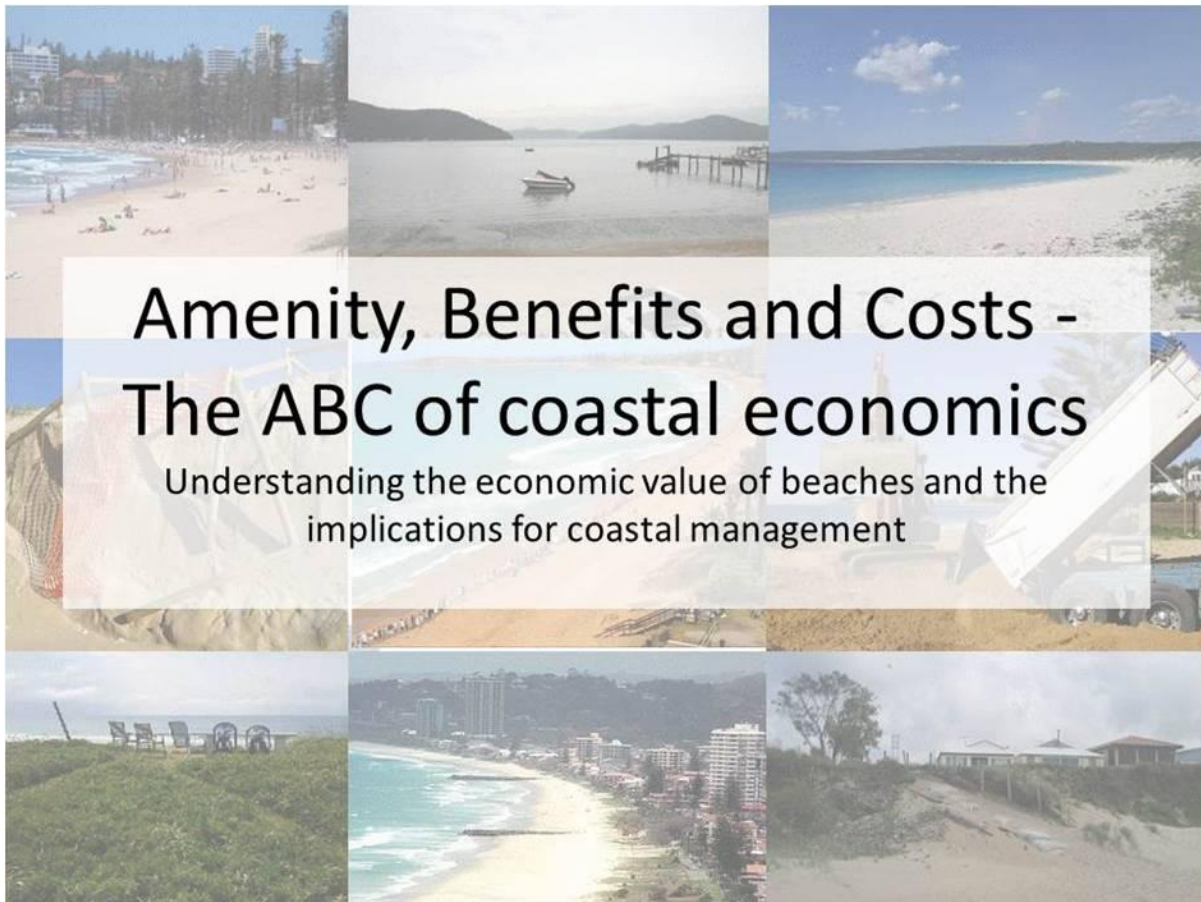




ABC OF COASTAL ECONOMICS FORUM REPORT
BONDI SURF BATHERS' LIFE SAVING CLUB
THURSDAY 28 NOVEMBER 2013



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The project titled Beach and Surf Tourism and Recreation in Australia: Vulnerability and Adaptation (BASTRA) was funded by the Fisheries Research and Development Corporation and the Department of Climate Change and Energy Efficiency on behalf of the Australian government. It was funded under the National Climate Change Adaptation Research Plan for Marine Biodiversity and Resources. Financial assistance was also provided in the form of monetary contributions from the Griffith Centre for Coastal Management, and the Sydney Coastal Councils Group



