
SHOALHAVEN CITY COUNCIL

**NORTHERN SHOALHAVEN NATURAL RESOURCES AND FLOODPLAIN
MANAGEMENT COMMITTEE**

to be held on Monday 29 April 2013
commencing at 4:00pm

City Administrative Centre
Bridge Road
NOWRA NSW 2541

10 April 2013

Dear Member

NOTICE OF MEETING

You are hereby requested to attend a meeting of the Northern Shoalhaven Natural Resources and Floodplain Management Committee to be held on **Monday 29 April 2013**, commencing at **4:00pm** in the City Administrative Centre, Bridge Road, Nowra in Committee Rooms 1, 2 & 3 for consideration of the following business.

Yours faithfully

R D Pigg
General Manager

BUSINESS OF MEETING

1. Apologies
2. Minutes of the Previous Meeting
3. Report – Finance & Corporate Services
4. Report – Strategic Planning and Infrastructure
5. Addendum Reports
6. General Business

MEMBERSHIP – Quorum (5)

Mayor, Clr Gash	Theo Wright	Stephen Dwight – Forests
All Councillors	David McCorkell	Allan Lugg – Fisheries
General Manager or Nominee	Patricia Mason	Alex Deura – NPW
John Downey	John Tate	Phil Craven – NPW
Bill Pigott	Mark Edwards–Crown Lands	John Murtagh – OEH
Terry Barrett	Ian Borrowdale – SES	Daniel Wiecek –OEH
John Skidmore	Craig Whitmore – RMS	Chris Presland – SCRMA
Tony Emery	Mike Baldwin - RMS	Dr Stephen Allen–Office of Water
Barry Harper	George Curtis - Planning	David Zerafa–Office of Water
		Delia Lowe - Jerrinja

Cell Phones: Council's Code of Meeting Practice states that "All cell phones are to be turned off for the duration of the meeting".

Role of the Committee:

1. Provide overall guidance for the management of natural resource management including floodplain management, estuary management and coastal zone management in accordance with Federal, State and Local Government Policy and Legislative instruments;
2. Advise Council on natural resource management including floodplain management, estuary management and coastal zone management matters;
3. Formulate agreed vision, goals, objectives, and targets sought from the Natural Resource Management Plans;
4. Facilitate the preparation of Natural Resources Management Plans;
5. Provides input into the identification of management options for Natural Resources Management Plans;
6. Facilitate broad community consultation;
7. Monitor State and Federal Government natural resource management direction and advises Council on appropriate response;
8. Monitor advances in knowledge and science of natural resource management issues (such as sea level rise and climate change) and integrate this knowledge in new Natural Resource Management Plans as well as in the review of existing Plans; and
9. Make recommendations for Council consideration.

REPORT OF GENERAL MANAGER

NORTHERN SHOALHAVEN NATURAL RESOURCES AND FLOODPLAIN MANAGEMENT COMMITTEE

MONDAY, 29 APRIL 2013

FINANCE AND CORPORATE SERVICES

1. Membership Request

File 46778E

PURPOSE: Delivery Program Activity: 4.2.2.1

A request for membership to the Northern Shoalhaven Natural Resources and Floodplain Management Committee has been received from Mrs Jessica Zealand for consideration

RECOMMENDED that Council accept Mrs Jessica Zealand as a member of the Northern Shoalhaven Natural Resources and Floodplain Management Committee.

OPTIONS

1. Council appoint Mrs Jessica Zealand as a member of the Northern Shoalhaven Natural Resources and Floodplain Management Committee.
2. Council decline the request for membership from Mrs Jessica Zealand.

DETAILS

Correspondence has been received from Mrs Jessica Zealand for membership to the Northern Shoalhaven Natural Resources and Floodplain Management Committee.

Mrs Zealand is a member of Council's Shoalhaven Heads Estuary Taskforce, is the Assistant Secretary of the Shoalhaven Heads Community Forum and is a member of Riverwatch and the Shoalhaven Oyster Growers.

COMMUNITY ENGAGEMENT:

Maintaining an effective membership of the Northern Shoalhaven Natural Resources and Floodplain Management Committee is consistent with the objectives identified in the Community Strategic Plan.

P.J.Dun
DIRECTOR, FINANCE AND CORPORATE SERVICES

To advise the Committee of the current status of the State Government's Coastal Reform package.

RECOMMENDED that the Committee receive the State Government Coastal Reform Package Update Report for information.

OPTIONS

1. Receive the report for information.
2. The Committee could choose to provide comments and advice to Council in regard to their resolution to establish local SLR benchmarks.

DETAILS

This process follows the withdrawal of State-wide sea level rise benchmarks and recognises recent recommendations of the NSW Chief Scientist and Engineer.

