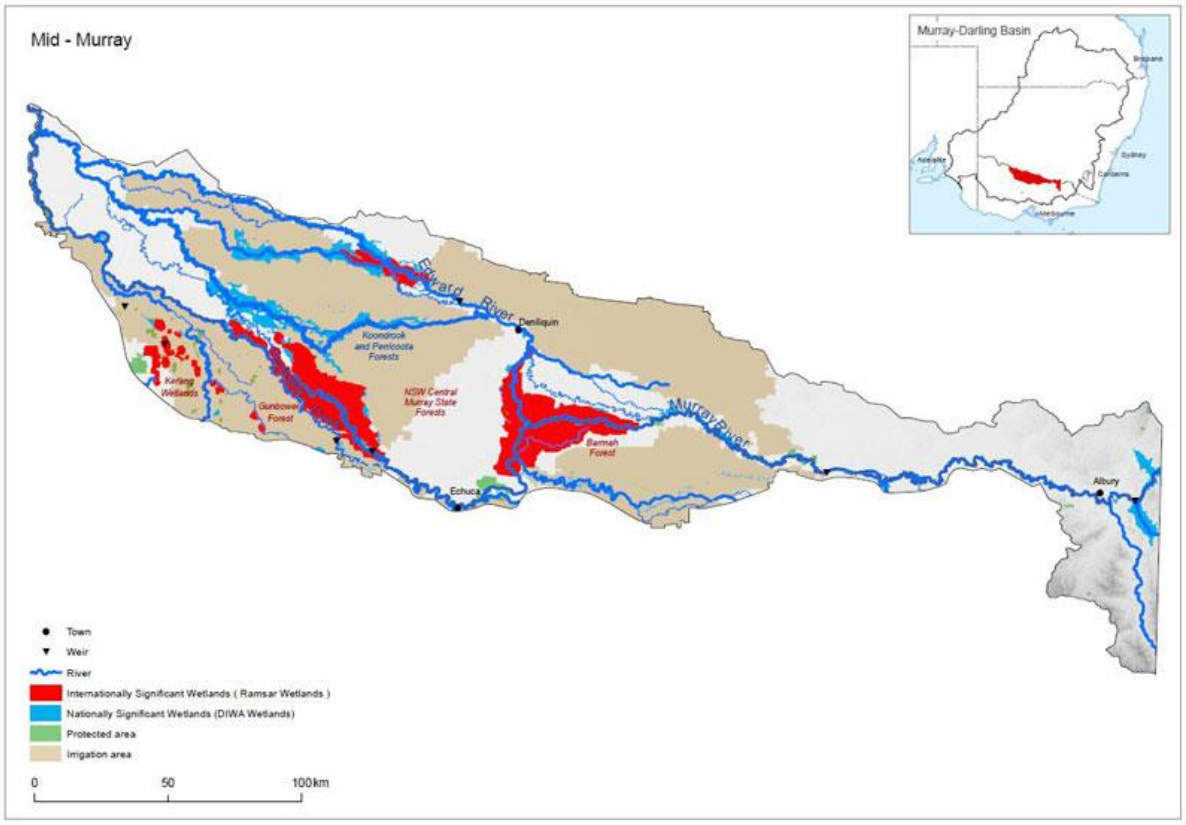
VNI West - We're in the final week for EIS submissions

By Roger Knight – Executive officer of Western Murray Land improvement Group

In relation to engendered species, I would like to see Australasian Bittern and Australian Painted Snipe included as endangered species (information provided to Transgrid in 2024) as the region is a known hotspot. A recommendation would be to reference Matt Herrings previous tracking work and possibly fund more data collection to see if the flight paths / heigh of the lines are impactful. I note also that there is no reference to undergrounding the lines as a part of a cost-benefit analysis.

