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Wimmera Catchment Management Authority

Our Ref: WCMA-17202 - Wimmera CMA Submission to Inquiry into Biodiversity in a Changing Climate - Albacutya
Contact: Tony Baker, Planning and Assessment Manager
Date: 2 August 2011

Ms Julia Morris
Committee Secretary
Standing Committee on Climate Change, Environment and the Arts
PO Box 6021
Parliament House
CANBERRA ACT 2600

Dear Ms Morris

Thank you for the opportunity to provide a submission into the Inquiry into Australia's Biodiversity in a changing climate. Wimmera Catchment Management Authority (CMA) is responsible for the integrated management of natural resources within the Wimmera region located in western Victoria through developing and implementing a Regional Catchment Strategy.

A number of nationally important ecosystems exist within the Wimmera region, most notably Lake Albacutya, a Ramsar-listed wetland of international significance and one of the eighteen hydrologic indicator sites proposed by the Murray Darling Basin Authority in their *Guide to the proposed Basin Plan* (MDBA, 2010). Wimmera CMA would like to put forward the circumstances and ongoing management issues of Lake Albacutya to the Committee as a case study of a nationally important ecosystem threatened by a changing climate with potentially significant collateral impacts on local and regional communities.

Attached is an outline of the unique values of Lake Albacutya, the climate related threats acting on those values as well as the actions being undertaken by the Wimmera CMA and its partners to mitigate the threat and preserve these values. We also make suggestions for improved management. These issues comprise part of the Committee's terms of reference.

Should you have any queries regarding this submission please contact Tony Baker, Planning and Assessment Manager at this office.

Yours sincerely

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Lake Albacutya

Lake Albacutya (Figure 1) is a large subterminal lake which is supplied by the Wimmera River, Victoria's largest waterway that does not reach the sea. The Wimmera River outflows into Lake Hindmarsh, itself a wetland of national significance and when Lake Hindmarsh is full, water passes through Outlet Creek before entering Lake Albacutya. When Lake Albacutya is full, Outlet Creek provides water to another series of wetlands terminating in the Wirrengren Plain. The highly variable inter-annual hydrology of the Wimmera River combined with significant evaporation rates in arid, north-west Victoria means that these lakes fill and empty episodically. Several concurrent years of above average rainfall are required to fill and subsequently spill water into this series of wetlands. In drought periods the lakes dry out and, once dry, require a major and prolonged wet period to refill. The ephemeral nature of these wetlands and location in a semi-arid landscape are the key drivers of their significant biodiversity value, supporting a large number of species, particularly birds, through successive phases of wet and dry.

Lake Albacutya's ecological values include supporting significant waterbird breeding events (over 20,000 waterbirds), sustaining a unique salt-tolerant subspecies of River Red Gum, and providing a diverse range of habitats for aquatic and terrestrial communities. The lake also supports numerous threatened species when wet and dry and is a rare wetland type within the Murray Darling Basin. A recent *Ecological Character Description for Lake Albacutya* (WetlandCare, Australia, 2009) highlights that despite the numerous threats to its condition, Lake Albacutya still retains the values for which it received Ramsar-listing in 1982. Several townships benefit enormously from the tourism revenue and recreation values Lake Albacutya provides. The lake also contains significant indigenous values (WetlandCare Australia, 2009).

Due to a combination of drought and over-extraction the lake has been dry for almost 30 years, as opposed to every 5 years as recommended in an environmental water requirements study for the lake. However wet conditions and the completion of a major environmental water recovery project, the Wimmera-Mallee Pipeline, have the lake poised to receive its first inflows in many years should there be reasonable rainfall in the coming months.