The "evolving understanding of the complex issues surrounding future sea levels" led the NSW Chief Scientist and Engineer to make four recommendations which are summarised here:

1. Establish the appropriate framework for deriving updated sea level projections for NSW coastal locations. Review NSW sea level rise projections at frequent intervals through formal consultations with relevant experts as new data become available.
2. Look toward more regionally specific calculations taking into account factors such as specific sea level, topography, flood risk, probability of extreme events and impacts.
3. Explore the feasibility of establishing a Technical Advice Centre to provide support to local councils in interpreting and translating new scientific findings, and assisting councils in developing strategies, infrastructure planning, and appropriate risk management activities related to sea level rise and its associated impacts.
4. Communicate explanations of the science behind sea level rise, future projections and potential impacts to local councils and members of the public.

In that regard, Council at its Ordinary meeting of 26 March 2013 resolved that Council (MIN13.332B in part):

"Requests the General Manager to implement a process to develop Council's own ocean level rise model taking into account the corrected data from the Port Kembla tidal station and anecdotal data from the Jervis Bay tidal station."

Staff are currently actively pursuing the implementation of this resolution.

The latest update (mid March 2013) from Mike Sharpin, Office of Environment and Heritage (OEH), on the coastal reforms gave the following advice:

Activities under the new Act & Regulations from January 2013

Stage 1 Coastal Reforms Implementation – amendments to the Coastal Protection Act and its Regulation commenced on 21 January 2013. An updated Code of Practice also commenced on this date, which reflected changes in terminology and cross references to some section numbering following the changes to the Act. An updated Guide to the statutory requirements for temporary coastal protection works will be released later this month, reflecting these changes.

Revised “Code of Practice” for Temporary coastal protection works

Consultation has commenced on a draft “Code of Practice under the Coastal Protection Act 1979”. This is intended to replace the version released in January 2013 that was updated to reflect the amendments to the Coastal Protection Act which also commenced in January.

The main changes in the consultation draft Code compared to the current Code are:

- Updating the authorised locations where these works can be placed to reflect all areas where properties are currently known to be at risk from coastal erosion;
- Removal of safety requirements, as landowners should manage safety risks to meet the requirements under the NSW Work Health and Safety Act 2011;
- Increasing the allowable height of the works from 1.5 to 2.2 metres;
- Allowing temporary works to be placed in front of any existing works (previously prohibited);
- Relaxing the specifications for the sand used in sandbags; and
- Requiring all sandbags to have a volume of 0.75 cubic metres when filled and to be made from geotextile fabric (no longer allowing smaller woven polypropylene bags), as the smaller bags previously permitted may be too readily damaged and become dangerous.

The consultation draft Code is available at:

www.environment.nsw.gov.au/coasts/130212draftcopcoast.htm. Comments are invited until 19 April 2013 and should be emailed to coast.flood@environment.nsw.gov.au.

OEH has also updated its sea level rise webpages. More information has been provided on historical sea level rise and the various short-medium term influences on sea levels which makes detecting long-term trends from tide gauge records difficult. These pages are:

- <http://www.environment.nsw.gov.au/climateChange/sealevel.htm> (update of current page)
- <http://www.environment.nsw.gov.au/climateChange/measurerise.htm> (new page)

Guide for Coastal erosion hazard mapping

The Expert Panel is currently reviewing a pre-consultation draft of the Coastal Hazard Mapping Guide – subject to feedback from the Panel, we hope to commence consultation late this month or early April.

Fact sheet on SES & Councils regarding coastal erosion emergency management

The recent major floods in NSW have delayed work on the SES brochure on roles and responsibilities for coastal protection

Proposed Technical Advice Centre

Tim Pritchard is finalising his draft report on the coastal technical advice centre business case. The feedback from Council staff has been very useful and a summary will be provided back to all participants.

Recent activities of the Ministerial Taskforce and NSW Coastal Panel

The NSW Coastal Panel is currently considering a development application for a geobag seawall at Old Bar. Further information is available at the [Panel's website](#)

Stage 2 of the reforms

The Stage 2 will be developed in coming months in the context of the planning and Local Government reforms. Consultation with stakeholders, particularly local government, will be a key component of the reform process.

Implications for SCC:

- Council's Draft Coastal Zone Management Plan (CZMP) is currently on hold with a number of key projects in progress.
- The revised list of authorised locations now comprises Callala Beach and Collingwood Beach.
- Council has started off the process of establishing its local sea level rise benchmarks.

FINANCIAL IMPLICATIONS:

The financial implications of the Stage 2 reforms will not be known until the detail of the reforms are provided. However, the community consultation and education component is expected to be extensive with the review of the Draft CZMP and repeated public exhibition required at additional significant cost.

COMMUNITY ENGAGEMENT:

Consultation sessions for Councils and community members on Stage 1 - State Coastal Reform were organised by OEH in November 2012.