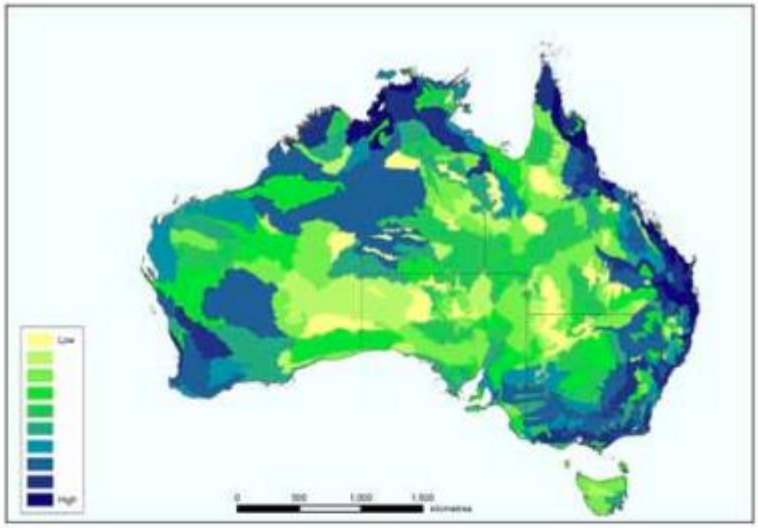
The EIS should also reference to the fact that the route intersects 5 Ramsar sites in close proximity in Southern NSW and Northern Victoria and site the locations of the Ramsar listed forests and wetlands on a map (see below) and is an important area for listed migratory species such as the Black-tailed Godwit and Curlew Sandpiper (see below Draft wildlife corridor plan info.). Recommend the Ramsar sites and map route is provided as a map overlay in the EIS).

Figure 14 – Nationally and internationally significant wetlands in the Edward Wakool system (Part of the Mid-Murray region)



In previous correspondence, I have also provided information on the nature of the biodiversity hotspot and the Edward-Wakool system being recognised as a top 10 biodiversity hotspots in Australia as a prospective corridor due to its species richness as per 2012 National Wildlife Corridors Plan: https://library.dbca.wa.gov.au/FullTextFiles/070942.pdf (See information below):

Figure 6 Species richness in Australia's bioregions



Source: Australian National Heritage Assessment Tool (2011)

Existing major corridors:

- Gondwana Link, Western Australia
- Great Eastern Ranges, New South Wales
- Habitat 141°, Victoria/New South Wales/South Australia
- NatureLinks, South Australia
- Tasmanian Midlandscapes, Tasmania
- Trans-Australia Eco-link, Northern Territory/South Australia

Prospective corridors:

- Kimberley region, Western Australia
- Cape York Peninsula, Queensland
- Noosa to Ballina region
- Edward-Wakool Rivers region

Under the five point plan, nominated National Wildlife Corridors would be assessed by the Wildlife Corridors Council before the Commonwealth Environment Minister considered them for listing. Should the National Wildlife Corridors legislation be established by the Australian Government, the corridors named above would be the first set of National Wildlife Corridors considered under the legislation. It is expected that additional community-led nominations for National Wildlife Corridors would occur once the Wildlife Corridors Act is enacted and criteria and guidelines are finalised.

Edward-Wakool Rivers region

The Edward-Wakool system is located in the Murray-Darling Basin between Deniliquin in NSW and Swan River in Victoria. It is an anabranch of the Murray River and comprises a complex series of interconnecting rivers, creeks, billabongs, floodrunners, wetlands and lakes covering more than 1000 square kilometres between the Murray and Edward Rivers. The area was developed for irrigated agriculture after the construction of the Hume Dam in the 1950s.

A corridor in the Edward-Wakool Rivers region would be the first of many potential corridor initiatives in the Murray-Darling Basin that may, in future, form part of the national network of wildlife corridors or be considered for nomination as a National Wildlife Corridor. A range of opportunities also exist for alignment and integration with existing conservation and corridor initiatives in the Murray-Darling Basin.

Landscapes and biodiversity

The ecosystems of the area include areas of river red gum forest, black box woodland and lignum shrubland as well as extensive wetland areas and floodplains. Permanent and semi-permanent wetlands and billabongs provide important refuges during drought and are important nurseries for fish breeding. Nationally listed threatened species present include Murray Cod, Trout Cod, Eel-tailed Catfish and Silver Perch. River red gum forests within the Edward-Wakool support breeding events of hundreds of waterbirds including listed migratory species during periods of inundation. The Edward-Wakool also provides habitat for species such as the nationally vulnerable Growling Grass Frog, endangered Australasian Bittern and listed migratory species such as the Black-tailed Godwit and Curlew Sandpiper.

Conservation areas

Less than one per cent of the area of the proposed corridor is part of the National Reserve System, but seven per cent is managed under less formal conservation agreements. Conservation areas found in the region include the Werai Forest, part of which is an Indigenous Protected Area and also listed as part of the NSW Central Murray State Forests Ramsar site. The area is also bounded by Barmah-Millewa Ramsar site to the east and to the Koondrook-Perricoota and Gunbower forests to the south. These are icon sites under The Living Murray program and provide important opportunities to increase regional ecological connectivity.

