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A paper submitted to the Macquarie River Management Committee by Dr CM Finlayson

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VALUES AND BENEFITS DERIVED FROM THE MACQUARIE MARSHES: A NEED FOR FURTHER ANALYSIS

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1 Introduction

After consideration of a document entitled *Values and Benefits Derived from Wetlands* at the June 1998 meeting of the Macquarie River Management Committee members of the committee were asked to individually identify the values and benefits that mattered most to them. This was done in an interactive forum and a list of brief value statements was derived. Importantly, this list represented the views of all participants and observers at the Committee meeting (see minutes of the meeting for a list of participants). As such, it listed views from users, owners and managers linked with the marshes.

In line with the previously mentioned document the statements in the list were taken away, rationalised and categorised as either wetland products, functions or attributes (see definitions of these terms in Annex 1). The results of this categorisation are presented below and will be used as a basis for further discussion with the Committee in order to develop management and monitoring prescriptions. These prescriptions will, in turn, provide a basis for discussion with management agencies and other interested parties.

2 Values and benefits identified for the Marshes

Working from the list developed in the June meeting the values and benefits derived from the marshes were categorised and presented in Table 1. This indicated strong support for maintaining the attributes derived from the marshes and that these were highly valued. Noting that biological diversity is taken to include the habitat, species and gene pool of any locality and the ecological processes that maintain these, the values and benefits are heavily slanted towards maintenance of the biodiversity of the marshes. Further, given that wetland attributes also have value because they induce certain uses (see Annex 1) the meeting participants also made a strong plea for the sustainable use of the biological diversity and a balance between economic and ecological values and native and introduced animals.

Taking these statements one step further we can derive a composite value statement for the marshes. This statement would seem to have a great deal in common with the nationally agreed definition of ecologically sustainable development (ESD) and the Ramsar Convention definition of wise use. These definitions are given below.

> Ecologically Sustainable Development was defined in the National Strategy for Ecologically Sustainable Development as '*using, conserving and enhancing the*

community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.'

The Ramsar Convention has defined wise use of wetlands as *'their sustainable utilisation for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem.'*

Given that the Australian National Strategy for Ecologically Sustainable Development has the core objectives of maintaining equity between generations and to protect biological diversity there is little difference in these definitions.

Thus, two possible value statement for the Macquarie Marshes, as derived from the contents of Table 1 and the above definitions are:

1 The Macquarie River Management Committee is committed to using, conserving and enhancing the community's resources so that the ecological processes on which the marshes depends, are maintained and the total quality of life for people who depend on the marshes, now and in the future, can be increased.

2 The Macquarie River Management Committee is committed to the sustainable utilisation of the marshes for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem.'

A third statement can similarly be derived from the Australian Biological Diversity Strategy which has the goal to *'protect biological diversity and maintain ecological processes and systems.'* Thus, a third value statement could be:

The Macquarie River Management Committee is committed to protecting the biological diversity and maintaining the ecological processes and systems of the Marshes.

Acceptance of such value statements is within the hands of the Committee and need not necessarily be formalised. It is important, however, to realise that the three value statements were derived from the statements made by members of the committee in an open and interactive forum.

3 Products and functions derived from the Marshes

The information presented in Table 1 and discussed above, concentrated on the attributes derived from the marshes. And for this reason the third value statement which is based solely on the maintenance of the biological diversity of the marshes could be deemed to be the most appropriate for the Committee. However, there was also a strong statement that the current uses of the marshes should be kept and a balance established between the biological diversity and economic uses of the marshes. In terms of the language used in our discussions we could very well equate economic uses with the products and functions of the marshes (see Annex 1 for examples of these).

As the economic uses are an important feature of the marshes I feel that the Committee should attempt to further define these and even seek means of attributing a monetary evaluation to these. It is noted that the proposed socio-economic analysis of the Macquarie Valley in relation to the diversion of water for a Wildlife Allocation could provide much of this information. However, it is important that the users, owners and managers of the marshes contribute to the identification of the products and functions that they value and, through various representative groups and agencies, add the monetary evaluations. It is immediately

recognised that not all such values will be easily evaluated; however, that in itself is an important part of the management process – the identification of gaps in our understanding and knowledge.

4 Threats to the identified values and benefits

Given acceptance (not necessarily agreement) of these values and benefits by the Committee a useful next step is to place them into a socio-economic and environmental framework and structure appropriate further management steps. Such steps could include further monitoring and research, remediation and restoration, consultation and the development of public awareness, and even structural readjustments. In making this comment I note that the Committee could identify and articulate the need for such steps, but not actually implement them.