4. Coast and Estuary Grant Applications 2013-2014 **File 3406E & 30596E**

PURPOSE: Delivery Program Activity: 2.1.11 & 2.1.1.12

To advise the Committee of Council's 2013-2014 grant applications for funding consideration under the State Estuary and Coastal Management Programs.

RECOMMENDED that the Committee receive the Coast and Estuary Grant Applications 2013-14 report for information.

OPTIONS

1. Adopt the recommendation of this report.
2. Propose and justify an alternate recommendation to Council.

DETAILS

Council's 2013-2014 grant applications for funding consideration under the NSW Estuary and Coastal Management Programs include:

- **Coastal Management Program applications**
- **Coastal Erosion: Road Stormwater Impact Assessment. Grant amount requested: \$20,000**

Undertake a Citywide road stormwater erosion impact assessment and develop a risk/priority remediation plan for future funding consideration. Preliminary investigations and priority sites were identified in the 2008 SMEC Slope Instability Study with community feedback during the exhibition of the 2012 Draft Coastal Zone Management Plan confirming the impact of urban road stormwater on coastal headlands and beaches is a significant community concern.

This recognised coastal hazard has not been comprehensively assessed for remediation action. Council staff have commenced a preliminary scope for consultancy briefs and desktop GIS assessment for:

- Erosion impact assessment
 - Remediation design options review
 - Strategic citywide remediation plan
- **Breakwall Feasibility Assessment Callala Bay. Grant amount requested: \$10,000**

Callala Bay beach and boat mooring precinct is significantly exposed to southerly ocean storm impact. Storm damage experienced in 2012 has ignited community calls for a breakwall as a coastal erosion remediation option for the site.

Detailed hazard assessments for the site have been undertaken and Community feedback during the exhibition of the 2012 Draft Coastal Zone Management Plan identified the impact of coastal erosion at Callala Bay as a significant community concern.

The proposed breakwall feasibility assessment project will comprise:

- Remediation design/options review
 - Strategic feasibility report
- **Artificial Reef Feasibility Study Currarong. Grant amount requested: \$10,000**
- Currarong Beach's, Warrain Crescent precinct is significantly exposed to coastal erosion and natural recession. The 2012 conclusion of a Remediation Design Study

and exhibition of the Coastal Zone Management Plan has ignited community calls for an artificial reef as a preferred community coastal erosion remediation option for the site.

Community feedback during the exhibition of the 2012 Draft Coastal Zone Management Plan identified the impact of coastal erosion at Currarong as a significant community concern. Community requests for consideration of an artificial reef at Currarong as a remediation option avoiding "unsightly groyne structures" warrants a feasibility assessment report.

- **Coastal Erosion Assessment Hyams Beach. Grant amount requested: \$10,000**

Hyams Beach was not identified as a beach erosion risk site in the 2004 SMEC Citywide Coastal Hazard assessment therefore not progressed for hazard assessment.

- # Recent redevelopment of adjoining properties has identified key public sewer assets at risk that require investigation and remediation design for the beach compartment. The concept plan is at Attachment 'A'.

Estuary Management Program Applications

- **Shoalhaven River Entrance Process Study and Community Education. Grant amount requested: \$50,000**

The Shoalhaven Heads Estuary Taskforce has requested Council undertake further studies and provide information to improve community awareness into the history and processes that affect water quality of the lower estuary.

The proposal includes detailed assessment into:

- Shoalhaven Heads Bathymetry (bed levels) and impact of historical intervention and training works;
- Erosion processes and infilling rates in the lower estuary reaches;
- Water quality indicators and historical range; and
- River flow dynamics and feasibility assessment of review of Entrance Management Plan operation.

The Taskforce also requested Council produce public education material and hold community workshops on the estuary covering topics including:

- History and formation of the Shoalhaven Heads area;
- Entrance management processes and flood planning;
- Water quality impacts and estuary health; and
- Priority implementation actions to improve water quality

- **Maintenance Dredging Feasibility Study. Grant amount requested: \$10,000**

State and Local Government representatives have voiced support for dredging operations in the Shoalhaven. The Study will provide a comprehensive feasibility assessment of these requests and outline the approvals process, operational details and financial implications for due consideration.

Community representatives from a number of estuary catchments have requested Council undertake dredging operations to resolve ongoing impacts of shoal accretion in entrance deltas.

Local and State Government elected representatives have voiced their support for these operations to be investigated and reported to community forums and considered for funding. Shoalhaven estuary locations include the Shoalhaven River, Jervis Bay, St Georges Basin, Lake Conjola, Burrill Lake, Lake Tabourie and Currambene Creek.

Feasibility assessment for each dredging operation will be undertaken and reported to Council for consideration and establishment of priority for future grant applications to the State Sustainable Dredging Program.