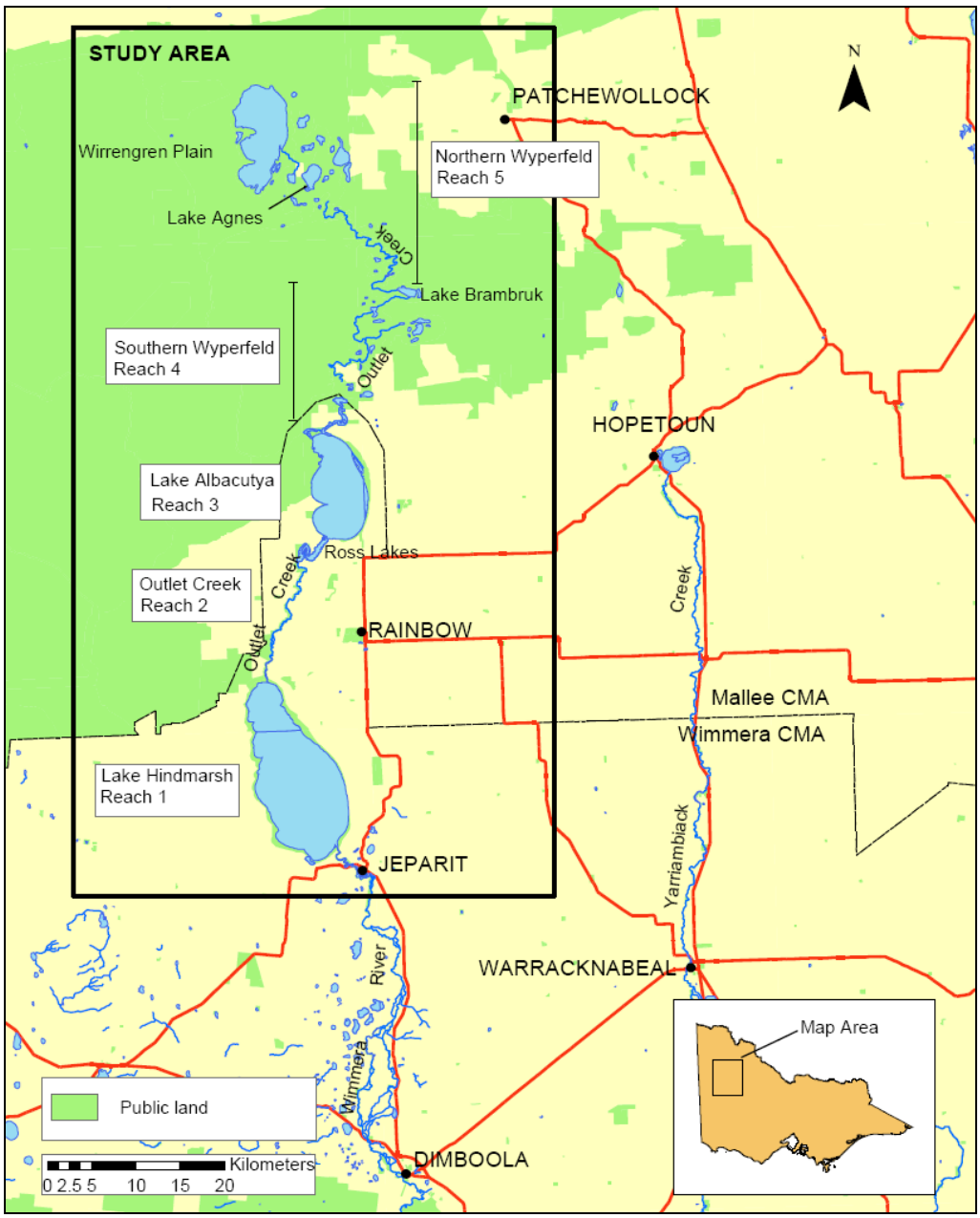

Figure 1: Wimmera Terminal Lakes System including Lake Albacutya (from Ecological Associates, 2004)

Threats to Lake Albacutya's Biodiversity

Given the strong linkages of Lake Albacutya's biodiversity to its hydrology there are numerous threats to its condition posed by water availability. For over a century, water extraction to provide water for towns and farms distributed by a series of extremely inefficient water storages and earthen channels meant that enormous volumes of water were extracted from the Wimmera River and its tributaries. The Wimmera became the most flow-stressed major river in the Murray-Darling Basin (CSIRO, 2008). Water savings from the Wimmera-Mallee Pipeline (completed 2010) are expected to return some volumes to the Wimmera River and terminal lakes, however shortfalls remain likely. Substantial additional water returns are needed, particularly in the face of a drier, warmer climate in order to maintain the internationally-significant ecological values of Lake Albacutya.

