

KEMPSEY SHIRE COUNCIL



CONSULTANT BRIEF

**To undertake an
ECOLOGICAL STUDY
of the
MACLEAY RIVER ESTUARY**



September 2009.

| | | |
|------------|---|-----------|
| 1.0 | INTRODUCTION | 4 |
| 1.1 | Rationale | 4 |
| 1.2 | Location | 4 |
| 1.3 | General Objective | 4 |
| 1.3 | Background | 5 |
| 1.4 | Recent Studies | 5 |
| 1.5 | Assessment Timeframe | 6 |
| 2.0 | DESCRIPTION OF MACLEAY RIVER ESTUARY | 6 |
| 2.1 | Catchment | 6 |
| 2.2 | Geomorphology | 6 |
| 2.3 | Early Images | 7 |
| 2.4 | Current description | 8 |
| 3.0 | ESTUARY PLANNING PROCESS | 9 |
| 3.1 | Coastal & Estuary Management Committee | 9 |
| 3.2 | Planning Process | 9 |
| 4.0 | STUDY AREA | 10 |
| 4.1 | Estuary Management Plan Study Area | 10 |
| 4.2 | Broader Study Area | 10 |
| 5.0 | AIMS & OBJECTIVES | 10 |
| 5.1 | Data Gap Analysis - Processes Study | 10 |
| 5.2 | Consultation | 10 |
| 5.3 | Estuary Ecological Sampling Program | 10 |
| 5.4 | Ecological Character | 10 |
| 5.5 | Ecological Indicators | 11 |
| 5.6 | Ecological Report | 11 |
| 6.0 | CRITICAL QUESTIONS | 11 |
| 7.0 | ECOLOGICAL STUDY OVERVIEW | 12 |

| | | |
|-------------------|---|-----------|
| 8.0 | SCOPE OF WORKS | 12 |
| 8.1 | CONSULTATION | 12 |
| 8.1.1 | Consultation Processes | 12 |
| 8.2 | DOCUMENTATION AND REPORT REVIEWS | 13 |
| 8.3 | ESTUARY ECOLOGICAL ASSESSMENT | 13 |
| 8.3.1 | General | 13 |
| 8.3.2 | Specific Tasks | 13 |
| 8.4 | REPORTING AND TIMETABLE | 14 |
| 8.4.1 | Project Management | 14 |
| 8.5 | Draft Ecological Study Report | 14 |
| 8.6 | Final Report | 14 |
| 8.7 | Project Timeframe | 15 |
| 9.0 | DATA AND REFERENCE DOCUMENTS | 15 |
| 10.0 | CONTACT OFFICER | 15 |
| 11.0 | FEES | 15 |
| 12.0 | QUALITY ASSURANCE | 16 |
| 13.0 | COMPLETION OF PROPOSAL | 16 |
| 14.0 | SELECTION CRITERIA | 17 |
| 15.0 | ACCEPTANCE | 17 |
| 16.0 | COUNCILS CONSULTANCY AGREEMENT | 17 |
| 16.5 | Insurance | 18 |
| 17.0 | RESPONSIBILITY OF CONSULTANT | 20 |
| SCHEDULE 1 | LUMP SUM FEE SCHEDULE | 21 |
| SCHEDULE 2 | | 22 |

1.0 INTRODUCTION

1.1 Rationale

This brief is to seek consultant services to undertake an Estuary Ecological Study of the Macleay River estuary to accompany and supplement the Macleay River Estuary Processes Study (WMAWater 2009) in accordance with the general provisions of the States Estuary Management Manual (1992) and the management framework proposed for “Healthy Modified Conditions” as detailed in the Coastal Lakes report by Healthy Rivers Commission (2002).

1.2 Location

The Macleay River estuary is located on the mid north coast of NSW approximately 450 kilometres north of Sydney and 50 kilometres north of Port Macquarie. Refer Section 4 for description of study area.

The estuary is a principal feature of the region from both a commercial and recreational aspect. Past flood mitigation works combined with increases in population, tourism, commercial and recreational activities are placing pressures on the natural processes, health and integrity of the estuary its coastal floodplain and foreshores.

In recognition of this, Kempsey Shire Council, through its Coast & Estuary Management Committee has resolved to prepare an Estuary Management Plan for the Macleay River estuary.

1.3 General Objective

To further complement the preparation of a management plan for the Macleay River Estuary more detail is required on the floodplain / estuary relationship and the ecology of species that use the estuary and its coastal floodplain.