- **Catchment Stormwater Assessment Shoalhaven River/Lake Wollumboola. Grant amount requested: \$20,000**

Council's review of the Citywide Stormwater Management Plan includes an urban area hydraulic model to provide the necessary intelligence for targeting water quality improvements most effectively. The process requires that once hydraulic information is prepared a review of the existing water quality actions is undertaken. This comprises:

- Identification locations where water quality treatment measures would have greatest capture;
- Review existing actions' efficiency and effectiveness in light of strategic information;
- Design options using strategic information where appropriate;
- Enter options into plan and prioritise using existing EPA system (environmental parameters, including, distance to water course, slope, soil erodibility and vegetation cover);
- Stormwater remediation plans for the key urban areas and road easements.

- **Foreshore stabilisation projects. Grant amount requested: \$100,000**

Foreshore rehabilitation/stabilisation projects identified are:

- Lake Tabourie, Portland Way. See concept plan at Attachment 'B'.
- Burrill Lake, Dolphin Point Caravan Park. See concept plan at Attachment 'C'.
- Lake Conjola, Garrard Way frontage. See concept plan at Attachment 'D'.
- St Georges Basin: Paradise Beach. See concept plan at Attachment 'E'.

Existing foreshore stability at these locations is failing, accelerated by poor construction or natural erosion process. Community consultation during 2012 confirmed erosion remediation remains a priority for the community.

The project demonstrates the significant burden on Council to address foreshore remediation across the city. Due to the growing demand, Council addresses these works across the city within manageable expenditure of \$50,000 per site in a staged program.

FINANCIAL IMPLICATIONS:

The projects are based on Council's available budget capacity to match the grants on a 50:50 basis.

COMMUNITY ENGAGEMENT:

The projects are based on community feedback provided during the delivery of recent Estuary Management Plan reviews and the public exhibition of the 2012 Coastal Zone Management Plan. Additional community consultation will be undertaken as part of the project delivery phase.

5. Floodplain Management Program

File 4355E

PURPOSE: Delivery Program Activity: 2.3.1.4

The purpose of this report is to inform the Committee of the Floodplain Management Program to date.

RECOMMENDED that the Committee receive the Floodplain Management Program report for information.

OPTIONS

1. Receive this report on the Floodplain Management Program for information.
2. The Committee could choose to provide an alternative recommendation for future consideration by Council.

DETAILS

Council's Floodplain Management Program includes the development and implementation of:

- Flood Studies
- Floodplain Risk Management Studies
- Floodplain Risk Management Plans

Since the last Natural Resources and Floodplain Management Committee meetings, a number of projects have been completed and adopted by Council, including the:

- Broughton Creek Floodplain Risk Management Study and Plan

- St Georges Basin Floodplain Risk Management Study and Plan – Climate Change Assessment
- Conjola Lake Floodplain Risk Management Study and Plan
- Burrill Lake Floodplain Risk Management Study and Plan

Projects completed to date include:

- Broughton Creek Flood Study (2008)
- Broughton Creek Floodplain Risk Management Study and Plan (2012)
- Bomaderry Creek Flood Study (2010)
- Kangaroo Valley Flood Study (2009)
- Lower Shoalhaven River Flood Study (1990)
- Lower Shoalhaven River Floodplain Risk Management Study and Plan (2008)
- Lower Shoalhaven River Floodplain Risk Management Study and Plan – Climate Change Assessment (2011)
- Riverview Rd Floodplain Risk Management Study and Plan (2002)
- Terara Village Floodplain Risk Management Study and Plan (2002)
- Nowra and Browns Creeks Flood Study (2005)
- Currumbene Creek and Moona Moona Creek Flood Study (2006)
- St Georges Basin Flood Study (2001)
- St Georges Basin Floodplain Risk Management Study and Plan (2006)
- St Georges Basin Floodplain Risk Management Study and Plan – Climate Change Assessment (2013)
- Lake Conjola Flood Study (2007)
- Lake Conjola Floodplain Risk Management Study and Plan (2013)
- Burrill Lake Flood Study (2007)
- Burrill Lake Floodplain Risk Management Study and Plan (2013)
- Lake Tabourie Flood Study (2010)

Further State Government funding from the Office of Environment and Heritage (OEH) has also been received since the last Natural Resources and Floodplain Management Committee meetings. Funding to conduct the Currumbene Creek and Moona Moona Creek Floodplain Risk Management Studies and Plans is now included in the 2012/2013 financial year budget.

Projects in progress:

Project	Status	Expected completion
Kangaroo River Floodplain Risk Management Study and Plan	Stage 1 report complete. Finalising flood model.	March 2014
Nowra and Browns Creeks Floodplain Risk Management Study and Plan	Stage 1 report complete. Finalising flood model.	March 2014
Bomaderry Creek Floodplain	Tenders currently being	Jan 2015

Project	Status	Expected completion
Risk Management Study and Plan	sought; closes end April	
Greenwell Point Flood Risk Management Options Feasibility Study	Tenders currently being sought; closes end April	Dec 2013
Lake Wollumboola Flood Study	Tenders currently being sought; closes end April	Jun 2014
Tabourie Lake Floodplain Risk Management Study and Plan	Tenders currently being sought; closes end April	Jan 2015

Consultant briefs are currently being prepared for the Currumbene Creek and Moona Moona Creek Floodplain Risk Management Studies and Plans.