ABC OF COASTAL ECONOMICS REPORT CARD

Date: 28 November 2013
Place: Bondi Surf Bathers' Life Saving Club
Time: 9:00 a.m. – 3:00 p.m.
Number of speakers: 5
Number of participants: 34
Organisations in attendance:

Member Councils	Other organisations
Hornsby Shire Council	Australian Coastal Society
Manly Council	Bond University
Pittwater Council	CSIRO
Randwick City Council	Destination NSW
Sutherland Shire Council	Geoscience Australia
Waverley Council	Lets Go Surfing
Woollahra Municipal Council	Marine Explorer
	NSW Department of Planning & Infrastructure
Other Councils	NSW Department of Primary Industries
Shoalhaven City Council	NSW Office of Communities
	NSW Office of Environment & Heritage
	NSW Trade & Investment
	Surfrider Foundation Australia
	Sydney Institute of Marine Science
	University of Adelaide
	University of New South Wales



AGENDA

Session 1: Exploring the Interactions between Economics and Coastal Management

INTRODUCTION AND WELCOME

Mr Geoff Withycombe, Executive Officer, Sydney Coastal Councils Group

VIDEO WELCOME AND INTERNATIONAL PERSPECTIVE

Dr Linwood Pendleton, Director Ocean and Coastal Policy Program, Duke University, North Carolina

Linwood provided some insights into the interaction between coastal policy and economics from his experience in the United States, both in academia and in government.

COASTAL POLICY AND RESOURCE MANAGEMENT

Professor Nick Harvey, School of Social Sciences, University of Adelaide

Nick provided a national perspective on coastal policy and the key drivers and obstacles to effective planning and management in the coastal zone.

ECONOMIC TOOLS FOR COASTAL DECISION MAKING

Dr Neil Lazarow, Senior Research Scientist, Science into Society Group, CSIRO

Neil outlined some of the economic approaches applied in the Coastal Adaptation Decision Pathways program, and the way they can inform the response to climate change in the coastal zone.

Session 2: Coastal Economics in Practice: Results from two recent Research Projects

THE SYDNEY BEACHES VALUATION PROJECT

Dr Dave Anning, Senior Research Assistant, Bond University (formerly PhD Candidate at UNSW)

Dave detailed the key findings of his PhD research into the economic value of Sydney beaches, using multiple case studies and a range of valuation tools to inform key policy issues in the region.

BEACH AND SURF TOURISM AND RECREATION IN AUSTRALIA: VULNERABILITY AND ADAPTATION

Dr Mike Raybould, Associate Professor of Tourism Economics, Bond University

Mike summarised the results of a two-year national tourism and recreation valuation project. Case studies were undertaken in four states, with a focus on coastal-dependent communities.

Session 3: Case Study Workshop

CASE STUDY WORKSHOP

Convened by **Dr Dave Anning** and **Dr Mike Raybould**

Presentation and discussion of a number of case studies that demonstrated how economic values have been applied in coastal management decisions and planning processes. Both local and national examples were explored.

1 INTRODUCTION

The SCCG and Bond University are pleased to report on the outcomes of **Amenity, Benefits and Costs: The ABC of Coastal Economics**, held on 28 November 2013 at Bondi Surf Bathers' Life Saving Club. Thirty-four participants attended the Forum, representing 21 organisations.

Economics is increasingly being used to quantify the value of natural resources. Not only is this important for understanding the contribution of our environment to the economy, or the cost of losing or degrading our natural resources, it also helps people to appreciate the value of our environment in terms that they may more readily understand or associate with.