As such the ecological assessment is to provide a comprehensive understanding on;

- Estuary and floodplain backswamp relationship, interaction and function
- Key estuarine aquatic flora and fauna spp distribution their habitat, seasonal movement patterns, breeding cycles and threats

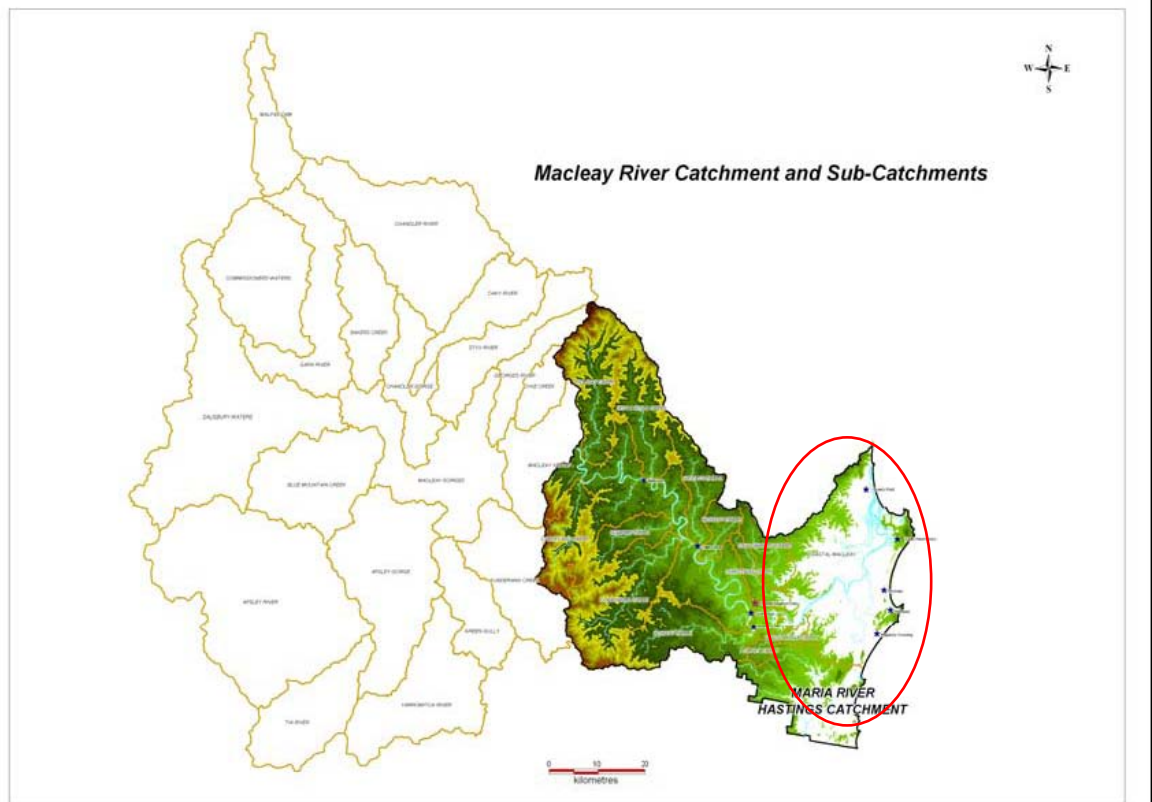


Figure 1 Map of Macleay River Estuary Study Area

1.3 Background

Council established a Coast & Estuary Management Committee in 1997 charged with the task of preparing management plans for all its estuaries and coastal lands. In addition to the preparation of the Macleay Estuary Management Plan, funding through the NSW Governments Estuary Program has been provided to assist with the preparation of management plans for Korogoro, Killick and Saltwater Creeks.. These Plans have been or are nearing completion.

The Committee is being guided by the NSW Coastal Policy 1997, Estuary Management Manual (1992) and North Coast Rivers Healthy Rivers Commission Report (HRC 2003) which outlines a structured management process leading to the adoption and implementation of an integrated, balanced and community supported estuary management plan.

An Estuary Processes Study (WMAWater 2009) for the Macleay River has been completed (www.kempsey.nsw.gov.au/environment/estuarmgmt/macleayest.html). The primary purpose of the Macleay Estuary Ecological Study is to supplement the ecological component of the Processes Study via comprehensively assessing and describing the important biological dynamics and interactions within the estuary system, its floodplains and riparian zones, and connecting water courses.

1.4 Recent Studies

Recent studies and surveys commissioned by Council and/or DNR (now DECC) for the Macleay River Estuary as part of the Estuary Planning process includes;

- 1) **Data compilation study (GECO 2005)** comprehensive collation and review of all available existing data sources, studies and reports on the

Macleay River estuary into an electronic register macleay.kempsey.nsw.gov.au. This study also describes the historical context and makes recommendations on data gaps and investigations required. It also includes;

- a) High quality ortho rectified **base map** in GIS format for the Macleay River estuary and its floodplain using 2003 aerial photography.
 - b) The Geomorphology of Macleay River Estuary (Dr Tim Cohen Sept 2005)
 - c) Flora and fauna assessment. (ID Landscape Management Sept 2005)
- 2) **Full Hydrographical Survey (Dept Commerce May 2003)**
 - 3) **Tidal Gauging Hydrosurvey (MHL Sept 2003)**
 - 4) **Macleay River Estuary Processes Study (WMA Water Jan 2009)**
 - 5) **Coastal Lake Assessment and Management (CLAM) Back Creek South West Rocks Sustainability Assessment Report (Jun 2007)**
 - 6) **Ecological Literature Review and Information Gaps (GeoLINK 2009)**

1.5 Assessment Timeframe

It is acknowledged that comprehensive ecological assessments are generally required to be undertaken over appropriate temporal and cyclic timeframes. However, as the information derived from this ecological assessment is required to be included in the Estuary Management Study & Plan a timeframe of approximately **25 weeks** has been determined.

