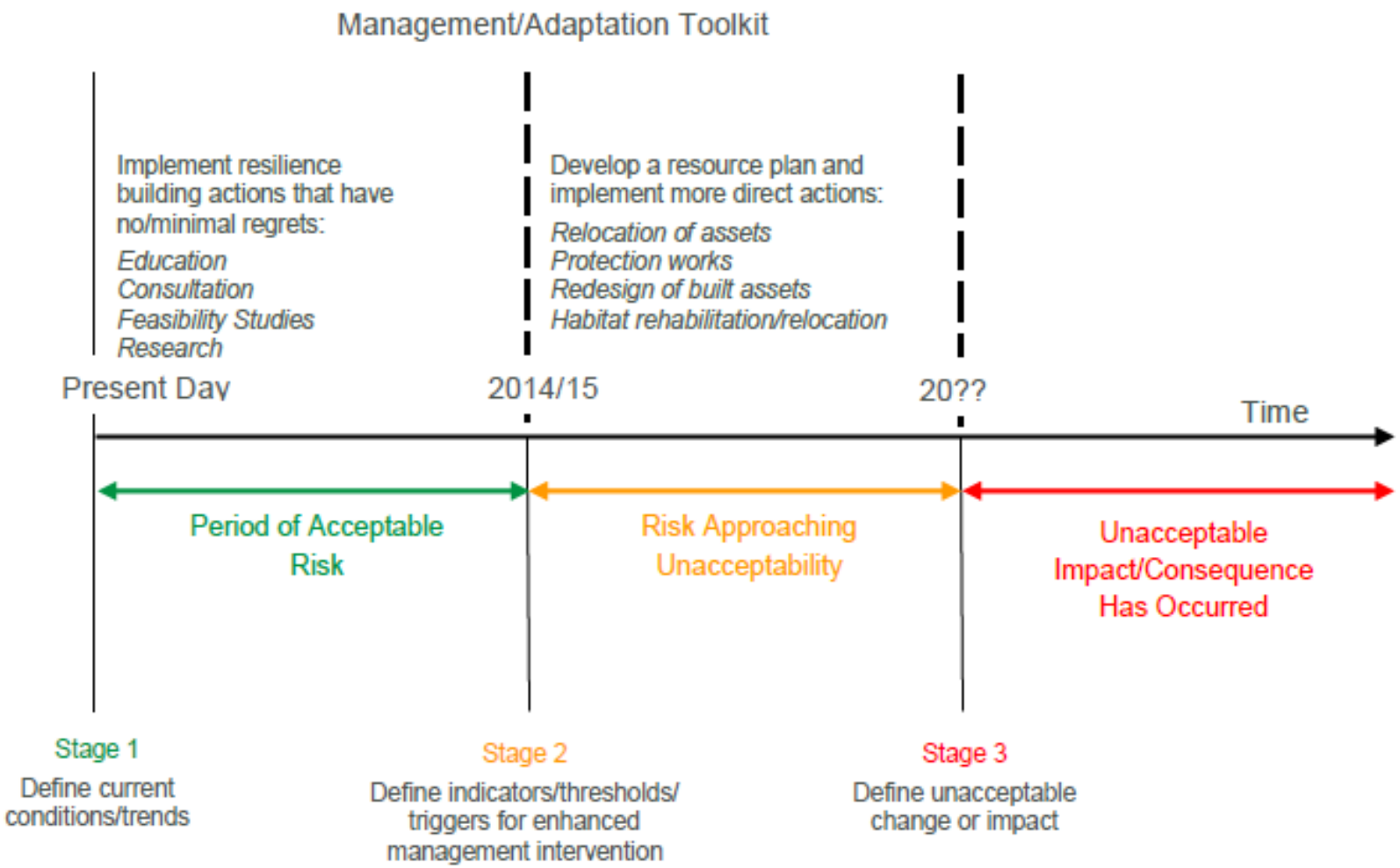
These works are a part of a broader approvals strategy, developed under the *Golden Beach and Bribie Island Breakthrough – Options, Design, Approvals and Investment Plan* (2015)



Pumicestone Passage Dredging

Key EA Elements:

- Identification of a required sand volume with a broad area in which dredging may occur in order to obtain this volume
- Trigger levels for commencement of dredging based on occurrence of breakthrough or the need for additional sand to meet existing nourishment needs
- Monitoring actions linked to triggers
- Environmental management framework for management and defining dredging activities
- 15 year currency period
- Annual fees to be introduced only once development triggers have been met


Management/Adaptation Toolkit
Implement resilience building actions that have no/minimal regrets:
Education
Consultation
Feasibility Studies
Research
Develop a resource plan and implement more direct actions:
Relocation of assets
Protection works
Redesign of built assets
Habitat rehabilitation/relocation
Present Day
2014/15
20??
Time
Period of Acceptable Risk
Risk Approaching Unacceptability
Unacceptable Impact/Consequence Has Occurred
Stage 1
Define current conditions/trends
Stage 2
Define indicators/thresholds/ triggers for enhanced management intervention
Stage 3
Define unacceptable change or impact

Thank you