Building on our 2011 forum on [Economics, Management & the Coastal Zone](#), this Forum aimed to demonstrate the value of economic tools and information in coastal planning and management, particularly in relation to coastal hazards, risk and preservation of beaches. This was achieved by exploring the role of economics in coastal policy more broadly and then looking at practical applications of economic tools and analysis in coastal management and planning.

The Forum brought together experts from around the country and as far afield as North Carolina, USA to share insights into their research on coastal economics. From planning and management, to climate change adaptation, beach recreation and tourism – the presentations demonstrated just how complex the interface between economics and our coastal zone is.

The Forum also provided the opportunity to showcase outcomes from two recent research projects supported by the SCCG, which estimated the economic values associated with the desire to visit and live near the coast - the *Sydney Beaches Valuation Project* and *Beach and Surf Tourism and Recreation in Australia: Vulnerability and Adaptation*.

Overview

The Forum was split into three sessions:

Session 1: Exploring the Interactions between Economics and Coastal Management

The day started with a video welcome from [Dr Linwood Pendleton](#), Director of the Ocean and Coastal Policy Program at Duke University, North Carolina USA. Dr Pendleton provided an insight into the interaction between coastal policy and economics from his experience in the United States, both in academia and government.

This was followed by a presentation from Professor Nick Harvey, Director of the Centre for Coastal Research at the University of Adelaide and President of the Australian Coastal Society. Professor Harvey provided an overview of the history of coastal policy in Australia and the social, political and economic factors that have influenced that history.

The final speaker for Session 1 was Dr Neil Lazarow, Senior Research Scientist at CSIRO, who discussed how the application of economic approaches for managing complex trade-offs to coastal decision-making has evolved with research into climate adaptation.

Session 2: Coastal Economics in Practice: Results from two recent Research Projects

The second session of the day showcased results from Dr Dave Anning's [Sydney Beaches Valuation Project \(SBVP\)](#) and Dr Mike Raybould's [Beach and Surf Tourism and Recreation in Australia: Vulnerability and Adaptation \(BASTRA\)](#), both supported by the SCCG.

The SBVP focused on estimating how valuable beaches and coastal areas are for coastal recreation and tourism, how people would respond to beach erosion, community willingness to pay for erosion prevention and the influence of beaches on coastal real estate values. The BASTRA project established benchmark values for residents' and tourists' recreational use of beaches that might be used in other areas in benefit-transfer approaches and cost-benefit analysis of proposed beach management projects.

Session 3: Case Study Workshop

Session 3 involved a participatory Workshop exploring the use of economic information in coastal management. It drew upon local and national case studies about investments in coastal protection, upgrading facilities in coastal parks and foreshore areas, and improving or maintaining coastal access points.

A summary of Workshop outcomes is provided in Part 3 of this report.



2 BIOGRAPHIES AND SYNOPSES

Dr Linwood Pendleton: Video Welcome and International Perspective

Director Ocean and Coastal Policy Program
Duke University, North Carolina USA

Biography

Linwood Pendleton directs the Ocean and Coastal Policy Program at Duke University's Nicholas Institute for Environmental Policy Solutions. Dr Pendleton's work focuses on policies that affect human uses and enjoyment of ocean and coastal resources – both living and non-living. He is the Director of the Marine Ecosystem Services Partnership, author of many scholarly articles, and coordinates the Marine Secretariat of the international Ecosystem Services Partnership. Dr Pendleton's current projects include work with the United Nations Environment Program's Green Economy Project, GRID Arendal's High Level Steering Committee on Deep Sea Mineral Resources in the Pacific, and Blue Carbon Economics (joint with Brian Murray, also from the Institute). He also served as Acting Chief Economist at the National Oceanic and Atmospheric Administration from January 2011 through August 2013.

Dr Pendleton holds a doctoral degree in resource and environmental economics from Yale University, a Master's degree in public administration from Harvard's Kennedy School, a Master's degree in ecology, evolution, and behaviour from Princeton and a Bachelor's degree in biology from the College of William and Mary.

