

## Shoalhaven Natural Resource & Floodplain Management Committee

**Meeting Date:** Thursday, 07 September, 2017  
**Location:** Sussex Inlet Community Centre, Thompson St, Sussex Inlet  
**Time:** 4.00pm

### Addendum Agenda

#### Presentations

SN17.17 Robyn Flack - Shoalhaven Heads Estuary Taskforce Presentation

#### Reports

SN17.18 University of Wollongong - Coastal hazard assessment based on sediment budgeting, Southern NSW - ARC Research Partnership Grant Application ..... 1

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## **SN17.18 University of Wollongong - Coastal hazard assessment based on sediment budgeting, Southern NSW - ARC Research Partnership Grant Application**

**HPERM Ref:** D17/260528

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

### **Purpose / Summary**

Report to the Committee that the University of Wollongong – School of Earth and Environmental Science has requested Council partner with Wollongong University in the grant application for - coastal hazard assessment based on sediment budgeting, southern NSW.

### **Recommendation**

That Council commit to providing \$5,000 per year over three (3) years (2017/18, 2018/19 & 2019/20) from Council's coast and estuaries program (15931) to the University of Wollongong towards the Coastal hazard assessment based on sediment budgeting, southern NSW project, if the grant application is successful

### **Options**

1. As recommended. Council commit to partnering with the University of Wollongong and the provision of \$15,000 towards the project over 3 years, if the grant application is successful.

Implications: Council will be directly contributing towards a study that will improve knowledge on short and long-term sediment budget compartments and improve decision-making process for future Coastal planning. The study will also allow Council to come in line with the NSW Coastal Reforms legislation.

2. Council receive the report for information and not commit to partnering with the University of Wollongong and the provision of \$15,000 towards the project over 3 years

Implications: Council will not be directly contributing towards a study that will improve land managers knowledge on short and long-term sediment budget compartments and improve decision-making process for future Coastal planning.

3. Alternative recommendation.

Implications: Unknown.

## Background

The University of Wollongong's Professor Colin Woodroffe from the School of Earth & Environmental Science has invited Shoalhaven Council to partner in a research grant application to the Australian Research Council, along with other South Coast Councils for the research project - **Coastal Hazard Assessment Based on Sediment Budgeting for Southern NSW Coast**.

This project aims to develop models to explain beach erosion along the Illawarra Coast. Combining detailed seafloor mapping with sedimentary investigations it aims to better assess current and future risks of erosion and inundation in a changing climate. Sand availability will be examined for different beach systems by mapping distribution and volumes of sand offshore, identifying historical shoreline changes, and coring and dating to determine coastal depositional history. Investigations will adopt the national sediment compartment framework recommended in the Coastal Management Act (2016) and, by contrasting sediment-rich and sediment-starved coastlines, should provide best-practice modelling and guidance for coastal management in NSW.

Coastal planning and management needs to consider the dynamic nature of coasts. Intended outcomes of this project will demonstrate the value of understanding sand availability and transport between beaches along the NSW coast, providing a clearer understanding of potential erosion and/or inundation. Topographic, bathymetric, sedimentary and habitat analysis, together with modelling, will enable more reliable forecasts of risk to coastal settlements and infrastructure from future coastal hazards.

Sediment budget analysis involves examining the extent to which shoreline sectors are still receiving sediment from terrestrial (river) or marine (cliff erosion, alongshore or offshore) sources, and losing it to sinks (estuaries, dunes or offshore), based on the present arrangement of sources and sinks and realistic reconstructions of past coastal behaviour.

The state of knowledge concerning impacts of coastal storms is relatively advanced; as such events have been experienced time and again in present human lifetimes. In contrast, our understanding of beach and shoreline change at timescales relevant to the planning of new coastal development (decades to centuries) is relatively poor, as historical mean-trend shoreline change has been small relative both to the magnitude of storm-related fluctuation and the rate of future change that may result from projected sea-level rise.

One of the few ways to gain insight into the cumulative outcome of subtle coastal processes across the dunes, beach, and nearshore zone comes from historical observational data and inference from geomorphological investigations of the sedimentary landforms that have been formed, both onshore and offshore. Long-term trends, recorded in onshore and offshore sedimentary deposits, provide indications of how the shoreline has responded to changed conditions in the past, either through direct human intervention (engineering or management activities), or as a result of climate change (particularly sea-level rise). Such insights provide evidence to support modelling and on which to base future management decisions.

Sediment compartments have been the basis for shoreline management plans (SMPs) in the UK for more than two decades. This management framework has recently been adopted in Western Australia, where it has been shown that detailed seafloor imaging provides important evidence of volume, availability and pathways of sediment supply. While the sediment compartments approach to coastal management offers great advantages over localised approaches, the benefits depend on geomorphic data and expert interpretation to construct sediment budgets, and suitable shoreline modelling methods to apply the sediment budget dynamics to distinctive coastal settings.