2.0 DESCRIPTION OF MACLEAY RIVER ESTUARY

2.1 Catchment

The coastal Macleay sub catchment has an area of 739 sq km. and waterway area of 18.2 sq km The Macleay River has a catchment area of 11,435 sq km. Defined as a mature barrier estuary formed by the gradual infilling of the coastal basin by fluvial sediments from the landward end and by marine sediments from the seaward entrance it is bordered by Nambucca to the north and Hastings catchment to the south.

The main urban areas are sited on the river and include Kempsey, Fredericton, Smithtown, Kinchella, Jerseyville, South West Rocks and Stuarts Point.

2.2 Geomorphology

The Macleay estuary is a mature barrier dominated system in a high energy ocean wave setting. It is a filled delta system dominated by fluvial processes. It can be broken into 3 broad process zones that reflect differing degrees of fluvial and tidal interactions. **Fluvial process zone** extends from tidal limit at Belgrave Falls to Kinchella (including Belmore, Kinchella and Upper Clybucca Creek). **Fluvial-Marine transitional zone** extends from Kinchella to Jerseyville Bridge and includes most of Clybucca Creek. **Marine flood tide zone** is dominated by marine derived sediment and extends from Jerseyville Bridge to the mouth of the Macleay River including the abandoned Macleay Arm. (Cohen Sept 2005)

The headwaters rise in the Great Dividing Range 1600m AHD and flow across the New England Tableland before falling some 400m into rugged gorge country, the Macleay River emerging from the gorges some 35km upstream of Kempsey

The Macleay River estuary extends some 54 kilometres upstream from the ocean at South West Rocks to the tidal limit at Belgrave Falls about 10km upstream of Kempsey.

The coastal floodplain has an area of 400sq km. and includes well defined levees up to 7m AHD along the rivers and creeks below Kempsey, grading to large semi permanent backswamps often < 1m above 0 AHD (M.Tulau & S. Naylor 1999). These swamps cover some 240 sq km representing 60% of the floodplain.

The entire floodplain below Kempsey to South West Rocks is underlain by extensive estuarine deposits that include potential and actual Acid Sulfate Soil (ASS) It is estimated that some 31,000 ha of floodplain below Kemspey is underlain by high risk ASS that is either at or near the surface.

The outlying headlands of Grassy Head, Smoky Cape, Hat Head and` Crescent Head are linked by Pleistocene sand masses up to 70m above sea level. (M.Tulau & S. Naylor 1999)

Extensive flood mitigation works initiated after the 1949 and 1950 floods have significantly modified the coastal floodplain with some 210 floodgates in 47 separate structures servicing some 116km of excavated drains, 180km of levees. 80% of the main channel from Kempsey is lined with rock protection works. (M.Tulau & S. Naylor 1999)

While the Macleay River is the dominant watercourse on the floodplain, significant tributaries include Christmas, Borirgalla and Clybucca Creeks Macleay Arm, Andersons Inlet to the north and Belmore River and Kinchela Creek to the south.

The Macleay enters the ocean through a trained river entrance at South West Rocks which was first breached during the flood of 1893. Previously the river entrance was at Grassy Head. The old river channel between South West Rocks and Grassy Head now a backwater known as the Macleay Arm. (Webb 1997)

The mangrove area on the Macleay is about 5sq km representing 5% of States estuarine total, while Seagrass and Saltmarsh areas represent 1.097sq km and 3.652sq km respectively.

The Yarrahapinni National Park is located in the Macleay Arm and is undergoing restoration to its former state as a tidal saltwater wetland.

2.3 Early Images

Early Images of the Macleay after Government Surveyor Clement Hodgkinson in his 1840's descriptions contained in (Australia from Port Macquarie to Moreton Bay, London Oct 1844).....

“In ascending the Macleay River, from its entrance, the first objects which meet the eye on both banks are extensive mangrove flats, with thickets of myrtle, palm, and

swamp oak, which are few miles further on, are superseded by dense alluvial brushes, rising like gigantic green walls on both sides of the river.”

p3 He goes on to explain the term brush

.....”brush trees in general possess a rich umbrageous foliage of bright shining green. The popular names of the most remarkable brush trees are as follows:- Red Cedar, White Cedar, Mahogany, Tulipwood, Rosewood, Ironwood, Lightwood, Sassafras, Corkwood the Australian Tamarind, Box numerous and elegant varieties of the Myrtle genus, the Australian Palms, and the Brush Fig.....But the peculiar appearance of the brush is principally caused by the countless species of creepers, wild vines and parasitical plants of singular conformation, which interlaced and intertwined in inextricable confusion, bind and weave together the trees almost to their summits, and hang in rich and elegant flowering festoons from the highest branches.When this brush land is cleared, and cultivated, its fertility seems inexhaustable.”p4

Now continuing with his description of the Macleay River.....