Synopsis

Dr Pendleton provided a brief video presentation, sharing insights into the interaction between coastal policy and economics from his experience in the United States, both in academia and in government.



Link to presentation:

http://www.sydneycoastalcouncils.com.au/abc_coastal_economics

Professor Nick Harvey: Coastal Policy and Resource Management

School of Social Sciences
University of Adelaide

Biography

Professor Nick Harvey is the Director of the Centre for Coastal Research at the University of Adelaide and the President of the Australian Coastal Society. He was also a member of the South Australian Coast Protection Board for 7 years. Nick was one of the Lead Authors for the 4th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which in 2007 was jointly awarded the Nobel Peace prize. Nick has over 35 years experience in coastal research and has written around 200 scientific papers and books including the only comprehensive book on Coastal Management in Australia.

Synopsis

The creation of coastal policy and coastal management legislation is influenced by a number of factors such as public interest, lobby groups, political imperatives and government legislative processes, and conflicts between any of these can create barriers to policy formulation. Many policies refer to the 'triple bottom line' as a mechanism for achieving a balanced approach to resource management but in reality the economic, social and environmental issues are weighted differently depending on the particular development and the decision makers. In some cases it is difficult to make a balanced decision because there is a lack of data. For example in coastal management it is often difficult to determine the value of the coast.

This presentation explored some of the issues and problems in measuring the value of the coast from global, national and local perspectives. It concluded that the coast has a very high value globally. Its national importance has been recognised by successive governments for at least the last 40 years. At the state level different values attributed to the coast are brought into focus by multiple coastal resource uses such as recreation, conservation, tourism, fishing, property development and aquaculture to name a few. The presentation used examples to illustrate issues in dealing with the value of the coast at different levels.



Link to presentation:

http://www.sydneycoastalcouncils.com.au/sites/default/files/ABC_Harvey.pdf

Dr Neil Lazarow: Economic Tools for Coastal Decision Making

Senior Research Scientist
Science into Society Group, CSIRO

Biography

Neil is a social scientist (BA, PG (Dip), MA, PhD) with fifteen years of national and international experience across academia, government, industry and the not-for-profit sector. He is a Senior Research Scientist with CSIRO, and works on a number of national and international projects related to science-policy and climate adaptation.

Prior to joining CSIRO, Neil worked actively in the coastal management across a diversity of roles, including Board Member of Surfrider Foundation Australia and the Australian Coastal Society, Project Manager for Gold Coast City Council's Shoreline Management Plan 2005-2010 and Project Manager for the Coastal Adaptation Decision Pathways grant for the Commonwealth Department of Climate Change and Energy Efficiency 2010-2012.

Synopsis

Improving our understanding of economic approaches can assist coastal decision-makers manage the impact of climate hazards and reduce the exposure of coastal communities. Climate change has focussed attention on the trade-offs between managing risks for public and private assets along the Australian coast. Yet the climate change debate has also amplified conflicts between traditional 'protect-accommodate-retreat' approaches to coastal management, as risk-averse planning guidelines to manage future climate uncertainty often clash with the aspirations of private property owners who assert their rights to live in areas at risk of coastal erosion or inundation. Inappropriate or maladaptive options run the risk of causing significant financial impact to individuals and communities, as well as to degrade, devalue and possibly irreversibly alter natural systems and processes. These issues strike at the heart of community concerns over disparate values and mixed political messages about how to balance the public trust with private property rights.

This presentation demonstrated how the application of economic approaches for managing complex trade-offs to coastal decision-making has evolved with research into climate adaptation. The first generation of decision-making approaches emphasised the importance of the physical and built environments. More recent developments help us consider the complex trade-offs associated with uncertainty and path dependency. This presentation provided an overview of the economic approaches used in the 13 projects funded through the Australian Government's \$4.5 million *Coastal Adaptation Decision Pathways* grant. These approaches represent the second-generation of adaptation strategies - the development of an 'adaptation pathways' approach to managing current and future risks. However, implementing a decision-making process that considers multiple options and time-dependent pathways is a challenge for existing planning frameworks. This suggests that further effort is required before these approaches are broadly accepted and applied by communities, key sectors and government.