Coastal erosion presents a significant and growing threat to communities both globally and nationally. Understanding where sand on our beaches comes from, and where it goes, is critical for risk management and development of adaptation plans to deal with existing erosion risks, and to avoid unnecessary increased future risk.

This project will demonstrate the value of understanding sand availability and transport between beaches within distinctive sections of coast, called 'sediment compartments'. The resilience of individual beaches depend on interactions between sand on the seafloor offshore, sand deposited onshore, and sand on adjacent beaches. The role of unknown offshore sediment sources and sinks represents the greatest uncertainty in forecasting future shoreline change. This project will provide quantified estimates of sand availability and transport in contrasting sediment-rich and sediment-starved compartments on the Illawarra coast.

The compartment approach has been advocated at national level in Australia<sup>7</sup>, and was recently incorporated within the legislative framework for coastal management in New South Wales (Coastal Management Act 2016) which Council will be required to comply with to develop its Coastal Management Program.

### **Community Engagement**

The grant application and potential future project is a joint partnership between the following organisations:

- Wollongong University
- Wollongong City Council
- Bega Valley Shire Council
- Shoalhaven City Council
- Australian Nuclear Science and Technology Organisation
- NSW Office of Environment and Heritage

### **Policy Implications**

The information and knowledge provided by the results of this research project will provide sound scientific knowledge on which to base decisions made on the management and planning for the Shoalhaven coastal compartments.

### **Financial Implications**

The \$15,000 contribution will be funded from Council's existing coastal and estuary budget. Council could not afford to undertake this level of scientific study without partnering with the University and other organisations.

### **Risk Implications**

The risk of not supporting this research project is that Council will not have access to the best available scientific knowledge, which could be used to inform coastal hazard risk management decisions into the future.

## **SN17.19 Announcement of 2017/18 and 2018/19 Coast and Estuary Program Grant Funding Opportunities - Seeking feedback from SNR&FC**

**HPERM Ref:** D17/275098

**Group:** Planning Environment & Development Group  
**Section:** Environmental Services

### **Purpose / Summary**

To inform the Committee about the Coast and Estuary Program grant funding opportunities announced by the NSW Minister for the Environment in June 2017.

### **Recommendation (Item to be determined under delegated authority)**

Receive the report for information and provide input on the selection and prioritisation of potential grant application projects.

### **Options**

1. As recommended.

Implications: Input from the Committee will assist Council in the selection of potential grant application projects.

2. Alternative recommendation.

Implications: Unknown.

### **Background**

In June 2017 the NSW Minister for the Environment announced that the Government would make available some funding to Council's for minor or short-term works under the NSW Coast and Estuary Program for 2017/18 and 2018/19 years. The funding is available to Coastal Councils, without the requirement for a certified Coastal Zone Management Plan (CZMP) or Coastal Management Program (CMP) being in place for the area. The funding is available for the following activities:

1. Beach scraping where it is an appropriate activity
2. Ecological management and stabilisation of dune systems
3. Estuarine riparian ecological restoration
4. Littoral rainforest regeneration
5. Formalising or reducing the number of beach access points to reduce environmental damage/impact
6. Coastal wetland rehabilitation where an approved management plan for the site exists

For proposed works that are not listed in the above, Councils will need to have a certified CZMP or CMP to be eligible for grant funding.

Currently Council is managing one Estuary Grant Funded project on Acid Sulphate Soil remediation on the Shoalhaven River floodplain at Berry's Bay in cooperation with NSW Water Research Laboratory.

Council's Coastal Zone Management Plan, the draft Scoping Study for the Coastal Management Plan, the eleven Estuary Management Plans (EMP) and Shoalhaven Bushcare Action Plans have identified priority actions that could fit the funding criteria. These actions and ideas, along with suggested priorities will be presented to the Natural Resource and Floodplain Committee to provide some background to developing ideas for possible funding.

The following documents can be viewed on Council's website:

- Coastal Zone Management Plan <http://projects.umwelt.com.au/shoalhaven-coastline/index.php>
- Estuary management Plans <https://shoalhaven.nsw.gov.au/Environment/Coastline-and-waterways/Management-plans>
- Bushcare Action Plans <https://shoalhaven.nsw.gov.au/My-Council/Policies-plans-strategies/Bushcare-Action-Plans>

### **Community engagement**

Council officers will present Feedback from the Committee during the meeting will be sought on potential grant application projects.

### **Financial implications**

Council must provide matching funding (50:50) for grant application projects under the NSW Government Coast and Estuary funding program.