”It is navigable for vessels of fifty or sixty tons, to a distance of thirty four miles from its bar (Grassy Head), the water being of good depth, except at Shark and Pelican islands, where sand flats extend across the river, which can be passed by vessels only at high water. The reaches of the river are long and straight, averaging about a quarter of a mile in width, flanked on both sides by huge walls of the dense brush I have just described. These borders of alluvial brush land on the banks of the river, are generally half a mile, or a mile wide, and are then backed by extensive swamps of many thousand acres in extent, whose verdant sea, of high waving reeds and sedge, stretches away to the base of the distant forest ranges. There are several lagoons in these swamps, and the stagnant water is very generally diffused over their surface. (P9)

.....”The continuous brush renders the lower part of the Macleay very monotonous to the admirer of picturesque scenery; however an occasional glimpse of the azure tinted peaks of the distant mountain ranges, with green islands covered with palms, now and then varying the sameness of the reaches of the river, not to speak of the air of cheerfulness imparted to the scene by the large flocks of aquatic birds, of wonderful variety, all busily engaged, and fish leaping out of the water in every direction, renders an excursion on the waters of the Macleay pleasant enough. (P10)

2.4 Current description

Recent surveys indicate that 90% of entire estuary is stable with 27% of this being stabilised by rockwork. There are 25km of eroding riverbanks with minor erosion being the most common. Whilst there has been an increase in minor erosion in the last 70 years there has been a marked reduction in moderate and severe bank erosion since 1934. The most active areas are Kinchela bench and Fattorini Island just downstream of Smithtown (GECO 2005)

The Macleay River “riparian corridor” is highly degraded due to the extent of clearing and the paucity of remnant pockets along the riparian margin or in pockets across the floodplain. Weed infestation is extensive with some 80% of the mapped riparian zone containing *Category 1 Weeds* which are the most serious weeds on

the North Coast, capable of displacing native communities. (ID Landscape Management 2005)

Extensive backswamps areas once prized for their forage value in dry times now have little productivity as many of the water tolerant species are now replaced by less tolerant pasture species. There is a history of fish kills that usually occur after heavy rains following prolonged dry periods. (S. Naylor 1996)

The Lower Macleay provides significant recreational boating opportunity with abundant diversity of waterways fronting the New Entrance area of South West Rocks.

There are significant commercial and recreational fishing activities and oyster farming in the lower Macleay. Commercial fishermen regularly work the Macleay targeting mullet and mud crabs. Outside the estuary trawlers catch fish and prawns many of which are ecologically linked to the estuary. Oysters are cultured principally around Shark Island, Macleay Arm, Andersons Inlet and` Clybucca Creek.

Recreational fishing is widespread with fish being sought in similar areas to commercial fishermen. The Macleay is also acknowledged as providing important habitat for Australian Bass, a significant recreational species. (Webb 1997). There are no fishing sanctuaries (except for some seasonal closures) in the Macleay River unlike Hasting and Bellinger Rivers and as result receive heavy activity from recreational and professional fishers.

3.0 ESTUARY PLANNING PROCESS

3.1 Coastal & Estuary Management Committee

Kempsey Shire Council has an active Coast & Estuary Management Committee with membership recently reviewed to ensure all key stakeholders are included. The principle objective of the committee is to assist Council in the development and implementation of management policies and plans for all coastal and estuarine areas of the Kempsey Local Government Area, largely through funding derived from Council and the States' Estuary and Coastal Programs.

3.2 Planning Process

The States Estuary Management Manual (NSW Govt 1992) outlines the processes for preparing an estuary management plan.

The estuary management planning process is being reviewed as part of the Coastal Protection Package announced by the Premier during 2001. It is intended for both the coastal and estuary planning processes to be combined into a coastal zone management manual.

The planning process as outlined in the current revised Manual involves a 8-stage process as follows:

1. Form an Estuary Committee
2. Identify Issues and Set Goals
3. Data Compilation
4. Undertake an estuary processes study

5. Undertake an estuary management study
6. Prepare estuary management plan
7. Adopt and implement estuary management plan
8. Monitor and Review management process

Please note: This consultancy brief pertains to supplementing stage 4 of the planning process.

4.0 STUDY AREA

4.1 Estuary Management Plan Study Area

The study area includes the Macleay River estuary and connecting water watercourses, coastal floodplains and backswamps and riparian zones. This includes the waterways and all tributaries up to the tidal limit, the entrance, foreshores, floodplain and adjacent land, and coastline. This sub catchment is digitally mapped as the Coastal Macleay # 2060301 (DNR 1999 Stressed Rivers). Please note Back Creek near the New Entrance at South West Rocks must also be included in any assessment.

The tidal limit of the main river extends 55km upstream to Belgrave Falls about 10km upstream of Kempsey.

4.2 Broader Study Area

Obviously the wider catchment must be considered in so far as it may impact on the estuarine environment, especially the coastal floodplain wetlands (salt brackish and fresh) that interact with tidal and flood flows.

5.0 AIMS & OBJECTIVES

To ensure the Macleay River Estuary Management Plan will be developed using comprehensive scientific-based information, the primary aim of this study is **not** to duplicate or repeat existing ecological assessments or detail information already described within the Processes Study (WMAWater 2009) but to identify, assess and describe those important ecological attributes not currently and/or inadequately described or assessed.

5.1 Data Gap Analysis - Processes Study

To review the Macleay River Estuary Processes Study (WMAWater 2009) and GeoLINK report “Ecological Literature Review and Information Gaps” (Aug 09) determine any inadequacies in regards to important ecological descriptions and assessments.