Co-authors: Dr Russell Wise, Dr Tim Capon, Dr Todd Sanderson



Link to presentation:

http://www.sydneycoastalcouncils.com.au/sites/default/files/ABC_Lazarow.pdf

Dr Dave Anning: The Sydney Beaches Valuation Project

Senior Research Assistant

Bond University (formerly PhD Candidate at UNSW)

Biography

Dave is a coastal scientist and environmental economist with a keen interest in the management and use of natural coastal resources. He holds a Bachelor of Science specialising in marine biology and a Masters of Environmental Management specialising in the management of nature-based tourism, both from the University of Queensland. He completed his PhD thesis at the University of New South Wales, on a topic titled 'Estimation of the economic importance of beaches in Sydney, Australia, and implications for management' and recently completed a Postgraduate Diploma of Economics at the University of New England.

Synopsis

The Sydney Beaches Valuation Project (SBVP) sought to estimate the economic value of selected beaches in Sydney in order to provide the necessary information to assist local and State government agencies to identify the most appropriate response to both existing coastal management pressures and to projected climate change impacts. The specific climate change impacts considered most critical for the region are shoreline recession and coastal erosion, which is likely to lead to the loss of beaches and damage to nearby public and private assets. The SBVP was conducted as a collaborative project between the Sydney Coastal Councils Group (SCCG) and the University of New South Wales (UNSW).

Dave's presentation looked at the non-market valuation methods (Travel Cost Method; Hedonic Pricing Method; Contingent Valuation) that were used to quantify the impact of partial or total beach loss on tourism and recreation revenue streams and the local property market, as well as people's willingness to pay for erosion prevention. The results of his analyses were presented and the implications for funding the management of coastal Sydney were discussed. Dave also talked about the challenges and lessons learnt through conducting the research.

An Overview & Summary report for the project is available [here](#).



Link to presentation:

http://www.sydneycoastalcouncils.com.au/sites/default/files/ABC_Anning.pdf

Dr Mike Raybould: Beach and Surf Tourism and Recreation in Australia: Vulnerability and Adaptation Beaches

Associate Professor of Tourism Economics
Bond University

Biography

Dr Mike Raybould joined Bond University in 2009 as Associate Professor of Tourism Management in the Faculty of Business. In previous lives he was a human resource officer for an international hotel company and a high school teacher. Mike has degrees from the universities of Kent and Exeter (in the UK) and Queensland and Griffith (in Australia). His research and consultancy interests lie primarily in tourism and environmental economics. His current research investigates the effects of climate change and adaptation to climate change on coastal recreation values in Australia.

Synopsis

This presentation reported on the outcomes of a recent Fisheries Research and Development Corporation project that sought to value beach related recreation, estimate how these values might be affected by climate change and identify options for adaptation for coastal communities. The research used case studies in New South Wales, Queensland, Victoria and West Australia which were chosen to represent a range of socio-economic and geomorphological environments seen in Australia.

The project has established benchmark values for residents' and tourists' recreational use of beaches that might be used in other areas in benefit-transfer approaches and cost-benefit analysis of proposed beach management projects. It also developed a research approach and analysis frameworks that might be applied to other coastal regions around Australia.

Coastal managers may utilise a menu of adaptive management strategies to minimise the economic losses associated with climate change impacts on beaches. These include increasing resilience of beaches and increasing beach recreation space through beach nourishment and enhancement of beachside parks, increasing supply of alternative recreation sites such as estuary, river, and reservoir beaches, and management of user expectations and behaviour through information provision.