FINANCIAL IMPLICATIONS:

Funding for the above projects have been provided under the NSW State Assisted Flood Program 2012/13. Council's contribution comes from the existing general Floodplain Management Program budget.

COMMUNITY ENGAGEMENT:

Community engagement is a core part of the floodplain management process. Community information brochures, questionnaires, workshops, information sessions and formal exhibition will be included in the above projects.

6. Berry Town Creek Remediation Project

File 46828E & 26572E

PURPOSE: Delivery Program Activity: 2.3.1.4

To advise the Committee of the current status of this key project for the Berry township.

RECOMMENDED that the Committee receive Berry Town Creek Remediation Project report for information.

OPTIONS

1. Adopt the recommendation of this report.
2. Propose and justify an alternate recommendation to Council.

DETAILS

The adopted Broughton Creek Flood Risk Management Study and Plan recommends improved management of the Berry Town Creek corridor to increase conveyance and

reduce flood impact. This also provides an opportunity to significantly enhance the streetscape from its current degraded state. Given the high level of community support for this project, staff have initiated a number of actions funded from existing budgets, which include:

- Land survey and soil testing for Acid Sulfate Soil/contamination analysis;
- Formation of two active ParkCare Groups who continue maintenance works along the creek corridor as rehabilitation works are completed;
- Enhancement of the Princess St works before Christmas 2012 with contract weed control, rock protection installation with Bush regeneration and primary planting completed during February 2013; and
- Completion of a Landscape Concept design and primary weed management along the Alexandra St frontage.

The Landscape Concept design is Attachment 'A'.

In addition, a grant application has been made under the 2013/14 State Flood Management Program for \$60,000 (on a 2:1 basis), seeking a Stage 1 budget for the Alexandra St frontage of \$90,000.

FINANCIAL IMPLICATIONS:

Actions to date have been funded through existing budget. The treatment of Alexandra St frontage will be subject to the grant funding application to the State Government being successful.

Integration with the Road Stormwater Maintenance program may also increase funding options available.

COMMUNITY ENGAGEMENT:

Additional community consultation will be undertaken as part of the project delivery phase. ParkCare group members have been sent the Draft Landscape Concept design for comment and detailed design and contract documentation will be developed during the community consultation process.

7. Kangaroo River Floodplain Risk Management Study and Plan - Project Update **File 44869E**

PURPOSE: Delivery Program Activity: 2.3.1.4

The purpose of this report is to provide the Committee with a project update for the Kangaroo River Floodplain Risk Management Study and Plan.

RECOMMENDED that the Committee receive the report on the Kangaroo River Floodplain Risk Management Study and Plan – Project Update for information.

OPTIONS

1. Receive this report on the Kangaroo River Floodplain Risk Management Study and Plan – Project Update for information.
2. The Committee could choose to provide an alternative recommendation for future consideration by Council.

DETAILS

In May 2012, the expert flood consultant Cardno was engaged to conduct the Kangaroo River Floodplain Risk Management Study and Plan (KFRMS&P).

This represents the second and third steps in the floodplain management process, following on from the first step, the Flood Study, which was adopted in 2009.

To date, Cardno has conducted a site inspection, completed the review of all relevant data, distributed a community information brochure and distributed and analysed a questionnaire sent to all flood affected properties (as identified in the existing Flood Study). An article also appeared in the Kangaroo Valley Voice informing the community of the commencement of the KFRMS&P and encouraging them to obtain and complete a questionnaire if they did not receive one.

In January 2013, the *Stage 1 Report – Data Review and Community Consultation* was received (see Attachment 'A'). This report summarised the findings of the initial community consultation and data analysis. The data analysis identified gaps in the existing Flood Study model, which led the consultant to propose a variation to the contract so an updated model could be developed.

This variation request was considered justified and has since been formally approved by the Office of Environment and Heritage (OEH). It is anticipated that the works on updating the model will be completed by May 2013.

FINANCIAL IMPLICATIONS:

Funding for the above project has been provided under the NSW State Assisted Flood Program 2012/13. Council's contribution comes from the existing general Floodplain Management Program budget.

COMMUNITY ENGAGEMENT:

Community engagement is a core part of the floodplain management process. Following on from the initial community information brochure and questionnaire, community workshops and information sessions will be organised as the project progresses as well as continuing to provide information brochures at key project milestones.

PURPOSE: Delivery Program Activity: 4.1.1 & 3.1.6

To advise the Committee of Council's current response to community requests for a Strategic River Management Plan development.