5.2 Consultation

To undertake consultation with relevant agencies and stakeholder groups to ascertain pertinent ecological information

5.3 Estuary Ecological Sampling Program

Based on the Processes Study assessment and consultation process undertake a comprehensive ecological sampling and assessment program

5.4 Ecological Character

To describe the current ecological condition, population demographics and ecological dynamics including the biological connection/interaction between

floodplain and river estuarine and riparian systems any temporal and spatial distribution, trophic dynamics and ecological function

5.5 Ecological Indicators

To assess and describe the ecological health and/or ecological health indicators, any possible or likely threats, diseases or concerns. Review the State Monitoring Evaluation and Reporting (MER) program identifying how it can be applied to the Macleay River Estuary and its tributaries to give a measure of river health. It is anticipated that a list of sites be proposed with suggested indicators given the issues being dealt with

5.6 Ecological Report

Based on the above, prepare a comprehensive and descriptive Ecological Report that supplements the Processes Study and that will assist in the Estuary Management Study & Plan development.

6.0 CRITICAL QUESTIONS

The following collation of questions is to be considered when assessing and reporting on the ecological dynamics of the Macleay River estuary and connecting environs

Aquatic Habitat Extent and Distribution:

- Are all the current listed ECC definitively mapped? What are they? Where are they?

Fisheries Resources

- What biological importance for the region does the Macleay play?
- What is the nature of black sediment in oyster harvest zones?
- Does their presence and distribution pose a threat to oyster management?

Wetland Ecology

- What are the energy flow balances between terrestrial and aquatic – wetland to estuary – freshwater to estuary? Can they be numerically determined?

Floodplain Management and Ecology

- What effects do 'blackwater' event have on the food web?

Floodgate and Drain Management

- What effects are floodgates and drains having on ecological systems in the Macleay?

Productivity

- Can a numerical assessment determine and compare past and present ecological dynamics?
- What are the key biological indicators for estuary health?
- Are there any significant breaks or disconnections within the food web that limit the systems ability to function sustainably?

Riparian Habitat

- Can a numerical assessment of the inputs from riparian zones be undertaken to describe past and present energy input and other riparian vegetation influences?

High Conservation Value Flora, Fauna and Ecological Communities

- Are there key areas of the floodplain, riparian zones and estuarine system that need special priority management from an ecological perspective?
- Are there any threatened/ endangered species not identified in the Processes Study?

Habitat Corridors

- What and where are the key biological corridors?

Factors Controlling Ecological Processes

- What are and where are any known poorly conserved ecosystems?

- What are the difficulties in comprehending the complexities of relationships between species and the physical environment?
- What are the biological changes associated with prevailing climatic conditions?

GIS Layers

- Are there any GIS layers specific to ecological management of the Macleay estuary that Council does not process?

Threatening Processes

- What are the major biological changes to occur in the estuary since European settlement?
- Are there areas of high human activity that are adversely impacting and are posing a significant threat on the biological integrity of the system?
- Are there any barriers (physical, social, legislative etc) to prevent or disturb any ecological movement, dispersal, recruitment and/or sustainability?
- Are there any significant weed or exotic fauna problems?
- Has there been any catastrophic loss of species from the Macleay estuary?

Rehabilitation Efforts

- Is there any potential for establishing conservation areas (where, why, how, benefits etc)?
- What type of systematic collection / sampling program should be developed and maintained to comprehensively assess the biological condition and trend?
- Are there specific riparian zones/area that requires protection/rehabilitation?
What are the key conservation measures?

7.0 ECOLOGICAL STUDY OVERVIEW

In broad terms the Ecological Study and Report is to detail a level of information on the ecological interactions, character, and dynamics of the Macleay River estuary, floodplain and riparian zones that will supplement the Estuary Processes Study and ensure the Estuary Management Study & Plan is developed based on sound scientific information in regards to the ecological processes within the Macleay River estuary system.

8.0 SCOPE OF WORKS

For the purpose of this brief the tasks will be grouped into broad processes;

- Consultation Processes
- Literature review
- Estuary ecological/biological sampling
- Estuary Ecological Report

8.1 CONSULTATION

8.1.1 Consultation Processes

The Consultant is required to develop and implement a consultation process that a minimum;

- a) Includes all relevant government and non-government agencies/organisations, including oyster growers and
- b) Provides a mechanism for up dating and informing Council and DECCW on the status of the study development

8.2 DOCUMENTATION and REPORT REVIEWS

- a) The Consultant is required to undertake a comprehensive literature review of all relevant published journals and reports
- b) Assess and evaluate the adequacy and reliability of any referred documents
- c) Interpret existing information to provide a clear understanding of the processes and interaction of the estuary
- d) Review research into the current status of oyster management in the Macleay River estuary

8.3 ESTUARY ECOLOGICAL ASSESSMENT

8.3.1 General

The Consultants submission must provide a detailed description of all survey and assessment techniques and timeframes planned to be utilised throughout the process.