Link to Presentation:

http://www.sydneycoastalcouncils.com.au/sites/default/files/ABC_Raybould.pdf

3 WORKSHOP OUTCOMES



The objective of the Case Study Workshop was to demonstrate the application of beach recreation values in assessment of coastal management options and provide opportunity for discussion. The Workshop had three components; an initial group discussion, a presentation of case study scenarios applying beach values to coastal management option assessment, and an open discussion session that used the scenarios to frame questions and concerns about the way economic information is employed in coastal decision-making.

Part 1: Facilitated Group Discussion

In the first stage of the Workshop, participants were split into two groups for facilitated group discussions. Participants were asked to consider the material presented earlier in the Forum from the perspective of a beachgoer, rather than their professional position or affiliation.

What were your earliest memories of the beach?

Memories of the groups were separated somewhat into daily usage or longer holiday visits – which aligns with the idea of different usage patterns by coastal residents and coastal tourists.



Memories of beach use ranged from wearing zinc cream, exploring the natural habitat (crabs and starfish in rockpools, fishing), building sandcastles, walking over sand dunes (hot and long trip) participating in surf lifesaving and afternoons at the beach after school in summer.

For those who didn't live near the coast, going to the beach was a special occasion which involved extensive planning and great excitement. Camping on the coast and spending much of the summer holidays there were common memories.

The power of the ocean and the dangers of the sun were also a strong memory of those exposed to the coast as children, with participants recalling being knocked over by waves, the '74 storms and being sunburnt.

What has changed the most since you were a child?

Participants noted the improvement in water quality across Sydney beaches since their childhood. However they also noted that opportunities to go to the coast are diminished as people are time poor and work harder.

There was a lot of discussion about the way that the beach is used, focussed on the location (Bondi Beach). It was felt that there has been a shift in beach usage and associated cultural importance. Some of the points from that discussion were:

- Beaches are much more crowded in general
- At Bondi there is increasing use by visitor groups which may have limited surf awareness or swimming ability

- Bondi has become a brand – a place to be seen – more about posing on the beach and in the cafes than swimming and surfing
- More rescues – some because of alcohol.

What do you think your local beach will look like for your kids/grandkids?

The physical impacts of storms and shoreline recession were highlighted as things we aren't particularly well prepared for in urban environments. Participants noted that urban areas will have substantial challenges due to restriction of the natural beach by structures and infrastructure, while natural areas will be more resilient. The costs of trying to address this challenge were highlighted as a key stumbling block. Beaches are an asset to the community, but from a management perspective they can be a financial liability for Council.

Other major concerns were around population growth and the effects this will have on already congested urban beach areas. Participants noted the dichotomy between the need to provide access and the challenges this brings with it for coastal councils and managers. Participants recognised the need for better public transport to Sydney beaches, but also reflected on how this would influence the number of people visiting the beach. Questions were raised as to the carrying capacity of our beaches and whether more people could be accommodated.

What would you most like to retain/improve for future generations?

There was a strong desire to make sure that the same opportunities identified as 'earliest memories' are available to future generations of beach users in urban areas, including:

- Free and open access
- Maintaining water quality and availability of sand
- Managing marine debris
- Managing for a suite of beach types, some with built amenities, some with more natural environments – all within the urban area/reasonable driving distance
- Increased understanding of and respect for the dynamism and complexity of coastal systems
- Integrated management of the entire system – recognition that beaches are more than the sum of their parts, i.e. more than recreation, more than property impacts
- Maintaining biodiversity – not just focussing on the visible aspects or the dominant uses.

Feedback received after the group discussion suggested that in one group there were dominant participants who guided the focus of the discussion. This has important parallels with the community consultation process and the potential for some stakeholders to feel that they have 'lost their voice'.