In terms of adding to the management process and developing further community awareness of the priority management issues I propose that we now also address the threats to the values and benefits that the Committee has identified and articulated (as above). Thus, for each of the individual values and benefits we should identify the threats and environmental management issues that need addressing. To encourage the committee process and to develop greater awareness of the multitude of interest groups I propose that this is done by a dual process. First, all members of the Committee identify and, where necessary elaborate, any issues or threats that concern them. These will again be collated and summarised in relation to the individual values and benefits. It is important that in this process that we bring out the specific issues and not confine ourselves to a generalised overview. Second, we then assess priority issues and especially identify existing or potential conflicts between users and uses.

5 Monitoring and management

The above steps are aimed at providing information that can be fed into the management processes. Thus, once the above has been achieved we will have a far greater understanding of the management issues in relation to the identified values and benefits. It would be unrealistic to expect that we would have a uniform let alone a complete information bank, but we will be able to then assess the extent of and need for further information. This can then be used to develop management prescriptions with the relevant agencies and representative associations and individuals.

As foreshadowed in a previous discussion this process will undoubtedly leave many issues unresolved. And this will be the signal for further steps, such as monitoring or research. In this respect I have purposefully not separated biophysical issues from the socio-economic ones. Management decisions are not made on the basis of biophysical information (where this exists in sufficient detail) alone. Further, the underlying or real reasons for wetland loss and degradation are not biophysical ones. The underlying reasons are deeply rooted in our socio-economic and political arena. However, the values and benefits that the Committee has identified are primarily expressed in biophysical terms, as are the consequences of the threats and the underlying processes. Thus, in terms of management scenario we need to monitor and manage the biophysical components of the marshes and the catchment and inter-catchment processes that support them. However, we first need to complete our analysis of the products and functions that support our lifestyle and future in the marshes.

Thus, these concluding words are included as an indication of the directions I have proposed and how the information we derive can contribute to the management scenario. I do not see

this as a total consensus process. Rather, it is an elaboration process that through various means will contribute to the consensus processes that are needed under the terms of reference for this Committee. We have started this process with some very high (even lofty) value statements about the values and benefits derived from the Marshes, but underlying these there are very serious management conflicts that are embedded in history and at times severe conflict. To demonstrate our commitment to the value statements we need to develop a process that contributes to the management scenario and structure for the Marshes. The above outline is one such contribution. There is no pretence that this is the only contribution – management is a multi-faceted process and our current trend is for iterative and adaptive management responses.

6 Further reading

Blasco D 1998. The Ramsar Convention Manual: A Guide to the Convention on Wetlands. Ramsar Convention Bureau, Gland, Switzerland.

Commonwealth of Australia 1992. National Strategy for Ecologically Sustainable Development. AGPS Press, Canberra.

Commonwealth of Australia 1994. National Strategy for the Conservation of Australia's Biodiversity. ANZECC Taskforce on Biological Diversity, Canberra.

Finlayson CM 1998. Values and benefits derived from wetlands & monitoring Ramsar wetlands. Supervising Scientist Internal Report 285, Jabiru, Australia.

Table 1 Categorisation of the values and benefits derived from the Macquarie Marshes.

Values and benefits	Attribute	Function	Product
Native fish breeding	X		
Ecological integrity of the marshes	X		
Biodiversity values on a global scale	X		
Balance between economic/ecological factors	X	X	X
Aesthetic and social glow	X		
Balance between introduced/native animals	X		X
Educational and knowledge values	X		
Link between marshes and other wetlands	X	X	
Indigenous cultural values	X		
Social continuity/interactions linked to the state of the marshes	X	X	X
People are sustained	X		X
Outstanding biological significance	X		
Balance/sustainability as agriculture/economic practice change	X	X	X
Interaction with the hinterland	X	X	
Uniqueness of the biophysical area	X		
Harmony with upstream uses/catchment links		X	X
Clear/balanced historical understanding	X		
Maintenance of habitat including restoration	X	X	X
Tourism			X
Sense of community	X		
Employment			X
Opportunity to deliver something special	X		
Diversity of habitats and dryland	X		
Role in the water regime		X	
Scientific research values	X		
Model for above issues	X		
Agricultural production			X
Ramsar site	X	X	X
Efficient use of water		X	X

Annex 1 Definitions of wetland values and benefits

Wetland values and benefits are taken to include functions, products, and attributes. The combination of wetland functions, products and attributes give the wetland values and benefits that make it important to society. These terms have been defined by the Ramsar Convention.

Functions performed by wetlands include the following: water storage; storm protection and flood mitigation; shoreline stabilisation and erosion control; groundwater recharge; groundwater discharge; retention of nutrients, sediments and pollutants; and stabilisation of local climatic conditions, particularly rainfall and temperature. These functions are the result of the interactions between the biological, chemical and physical components of a wetland, such as soils, water, plants and animals.
Products generated by wetlands include the following: wildlife resources; fisheries; forest resources; forage resources; agricultural resources; and water supply. These products are generated by the interactions between the biological, chemical and physical components of a wetland.
Attributes of a wetland include the following: biological diversity; geomorphic features; and unique cultural and heritage features. These have value either because they induce certain uses or because they are valued themselves.