On the basis of the priority issues and information derived from the Data Compilation Study, the Estuary Processes Study, agency consultation and consultation with the Coast & Estuary Management Committee, the consultant is to prepare an Estuary Ecological Study that;

- a). **Frames the context** of ecological/biological management
- b). **Identifies critical processes and threats.**
- c). **Maps** current and future activities that highlights those posing **threats or risks** to the ecological functioning of the estuary
- d). **Explore management options** for issues under consideration and river health goal achievement
- e). Make **recommendations** as to **preferred management options**
- h). Details method of **implementation** and **accountabilities**

8.3.2 Specific Tasks

Using Geolink's report "ecology Literature Review and Information Gaps" (Sept 09) as a basis, prepare a comprehensive Workplan detailing how the gaps may be best addressed with the funds available.

It is expected that the proposal will outline the scope of works required for each subject heading listed, breaking the task into desktop, field assessments, consultation and deliverable components with costings and time frames.

From a management perspective it is suggested that emphasis be placed on the following topics in order of priority;

- 1) GIS Layers (to provide a comprehensive base for estuary management)
- 2) Productivity (focus on role of floodplain wetland and riparian lands)
- 3) Floodplain Management and Ecology (also looking at the role of flood blackwater events on food web dynamics)
- 4) Fisheries Resources (with some emphasis on Bass sp)
- 5) Factors controlling ecological processes
- 6) High conservation value flora, fauna and ecological communities

- 7) Threatening processes
- 8) Habitat corridors
- 9) Aquatic habitat extent and distribution (access and build on works already undertaken by DPI Fisheries Pt Stephens Dr. Dob crease)

Noting that;

Rehabilitation Efforts and ***Riparian Habitat*** can be dealt with by the Estuary Management study & Plan

Wetland Ecology - review the recent Wetland Care Australia project that largely deals with this issue

Floodgate and Drain Management – gaps can become a recommendation for Council's Floodplain Committee to deal with.

8.4 REPORTING AND TIMETABLE

8.4.1 Project Management

8.4.2 Brief and concise progress reports to Council & DECCW on the study findings and progress are required **monthly**.

8.4.3 Any aspects of the study that may not have been identified in the brief but could add value to the end product or improve on the process be clearly communicated to Council with details of specific tasks, outcomes envisaged with an estimate of time and costs

8.4.5 Written confirmation amending the scope of works to accommodate such tasks must be obtained from the Council contact officer before proceeding.

8.5 Draft Ecological Study Report

8.5.1 Considerable attention is to be given to presenting information in clear written, graphical, diagrammatic and tabular form that is readily understood by councils, Government agencies and the community.

8.5.2 Draft Ecological Study reports shall be produced and will be subject to review by Kempsey Council's Coast and Estuary Management Committee, relevant stakeholders.

8.5.3 Draft reports to include:

- 5 paper copies of each
- 5 CDs with an electronic version in Microsoft Word format to allow editing
- all draft spatial and mapped data in JPEG format for use by Council and DECC GIS system

8.6 Final Report

Following consideration of community comments and review by the Committee of proposed amendments, and written Council approval, the Consultant shall

- print five (5) copies (with colour exhibits) of the final Macleay River Estuary Ecological Study to allow for
- 5 CD Rom copies of the final reports in pdf format

In addition the Consultant shall supply to Council and DECC an unbound printing quality master copy (including artwork) of the Estuary Ecological Study

The final report including figures must be published in format for distribution on CD ROM and by a web site.

The Consultant shall supply a realistic timeframe and program timetable for completion to draft study report and time required from receipt of community comments to final study report stage.

8.7 Project Timeframe

The Consultant must supply within their submission a realistic and clearly defined timeframe and program schedule for undertaking and completing of specific tasks. As the development of the Estuary Management study & Plan is dependent on the ecological assessment it is expected that the assessment and reporting process be completed within a **25 week** period.

9.0 DATA AND REFERENCE DOCUMENTS

9.1 The Consultant will be responsible for collecting adequate information for review to fulfil the requirements of the brief. There will be no charge to the Consultant for access to reports held by DECC offices or Kempsey Shire Council.

9.2 All spatial data and relevant metadata must be forwarded to Kempsey Council and DECC Kempsey office upon completion of the project on CD-ROM.

Data must comply with the requirements as set out in “DNR North Coast Region Spatial Information Management Manual Nov 2003” All data obtained or developed through project funding are regarded as Department deliverables, including relevant license documents.

10.0 CONTACT OFFICER

The Council officer responsible for briefing and liaison

Mr Ron Kemsley

Ph 6566 3249

Fax 6566 3245

ron.kemsley@kempsey.nsw.gov.au

DECC Officer

John Schmidt

Ph 6561 4975

Fax 6561 4985

John.Schmidt@environment.nsw.gov.au

11.0 FEES

11.1 The fee shall be a lump sum as accepted by Council with the exception of hourly rates for attendance at Committee or other public meetings that are additional to the meetings and community consultation identified in the Brief.

11.2 The lump sum fee shall include final printing of the Study specified meeting attendance, field surveys and data collection, and all costs associated with the community consultation process.

11.3 A fee proposal shall be submitted on the Lump Sum Fee Schedule at **Schedule 1**.

- 11.4** An upper lump sum budget of **\$65,000.00** shall apply for tasks outlined in this brief. Should the Consultant consider the budget inadequate for the scope of work required, an alternative fee proposal can also be submitted. Any additional field data deemed necessary by the Consultant to fulfil the requirements of the brief should be detailed in the fee proposal.
- 11.5** For work that may arise which is beyond the original engagement, the Consultant is required to provide hourly rates for professional and technical staff from which a time based fee for additional work can be negotiated.
- 11.6** Progress payments shall be made in accordance with an agreed payment schedule that reflects completion of tasks and/or achievement of milestones. The consultant shall submit as part of its proposal a proposed time based progress payment schedule.