Part 2: CBA Case Studies

Following the group discussion, four case studies were presented where beach recreation value information had been used in cost-benefit assessments:

- Case 1: Wooli – Massive beach nourishment option
- Case 2: Wooli – Nourishment plus land swap option
- Case 3: Beach nourishment at Sunshine Coast
- Case 4: Dune revegetation and view improvements at Avalon beach

The first two case studies examined alternative options for Wooli township, a small settlement located on a sand spit which is subject to substantial erosion challenges. The options and analysis presented focussed on the preservation of recreational benefits through maintaining beach width along at least part of the Wooli foreshore, rather than the broader range of benefits included in the full assessment of these options. These recreational benefits were much lower than the estimated costs of the

interventions, which were costed in the tens of millions of dollars. The discussion of these comparisons and the community desire to remain in the threatened location highlighted the need to consider a broader range of benefits and the challenges in implementation of retreat as an option.

The third case study was a demonstration of where small scale nourishment was selected to maintain beach width on a highly-visited stretch of coast where coffee rock is periodically exposed through wave action. In this instance the recreation benefits for residents alone easily accounted for the costs which were again in the multiple millions of dollars.

The fourth example was a local situation that is typical of many coastal management assessments. The project had recently been funded by NSW Office of Environment and Heritage on environmental and risk grounds and hence an economic assessment was not the primary basis of the decision. The analysis was constrained by an absence of available information about usage of the beach, which is a key limitation for management decisions relating to coastal use. As a result, the analysis was restructured to see what level of increased visitation or value would be necessary to offset the costs of the proposed project. Framing the decision in this way identified that a very minor increase in value (around 1.5% p.a.) would account for the infrastructure and revegetation actions.

Specific SCCG Member Council case studies for small scale coastal tourism / recreation project cost-benefit assessments were also undertaken as part of the BASTRA project. The results will be published on our website shortly.

Part 3: Open Discussion Session

The discussion during and after the case studies highlighted the fact that economic assessment is not the only decision making process by which projects are/should be selected. It is merely one of the components of that decision making process and a tool to assist in communicating and simplifying the underlying desires of the community for which the resources are being managed.

The value of recreation and tourism can be seen as one means of assessing whether a project meets the economic hurdle of the cost estimates, i.e. whether these values alone are sufficient for the project or option to continue to the next stage of the process.

Other key points raised by participants during the discussion were:

- Many coastal management grant projects are assessed on hazard or risk-minimisation basis and economics can be a lesser concern
- CBA is not restricted to the travel cost results, but includes other values and intangible components which may not be able to be valued
- Omission of indirect benefits, e.g. avoided costs of damage to infrastructure should be incorporated (however depending on the scenario this may be double-counting and has to be treated with caution).



Link to Presentation:

http://www.sydneycoastalcouncils.com.au/sites/default/files/ABC_Workshop.pdf

4 EVALUATION

At the end of the Forum an evaluation survey was conducted. A Likert-style rating system was combined with a series of qualitative questions requiring user comment to identify the outcomes for participants. Thirty-five per cent of participants completed the survey.

Results

Overall, feedback was positive, with the majority of participants agreeing or strongly agreeing with the proposition statements.