In light of the importance of its hydrology to its condition, a drier climate is the main threat to Lake Albacutya. Significant volumes are required to reach and fill Lake Albacutya and recent modelling indicates that the Wimmera Region will be one of the most affected by climate change (CSIRO, 2007). A drier future will mean the lake will have a significant reduction in the frequency and duration of lake-full events, potentially changing the lake's ecological character into the longer-term.

Actions to Manage Lake Albacutya's Biodiversity

Wimmera CMA is currently undertaking a number of strategic and operational activities to maintain and where possible enhance Lake Albacutya's biodiversity including;

Increasing environmental water availability

Charged with managing the environmental water reserve and working towards gaining a 'fair share' of water savings from the Wimmera-Mallee Pipeline, Wimmera CMA aims to maximise streamflows reaching the end of the Wimmera River to improve the likelihood of water reaching Lake Albacutya. Wimmera CMA also strongly recommends improving environmental water availability. In a unique opportunity to benefit the entire region and Lake Albacutya, the Wimmera Irrigators Association has presented a very strong case to the Murray Darling Basin Authority and Department of Sustainability, Environment, Water, Population and Communities for the need to purchase the irrigation entitlements for the region (28,000 ML) to return these crucial volumes to the river and terminal lakes.

Improving physical linkages and connectivity

Wimmera CMA and partners such as Project Hindmarsh have a long history of undertaking works such as protection and enhancement of remnant vegetation and revegetation to enhance linkages between biodiversity hotspots such as the Big Desert (of which Lake Albacutya is a part) to areas further south such as the Little Desert and Grampians to enable species to alter their range in response to a drier climate.

Protecting and enhancing habitat by managing pest plants and animals

Wimmera CMA and Parks Victoria control rabbit numbers to enable the regrowth of threatened Pine-Buloke Woodlands on the lake's lunettes and foreshore. The woodlands are slow growing and particularly susceptible even under low rabbit densities (thus their threatened status). By effectively managing this threat we hope to maximise the opportunity for the vegetation community to cope with climate change stresses.

Community engagement and awareness raising

A number of successful community events have been held such as World Wetlands Day events raising the profile of Lake Albacutya among the community and highlighting its intrinsic values. This enables Wimmera CMA to forge strong linkages with the community to leverage additional works from the community as well as ensuring that despite shifts in climate, the community retains a strong attachment to the lake and its values under a range of conditions. It should be noted that communities around the Wimmera River's terminal lakes, such as Jeparit and Rainbow, suffered badly during the drought of 2001-2009 and that water greatly increases prosperity in the region.

Shared vision and stronger inter-agency linkages

Through establishing a clear common vision and targets for Lake Albacutya's future in a changing climate, agencies and the community can work collaboratively on trying to achieve this. Wimmera CMA and Parks Victoria who are the managers of Lake Albacutya have developed a strong partnership in terms of working together for its protection. Wimmera CMA will be seeking to establish and reinforce visions, targets and linkages for Lake Albacutya and other wetlands through the development of a new Regional Catchment Strategy and subsequently a Strategy for Healthy Rivers and Wetlands.

What we need to do to maintain the values of Lake Albacutya in a changing climate

Lake Albacutya requires episodic filling to maintain its wetland values. We need to ensure that the Wimmera River's flows are adequate to achieve this. The Wimmera CMA negotiates for and manages environmental water in the Wimmera River. We believe that under current arrangements it is unlikely to meet the long-term watering needs for Lake Albacutya and its Ramsar status.

Governments at all levels should plan for supporting natural resource management in a drier future to ensure native habitat is robust and healthy and actions are being taken where necessary to build resilience and connectivity in the landscape. There is also need for greater monitoring thorough provision of additional funding to detect climate change impacts at a local level to enable natural resource managers and the community to better understand conditions and transparently change management objectives if required.

CMAs, as a link between government and community around managing biodiversity are well placed to lead activities at a local scale, setting regional priorities, funding activities and engaging with local communities to leverage additional support. Consideration should be made of how additional support can be provided to CMAs and linkages between other responsible agencies be improved to better work with the community and government to achieve the best possible biodiversity outcomes in a drier climate.

These activities and recommendations obviously would have relevance to other high value ecosystems located throughout the nation that are threatened by changes in climate.

References

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