12.0 QUALITY ASSURANCE

- 12.1** All work under this engagement, including work by sub-consultants, secondary consultants and service providers, shall be carried out under a quality system based on AS/NZ ISO 9001:1994 (or AS/NZS ISO 9002 : 1994 if applicable).
- 12.2** The proposal must be prepared as a Quality Assurance document.

13.0 COMPLETION OF PROPOSAL

The Consultant is to submit the following information in writing within the time allowed. Four (4) copies of the Consultant's proposal are required.

- a) Consultant's capabilities with respect to methodology, understanding of the brief, experience, team to be used and community consultation program. The Consultant must demonstrate that the disciplines of marine biology, estuarine & wetland ecology, natural resources, stakeholder consultation are adequately covered.
- b) Consultant's fee proposal, itemised as per **Schedule 1**.
- c) Name of the Project Manager for the commission, key staff employed on the work, and persons empowered to accept direction from Council.
- d) Name of proposed sub-consultants
- e) A detailed program showing:
 - start and finish dates for each project task,
 - milestones and critical dates for specialist input,
 - proposed meetings with the Committee and/or council,
 - key personnel working on each project task and allocated time in hours;
 - progress payments schedule; and
 - time allowances for reviews and exhibitions.
- f) Confirmation of required professional indemnity and public liability insurance cover.
- g) Details of the Consultants quality system.

- h) Details of recent and relevant work performed by the Consultant.
- i) Any pecuniary or possible conflict of interest associated with the Commission

14.0 SELECTION CRITERIA

14.1 Proposals shall be assessed by a sub-committee of the Macleay Coast & Estuary Management Committee. The sub-committee is likely to be comprised of representatives from Council, DECC and the community.

14.2 Proposals will be assessed on an objective basis in general accord with the following selection guidelines. Factors to be considered in the assessment process will be:

- a) methodology;
- b) demonstrated level of understanding of what is required to produce a quality outcome;
- c) the quality of the Consultant's team in terms of demonstrated experience in the field. Proven track record. Of particular importance is the presence of sufficient depth of experience to cover the broad range of skills needed to address the issues and formulate objectives and strategies;
- d) community consultation proposal and skills;
- e) overall fee;
- f) project timetable; and
- g) understanding of the Estuary Management Process.

15.0 ACCEPTANCE

Written acceptance and agreement from the Consultant that the work will be undertaken in accordance with the Brief is required before the Commission can begin.

16.0 COUNCILS CONSULTANCY AGREEMENT

16.1 General Conditions of Engagement

The tasks as identified in the brief are based on Council's assessment of the study. The consultant may suggest any amendments required to achieve the study objectives during the course of the study.

Any proposed departure from the agreed study tasks must first be ratified by Council before proceeding.

The conditions under which the consultant will be engaged shall be generally in accordance with the Association of Consulting Engineers Australia Guide to Consulting Engineering Services and this Brief.

16.2 Termination

The consultant's commission to carry out the study may be subject to termination due to non-performance or inability to meet set deadlines. The consultants will be informed by letter of such termination. This letter will be final and not subject to further correspondence.

- 16.3 Confidentiality**
Investigations and reports will remain confidential unless, or until, released by the Council.
- 16.4 Sub-Consultants**
The primary consultant may engage a sub-consultant for a specified part of the study subject to the written approval of Council. The primary consultant is responsible for the sub-consultant's work and compliance with the terms of the study. The sub-consultant has no claim on Council for fees or expenses.
- 16.5 Insurance**
- 16.5.1 Professional Indemnity**
The consultant shall maintain a current Professional Indemnity policy of insurance at a sum not less than \$300,000 or not less than that sum specially nominated in the Letter of Engagement. The consultant shall maintain a policy of insurance for an amount that is sufficient to indemnify the consultant after completion of the commission.
- 16.5.2 On Site Public Liability**
The consultant is responsible for taking out at least \$5 million public liability insurance giving cover to himself/herself, his/her employees and any agent engaged by consultant for the duration of the work. The consultant should also be aware of the obligations and liabilities under the "Occupational Health and Safety Act, 1983" and National Code of Practice pertaining to the Act.
- 16.5.3 Employees or Agents**
Before commencing work under the commission, the consultant shall ensure that a suitable insurance policy is taken out giving cover to the consultant, the consultants employees and agents against any liability, loss, damage, costs and expenses arising at common law or under any statute as a result of personal injury to or death of any person employed by the consultant or the consultants agents in or about the work.
- 16.5.4 Inspection of Insurance Policies and Receipts for Premiums**
The consultant shall make available for inspection the policies of insurances effected, for the purpose of complying with this section and the receipt for payment for the current premiums or other such evidence of insurance as may be requested by Council.
- 16.6 Copyright**
Results of the study and the models developed in the course of the study are the ownership of Council. All data files are to be provided to Council on completion of the study.
- 16.7 Conflict of Interest**
The consultant shall inform Council immediately of any matter connected with this study which could give rise to an actual or potential conflict of interest. This information will be treated as confidential.
- 16.8 Certification**
All final documents prepared by the Consultant must be signed by the Project Director nominated in the consulting proposal to certify that they have been prepared by competent professional staff, checked for accuracy and comply with relevant regulations and the requirements of the brief.
- 16.9 Corrections**

Any error, ambiguity or deficiency, which becomes apparent during the course of the study, shall be referred to the consultant for correction or clarification. The consultant shall not be entitled to an additional fee where the correction or clarification arises from a fault of the consultant.