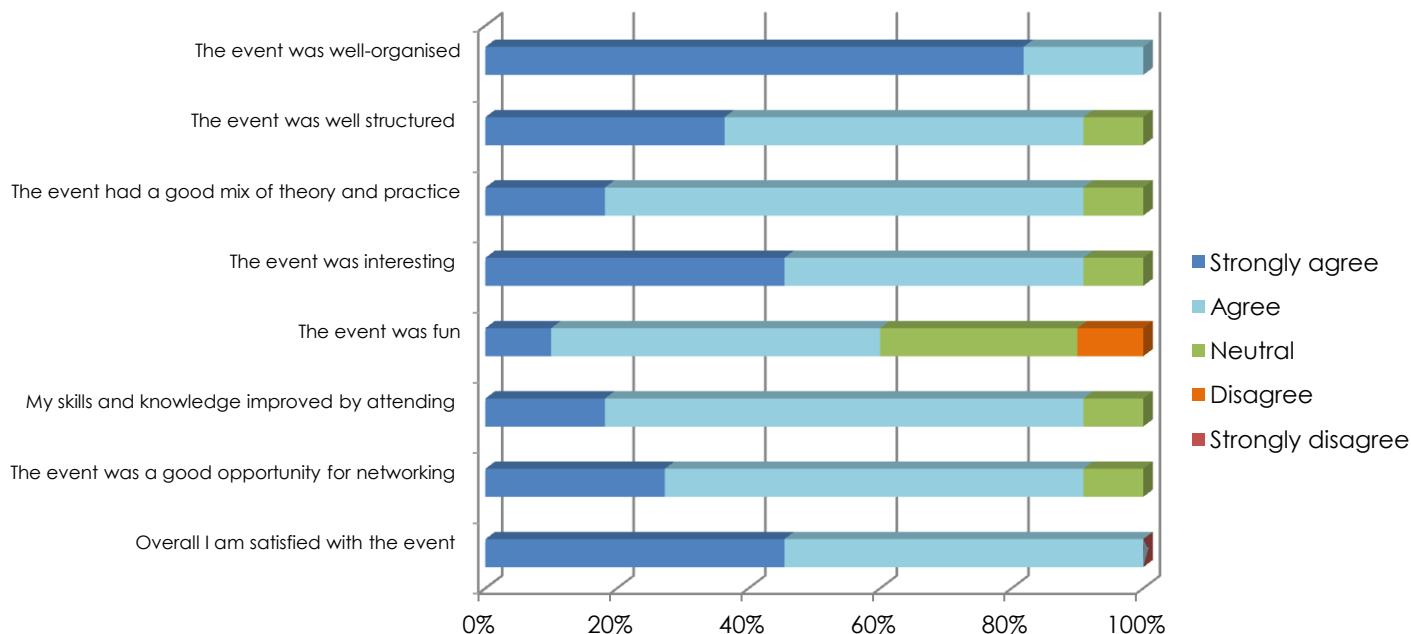


Figure 1: Participant responses to evaluation questionnaire

Participants identified the opportunity to network, the discussion of obstacles in coastal policy and the explanation of economic valuation methods as the most valuable aspects of the day. It was noted that the Workshop would have benefited from greater focus on overcoming the limitations of economic tools in coastal planning and decision-making. Participants also sought more information on how economic tools and analysis could inform policy and decision making, particularly at the regional and state levels.

The following suggestions for improvement were proposed:

- The event had a good mix of theory and practice but not practice at different scales - eg, what about State Government decision making? What about how to lever State Government / regional infrastructure funding?
- Understanding how the workshop fits into the process would be helpful to set context for questions and discussion.
- It would be interesting to hear more international examples on coastal policy, key drivers and the economic aspect of coastal policy.

- Basing the workshop on ideas of how economic analysis can be used in policy and works to benefit the coast.
- Recommendations on policy and management options of coastal risk would be an interesting aspect to explore.
- More time for open floor discussion.

5 SUMMARY

This Forum was presented as part of the SCCG's Capacity Building Program. The Program aims to build the role and capacity of Member Councils and other stakeholders to sustainably manage urban coastal and estuarine environments. Capacity building is undertaken through activities that strengthen knowledge, abilities, skills and behaviour via activities such as forums, workshops and guideline documents.

Overall, the Forum was successful in demonstrating the value of economics in coastal planning and management. The subject matter, structure, high calibre of presenters and the contribution of participants ensured that the Forum was informative for all involved. The Forum could have been improved by making clearer links between economic information and policy-making, and exploring how limitations to economic analysis can be overcome. Lessons learned and evaluation feedback will be applied to future activities to ensure we continuously improve our Capacity Building Program.

The SCCG would like to acknowledge Bond University for their contributions to the day and extends its thanks to presenters and participants for their contribution and feedback.





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