RECOMMENDED that the Committee acknowledge that the 2008 Shoalhaven River Estuary Management Plan and associated documentation as outlined in this report provide a sound basis for the Strategic Management of the Shoalhaven River. Implementation and review of high priority and moderate priority actions is subject to availability of resources.

OPTIONS

1. Adopt the recommendation of this report.
2. Propose and justify an alternate recommendation to Council.

DETAILS

At the Shoalhaven River Natural Resources and Floodplain Management Committee on 1 November 2012, Mr John Tate from Riverwatch recommended that a Shoalhaven River Strategic Management Plan be developed for Burrier to Crookhaven Heads which analyses:

- Commercial and recreational river activities
- Environmental, social and amenity impacts
- Zoning of river foreshore land
- Causes of erosion and priority remediation strategy development
- Develops strategies to protect and improve the health of the estuary including rezoning river foreshores, allocating zones for boating activity, ranking bank restoration areas, identifying industrial effluent and urban stormwater improvements

The Committee resolved that the Committee receive a report at its next meeting related to this proposal. This is the purpose of this report.

Attachment 'A' is a Risk Assessment and Attachment 'B' preliminary cost estimates which was compiled in 2009 in response to a similar call for action to protect the Oyster Industry, which was unsuccessful for Federal Grant funding. The Risk Assessment built on significant background works, including the 2005 Data Compilation Study, the 2008 Estuary Management Plan and the 2009 Shoalhaven River Estuary Health Monitoring Program .

The 2004 Patterson Britton Waterways Users Study and Foreshore Definition Study comprehensively assessed the water based activity and erosion management issues,

and these are reflected in the primary control of waterways activity set under the 2008 - 2012 Safe Boating Plan by NSW Maritime.

Further erosion assessment is currently underway to develop an objective Decision Support System for bank stabilisation/water use management remediation priority being undertaken by Manly Hydraulics Laboratory. Council staff recommend this be integrated into the next review of the 2008 - 2012 Safe Boating Plan review via working group as recommended by Riverwatch and reported back to this forum.

The draft Shoalhaven LEP 2013 will be the key planning instrument for land zoning. The draft SLEP 2013 reflects a suite of legislative and policy guidelines for riparian management. The draft LEP 2013 includes clauses and waterways zonings that seek to protect the integrity and biodiversity values of riparian areas located within 40 m of a bank of a natural water body.

Recognising the constraints of limited budget, the current Estuary Program focuses on the implementation of the adopted Shoalhaven River Estuary Management Plan high priority actions, including the ongoing threat posed by poor management of the floodplain agricultural drainage network. The 2008 Shoalhaven River Estuary Management Plan is available at <http://shoalhaven.nsw.gov.au/Environment/Coastlineandwaterways/Managementplans.aspx>.

The 2008 Shoalhaven River Estuary Management Plan identifies the following high priority and moderate priority actions:

High Priority actions:

10.24 Protect oyster growing areas from water quality impacts (see draft NSW Oyster Industry Sustainable Aquaculture Strategy 2006):

- Liaise with landholders to fence riparian zones by voluntary agreement with landholders to exclude cattle from the waterway near oyster growing areas;
- restore riparian vegetation to filter agricultural runoff to the estuary and to provide a buffer between residential subdivision and oyster production areas;
- minimise overflows or other discharges from sewage systems (storm events or maintenance);
- Where cost effective, install water treatment systems, such as constructed wetlands on drains to the estuary from urban land, caravan parks etc in proximity to oyster production leases;
- Investigate alternative investment opportunities for the preparation of a Clean Waters Model for the Shoalhaven;
- Audit diffuse Stormwater sources; and
- Monitor on site sewerage treatment systems.

Moderate Priority actions

9.15 Consider the preparation of a Boating Management Plan.

The plan could refer to boating impacts on:

- Bank stability;
- Riparian vegetation; and

-
- Noise.
- 8.6 Prepare community information about the dynamic nature of the lower Shoalhaven estuary and the impacts of historic channel modification on estuary dynamics.
 - 8.8 Prepare and communicate emergency response plan for low lying areas of Shoalhaven Heads Village as part of the Floodplain Management Plan and Entrance Management Strategy to improve community understanding of estuary dynamics and historical modifications.
 - 8.10 Consider dredging shoals if there is a risk to safe navigation that cannot be managed by the use of navigational aids.
 - 8.16 Identify any reach where monitoring of erosion near existing development/services should be conducted so that bank retreat (and associated impacts on infrastructure or built assets) can be effectively planned. to consider dredging of shoals and undertake bank erosion control.
 - 8.31 Maintain structural controls on some sections of river bank.
 - 9.33 Require best practice management of urban stormwater for all new residential, commercial and industrial estates that drain to the estuary.
 - 10.8 Prepare community information about the history of Berrys Canal and its continued morphological adjustment.
 - 10.42 Provide ongoing quality information to residents about the health of the estuary and the sustainability of management. Utilise local media with stories about estuary management actions, involvement opportunities and interpretation of monitoring results. Priority community information programs should include:
 - managing the riparian zone – restoring habitat whilst maintaining productivity;
 - bank erosion and channel change in the Shoalhaven estuary; and
 - floodplain wetland habitats .

