

**SOUTH AUSTRALIAN  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
(DENR)**

**SUBMISSION TO THE  
HOUSE STANDING COMMITTEE ON CLIMATE CHANGE,  
ENVIRONMENT AND THE ARTS  
INQUIRY INTO AUSTRALIA'S BIODIVERSITY IN A CHANGING  
CLIMATE**

**House Standing Committee on Climate Change, Environment and the Arts**  
**Inquiry into Australia's biodiversity in a changing climate**

This submission to the House Standing Committee on Climate Change, Environment and the Arts, inquiry into Australia's biodiversity in a changing climate is made by the South Australian Department of Environment and Natural Resources (DENR). This submission focuses on major initiatives driven by DENR in collaboration with other stakeholders that are nationally significant, and have direct relevance to the inquiries terms of reference.

- DENR's management of the environment and natural resources recognises the importance of ecosystem **connectivity** as pursued through landscape-scale initiatives to promote the achievement of **biodiversity conservation**.
- DENR landscape scale initiatives are a strategy to enhance climate change adaptation, and **promote resilience** in ecosystem and human communities. The initiatives **promote** the **sustainable use** of natural resources and ecosystem services.
- DENR adopts a wide range of program specific mechanisms to enhance **community engagement** that are based on Community Engagement and Communications Strategies. Consultation methods should be adapted as required to best serve the community, to avoid issues such as 'consultation fatigue'. Engagement is enhanced if the Government is seen to be genuine and engages the community early.

The **Trans-Australia Eco-Link (TAEL)** project is a joint initiative between the NT and SA Governments. It aims to establish a continental-scale corridor of connected landscapes extending from Spencer Gulf to the Arafura Sea.

To achieve broader landscape scale outcomes and contribute to conservation connectivity, **TAEL SA** focuses on strategies to maintain and enhance functional connectivity for species and communities. Strategies for achieving this, through the use of a resilience-based landscape scale approach, include:

- Reducing threatening processes;
- Protecting and managing refugia;
- Enhancing habitat quality; and
- Maintaining areas with a focus on conservation.

**TAEL SA** projects contributing to resilience in ecosystem and human communities include:

- *Developing appropriate conservation stewardship mechanisms for pastoral land managers:* This will result in opportunities for landholders to diversify their income streams through increasing uptake of conservation management and other complementary land management practices in the rangelands.
- *Investigating carbon offsetting potential in the rangelands:* Investigating the feasibility of carbon offsetting opportunities for landholders, including how to best leverage social and environmental outcomes.

The **TAEL SA** implementation project '*enhancing sustainable property planning and management*' will increase the uptake in complementary land management strategies to achieve both pastoral productivity and biodiversity conservation outcomes. This contributes to promoting resilience in ecosystem and human communities.

**NatureLinks** is SA's primary strategy to guide on-ground action to increase the resilience of terrestrial, marine and freshwater biodiversity to climate change. The **NatureLinks** program provides an overarching vision to build on SA's existing network of parks and reserves by restoring and sustainably managing the surrounding landscape.

**NatureLinks** encompasses landscape-scale conservation and restoration practices, including sustainable production. Connectivity is one of many issues addressed. The principles established to guide the **NatureLinks** program acknowledge that society and the economy will also influence and benefit from the conservation of nature and services it provides. The program has a strong focus on building the resilience of social and ecological systems to enable them to adapt to climate change.

**NatureLinks** recognises that to achieve the best long-term outcomes for healthy ecosystems the approach must be flexible, dynamic and relevant to the local area.

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Policy, legislative and stewardship initiatives are being explored under **NatureLinks** with a focus on carbon and biodiversity markets to diversify the income of landholders and provide long-term biodiversity protection. The guiding principles that drive the **NatureLinks** programs community engagement philosophy are:

- builds local ownership and support for conservation by acknowledging and helping with grassroots efforts; and
- makes decisions based on the best available scientific, traditional and local knowledge;
- supports Aboriginal people to be involved in caring for country; and
- shares knowledge with others and evaluates success to guide future work.

**Coorong Lower Lakes and Murray Mouth (CLLMM)** program aims to ensure the region and its people have a healthy, viable and sustainable future in the context of variable climatic and water resource conditions. The **CLLMM** program has investigated simulated affects of climate change scenarios on the CLLMM regions biodiversity through its Environmental Water Requirements Project (Lester et.al. 2011).

To achieve the overarching goal for the **CLLMM** site as a healthy, productive, resilient wetland of international importance, hydraulic and aquatic-terrestrial connectivity was identified as a key component.

A **CLLMM** Community Engagement and Communications model has been established. Community consultation activities undertaken by the **CLLMM** team included public meetings, information displays, e-newsletters and focus groups. This occurred early to ensure that local knowledge was recognised in the development of the CLLMM plan.

The **CLLMM** program acknowledges consideration should be given to the complex nature of scientific information and how this is best communicated over a long term period, especially given the broad nature of the issue which affects many stakeholders.

The **CLLMM** project has established a strong local presence. Communication and community engagement activities have helped create important networks and relationships with stakeholders that provide the foundation for future communications and engagement.

The **River Murray Forest Project** aims to plant regionally native species along the River Murray in SA, and aligns with the River Murray-South East NatureLink. The **River Murray Forest** project increases the connectivity between ecosystems across the River Murray landscape, and contributes to biodiversity conservation. Improved connectivity and resilience from the areas of habitat established also contributes to climate change adaptability. Both initiatives aim to promote resilience in ecosystems and human communities.

Adaptive strategies for **aquatic ecosystems** include resistance options (maintain status quo and forestall ecosystem changes), resilience options (improve the capacity of ecosystems to return to desired states after disturbance), and response options (facilitate transition of ecosystems from current to new states) (Millar et al. 2007). These strategies are built into programs designed and implemented by DENR.

Wetlands are among SA **aquatic ecosystems** most vulnerable to climate change. DENR recently commissioned scientific work to understand the vulnerability of species to climate change impacts along the River Murray Corridor in SA.

The conservation management of rivers and wetlands needs to extend beyond the traditional approach of management of protected areas, communities and species, including those with threatened status. It has to deal with protection or recovery of flow regimes, complicated by effects of climate change. The challenge is to adopt a new paradigm for the delivery of government programs – one involving a holistic understanding of the resource. This is particularly important for those aquatic systems cross State boundaries.