16.10 Acceptance of Commission

Written confirmation of acceptance of the commission for the study, in accordance with the conditions of engagement, is required before work commences.

16.11 Payment and Costs

Monthly progress payments will be made after project progress reports. Progress payments are not acknowledgment of the satisfactory performance of work and Council reserves the right to recover any overpayment.

Council will retain 10% of project costs on completion of the draft documentation. All monies will be paid on acceptance of the final documentation.

Clause SC2 - Goods and Services Tax "*Goods and Sales Tax (GST)*" means any tax on goods and/or services, including any value added tax, broad based consumption tax introduced in Australia.

"*GST Law*" includes an Act, order or regulation which imposes or otherwise deals with the administration or imposition of a GST in Australia.

Notwithstanding any other provision of this Agreement:

(a) If a GST applies to any supply made by any party or in conjunction with this Agreement, the consideration provided or to be provided for that supply will be increased by an amount equal to the GST liability properly incurred by the party making the supply.

(b) If the imposition of a GST or any subsequent change in the GST law is accompanied by or undertaken in connection with the abolition of a reduction in any existing taxes, duties or statutory charges (in this clause "*taxes*"), the consideration payable by the recipient of the supply made under this Agreement will be reduced directly or indirectly as a consequence of the abolition of or reduction in taxes.

Each party warrants that at the time any supply is made under this agreement on which GST is imposed, that party is registered under the GST law. If the other party requests written evidence of registration, the party claiming to be registered will promptly produce evidence satisfactory to the party seeking such evidence.

Any invoice rendered by a party to this agreement which seek to recover an amount of GST payable by that party must conform to the requirements for a tax invoice (as that term as defined in the GST law). If requested to do so by the recipient of the supply, the supplier must provide a tax invoice within 14 days.

Council shall not be obliged to make any payment unless it is satisfied that the work satisfies the requirement of the brief.

The consultant shall be responsible for all his/her own costs for travel, accommodation and other expenses.

17.0 RESPONSIBILITY OF CONSULTANT

- 17.1** The responsibility for the preparation of the ecological study and the supervision of sub consultants and their integrity, effectiveness and suitability for the purpose rests with the consultant. Council is relying upon the consultant's knowledge, skill and judgement to produce a finished product which is fit for its intended purpose.
- 17.2** The consultant shall accept full responsibility for all work undertaken as a requirement of this brief.
- 17.3** The consultant is responsible for ensuring that adequate data and information to meet the requirements of this brief have been supplied are obtained from the appropriate sources.
- 17.4** Draft documents submitted for review by Council shall be signed by the consultants principal nominated in the proposal to certify that the documents represent adequate professional presentation for the particular of the work. All final documents prepared by the consultant must be signed by the consultants principal nominated in the proposal to certify that the documents have been prepared by competent professional staff and have been checked for accuracy, compliance with relevant regulations, the requirements of the brief and fully co-ordinated with all related documents.
- 17.5** Any errors, ambiguities or deficiencies which become apparent during the commission, shall be referred to the consultant for correction or clarification in suitable form. The consultant shall not be entitled to an additional fee where the correction or clarification arises from the fault of the consultant.
- 17.6** The consultant should ensure that the documents produced under the commission comply with relevant Acts, Codes, Ordinances and Regulations. The consultant shall immediately advise Council and obtain direction if the work requirements conflict with any such statutory requirement.
- 17.7** The consultant is to advise Council of any conflict of interest that may arise in the undertaking of this study from other work undertaken by the consultant in the study area.

SCHEDULE 1

LUMP SUM FEE SCHEDULE

**MACLEAY RIVER ESTUARY
ESTUARY MANAGEMENT STUDY AND MANAGEMENT PLAN**

| <u>Item</u> | <u>Amount</u> |
|---|---------------|
| Stage 1 Estuary Ecological Study | |
| 1 Processes Study Review | \$..... |
| 2 Other relevant Literature Review | \$..... |
| 3 Consultation Process | \$..... |
| | \$..... |
| | \$..... |
| | \$..... |
| | \$..... |
| | \$..... |
| | \$..... |
| | \$..... |
| Stage 2 Estuary Ecological Study | |
| 1 Ecological Assessment | \$ |
| 2 Draft Ecological Study | \$ |
| 3 Final Ecological Study & Report | \$ |
| | \$ |
| | \$ |
| Other | |
| 1 Disbursements (all Stages). | \$..... |
| 2 Additional data requirements – (detail if required). | \$..... |
| 3 Work in the brief not covered by the above items. | \$..... |
| TOTAL | \$..... |
| Additional Meetings Attend any additional meetings as directed (per meeting). | \$..... |