It is considered that projects in progress and under grant funding consideration (refer to the sections in Coastal and Estuary grant funding report related to “Shoalhaven River Entrance process study and community education, grant amount requested : \$50,000 and Catchment Stormwater assessment Shoalhaven River/Lake Wollumboola, grant amount requested : \$20,000) are capable of achieving a priority implementation strategy that builds on previous work and responds to these community priority concerns.

FINANCIAL IMPLICATIONS:

The ability to deliver effective landscape scale remediation and sustainable management controls as expected will require significant financial resources, community acceptance, Government agency and political commitment along with long timeframes.

Council has no capacity to deliver projects across agency boundaries and is limited by staff resource constraints and implementation priority demands of ten Estuary/Natural Resource Management Plans and a citywide Coastal Zone Management Plan.

COMMUNITY ENGAGEMENT:

Community consultation will be undertaken as part of each project's delivery phase. However Council's Northern Natural Resources and Floodplain Committee is the required forum to continue the development and implementation of sustainable estuary management initiatives for all active community stakeholder groups where government agency representative support is provided.

9. Shoalhaven River Agricultural Drainage Remediation Project File 3426E & 1799E

PURPOSE: Delivery Program Activity: 2.1.1.12

To advise the Committee of the current status of this key project for the Shoalhaven River.

RECOMMENDED that the Committee

- a) **Supports the reinstatement of an Acid Sulfate Soils Advisory Group to overview and provide guidance to the Shoalhaven River Agricultural Drainage Remediation Project; and**
- b) **Nominates interested members to participate in the Advisory Group.**

OPTIONS

1. Accept the recommendation as written.
2. Provide alternative direction.

DETAILS

Council's 2012-2013 grant applications under the State Estuary Management Program included a successful application for \$60,000 to undertake a strategic review of agricultural drainage asset maintenance.

The project is identified as a high priority action in the adopted Shoalhaven River Estuary Management Plan. The significant environmental threat posed by the presence of acid sulfate soils within Council's network of agricultural drains/floodgate system on the Shoalhaven and Crookhaven River floodplains remains unresolved.

The Shoalhaven and Crookhaven River floodplains are Acid Sulfate Soil (ASS) hotspots and the subject of extensive research by Wollongong University and State Government Agencies sponsored by Council, the Southern Rivers CMA (SRCMS) and various grant funding programs.

Floodplain agriculture has been assisted in the past by the installation of a network of floodplain drains, lowering the water table and accelerating the drainage of floodwaters and minimised tidal intrusion into productive areas. Side effects of this drainage has been

the exposure of ASS during “maintenance” and the loss or degradation of floodplain wetland marine breeding habitats including Endangered Ecological Communities.

Trial management actions have proven successful, however, the maintenance and remediation of the Council’s extensive network of drainage canals/floodgate structures on a landscape scale needs urgent attention to improve estuary health and sustainable maintenance.

Remediation options/strategies need to be specified for each site, costs estimated, priority ranked, funding allocated and maintenance agreements with landowners negotiated for sustainable management to be progressed.

Current project progress includes:

- The engagement of Dr Will Glamore of Water Research Laboratory (UNSW) to undertake a strategic review of network and develop remediation options and priority actions (preliminary works complete and Draft report to be presented at the meeting);
- Data collection of the drainage asset network including land and hydro survey of asset type, sub catchment mapping, Water quality testing by Council staff: and
- Floodgate condition assessment and channel maintenance program under development.

Asset maps and sub catchment maps are Attachments ‘A’ and ‘B’

This is a complex project which requires drawing on different level of expertise. A taskforce was created a few years ago however is no longer active. It is proposed to reinstate the ASS Advisory Group to oversee and provide guidance to this project. It is proposed that the Advisory Group include representatives from NSW DPI (Fisheries and Agriculture), SRCMA, Office of Environment & Heritage (OEH), University of Wollongong, University of NSW, Manildra, oyster growers, major landowners, dairy farmers, Shoalhaven Landcare, Forestry, members of the Northern NRFMC and Council staff.

It is also proposed that the Advisory Group be established for the duration of this project only. At the completion of the project the Group will make recommendations to the Committee and Council on whether an expert group is still required.

FINANCIAL IMPLICATIONS:

The project budget is \$120,000, which is funded on a 50:50 basis by Council’s Estuary Management Program and an OEH Estuary grant. Additional support is provided by the annual Flood Mitigation budget which will provide additional capacity to undertake trial asset replacement and maintenance techniques. Integration with the Road Stormwater program actions will again increase funding options available.

COMMUNITY ENGAGEMENT:

Additional community consultation will be undertaken as part of the project delivery phase. Letters have been sent to landowners to introduce the project and a project survey and brochure will be developed as part of the implementation phase.

10. Shoalhaven River Bank Stabilisation - Bolong Road**File 3426E**

PURPOSE: Delivery Program Activity: 2.1.1.12

To advise the Committee of a proposed Riverwatch "Caring For Our Country" trial riverbank stabilisation project.

RECOMMENDED that the Committee receive the Shoalhaven River Bank Stabilisation – Bolong Road report for information.

OPTIONS

1. Adopt the recommendation of this report.
2. Propose and justify an alternate recommendation to Council.

DETAILS

Mr Knapp, at the Committee's December 2012 meeting, requested urgent assistance from Council and Southern Rivers CMA (SRCMA) to progress bank stabilisation for a length of approximately 500m of Shoalhaven River riverbank where erosion may ultimately threaten Bolong Road. Council owns approximately 80m of the eroding bank, the remainder is owned by local farmers. Facing due south, the outside meander bend of this section has been assessed by the 2004 Foreshore Definition Study and acknowledged as a high risk erosion site, prone to natural flood flow and wind wave erosion processes.

Mr Knapp, Council staff, Riverwatch, SRCMA and DPI Fisheries staff inspected the site during December 2012 and agreed to trial a new bank stabilisation treatment on Mr Knapp's section of the riverbank which is subject to high water flow and severe bank erosion. If successful, the technique will both halt the erosion and protect valuable farming land. Rather than constructing full rock armour along the bank at a cost of approximately \$800 per linear metre, the trial design provides a three parts 'softer' option consisting of baffle (wave buffering) rock, a mangrove revegetation area in the tidal zone and plantings on Mr Knapp's land at the top of the bank which will complete the design and provide further stabilisation.

On the Council owned section of the bank, Council will investigate options for better recreational fishing opportunities in conjunction with bank stabilisation and plantings.

Discussion with adjoining landowners has been initiated by Riverwatch and any works must ensure no adverse effects are suffered by downstream land owners.

Please see Attachment 'A' : Site plan with Remediation design typical section.

FINANCIAL IMPLICATIONS:

A \$50,000 grant application has been submitted by Riverwatch to “Caring For Our Country” for the trial project on the private land. Council will provide \$10,000 from Council’s 2013-2014 Estuary Management Program funding for fishing access improvement and bank stabilisation on Council land . To fund the fishing platform, Council will submit an application to the Recreational Fishing Trust program. These structures have been constructed elsewhere in Shoalhaven and are proving to be very popular. There is scope to stage the construction to allow reuse of suitable rock excavation material available from RMS road works.

COMMUNITY ENGAGEMENT:

The project has been initiated by the community, and should the funding application be successful, it will largely be implemented and managed by the community i.e. Riverwatch and the land owner. The project is compatible with objectives listed in the Shoalhaven River Estuary Management Plan 2008 and the SRCMA’s Catchment Action Plan 2013-2023.

11. Update – Nowra & Browns Creek Floodplain Risk Management Study and Plan **File 44188E**

PURPOSE: Delivery Program Activity: 2.3.1.4

To inform the Committee on the progress of the Nowra & Browns Creek Floodplain Risk Management Study and Plan.

RECOMMENDED that the Committee

- a) **Receive the Update – Nowra & Browns Creek Floodplain Risk Management Study and Plan report for information; and**
- b) **Request an update on this project be provided at the next Committee meeting.**

OPTIONS

1. Adopt the recommendation of this report.
2. Propose and justify an alternate recommendation to Council.

DETAILS

In April 2012, Council sought quotations from consultants to undertake The Nowra & Browns Creek Floodplain Risk Management Study and Plan. This is the 4th stage in the Floodplain Risk Management Process.

In May 2012, consultants Cardno NSW P/L were engaged to undertake the study and plan. Following the receipt of all required data, the project commenced in June 2012.

The consultants are currently working on the hydrology and hydraulics model and have completed 80% of the environmental and social assessment. Site visits were undertaken with Council's staff in October 2012. Options for flood mitigation are planned to be presented to Council staff in the next few weeks.

It is anticipated that the Floodplain Risk Management Study and Plan will provide valuable information for improvement of drainage systems in the area.

FINANCIAL IMPLICATIONS:

Funding for the above project has been provided under the NSW State Assisted Flood Program 2012/13. Council's contribution comes from the existing general Floodplain Management Program budget.

COMMUNITY ENGAGEMENT:

The first stage of community consultation was undertaken in October 2012. Additional community consultation workshops will be organised in the next few months to discuss identified flood mitigation options with the community.

P L Adams

DIRECTOR STRATEGIC PLANNING & INFRASTRUCTURE