Past and current pressures

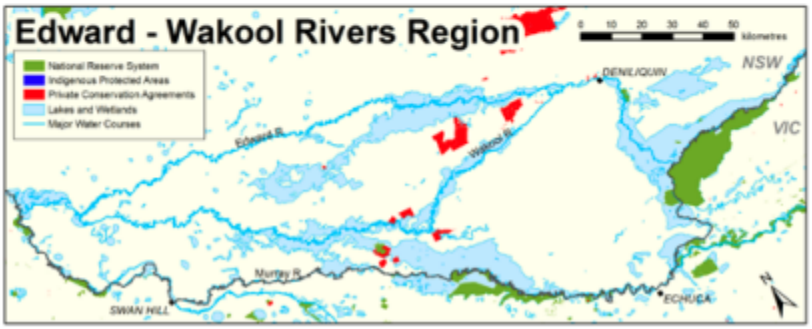
Parts of the Edward-Wakool system are very degraded. More than a century of water regulation, altered water regimes and prolonged periods of drought have led to salinity problems, declines in water quality and the condition of wetland dependent vegetation. Feral animals, such as rabbits, goats and foxes and increases in the severity and frequency of fire are also ongoing threats. There is still uncertainty regarding the specific impacts of climate change on water availability throughout the Murray-Darling Basin. However, most scenarios for the mid-Murray region predict reduced runoff and flows associated with reduced winter rainfall.

Activities

Although water extraction and the construction of infrastructure have reduced environmental flows in the river systems over many years, recent purchases of environmental water entitlements through the Water for the Future program have created opportunities to restore wetland and river red gum environments in the area. To date, Commonwealth Environmental Water has delivered almost 70,000 megalitres of environmental flows through the Edward-Wakool river system. The benefits of these flows can be optimised by complementary land management such as revegetation projects, modification of grazing and cropping regimes, and infrastructure projects to increase hydrological connectivity, such as replacing low level crossings and building fish weirs. Many private landholders in the region already have environmental management plans for their properties. Coordination of all conservation efforts, through a wildlife corridor initiative may help galvanise efforts across land tenure types and administrative boundaries to restore ecological condition and processes throughout the area.

Community and potential participants

Most land in the Edward-Wakool region is privately owned and 82 per cent of the land use is agricultural, with grazing, cropping and irrigation enterprises predominating. There is considerable local support for protecting and maintaining the region's environmental values. In recent years, Murray Irrigation, the NSW Murray Wetlands Working Group and local community members have provided environmental flows to 93 wetlands within the region. The Commonwealth Environmental Water Holder has also been working closely with local landholders, other local stakeholders, the Murray Catchment Management Authority and the NSW Office of Environment and Heritage (OEH) to develop environmental watering regimes.



I would also like to see the location of private conservation agreements outlined in the EIS as per example above in the Draft Wildlife Corridor Plan.

I think it would also be a positive to provide information as to the amount of biodiversity offsets that will be required in the region and economic value. I think this is a positive social and economic story to promote, as it provides the opportunity for local farm income diversification and a buffer against adverse events such as droughts and floods prevalent in the region. This would also assist groups like ours start to plan with community and possibly aggregate multiple properties for landscape scale impact for BSA's stacked with other possible benefits such as complimentary measures, especially riparian corridors where environmental water will be targeted as a 'not just add water' approach (See MDBA's Early Insights Paper).

We have completed a River Country Biolink project with Mulloon Institute as an example (see attached), that is seeking funding for further assessment prior to BSA submission located upstream of the Concorde property on the Merran system. See extract below from the Mulloon River Country Biolink conceptual design report that is seeking funding to get to the next state for

action on the ground (stage 2) and is seeking to aggregate farms into a biolink to maximise overall landscape function and productivity.

3.5 Complimentary Landscape Rehydration opportunities

Landscape rehydration aims to restore the natural function, fertility and resilience of agricultural landscapes. Within the Biolink area, rehydration opportunities have the potential to restore the hydrological regimes of lagoons and enhance valuable ecosystem services such as biodiversity, nutrient cycling and carbon capture. Rehydration also supports the lateral recharge of adjacent groundwater aquifers which can in turn benefit surrounding terrestrial flora and fauns. Other potential landscape rehydration opportunities to improve ecosystem health and agricultural productivity within the River Country Biolink area may include:

1. **Riparian revegetation**
   Riparian zones bordering waterways and lagoons should have as much vegetation and groundcover as possible to enhance the cycling of nutrients and sediments and maximise filtration to influence water quality. Established riparian recovery zones create wetland microclimates by providing shade to reduce the amount of heat and light reaching a lagoon and provide critical habitat for insects, birds and fish. Further, riparian vegetation assists with bank stabilisation, which will reduce erosion during high flow periods.

2. **Recharge zones**
   Recharge zones are located at the highest points of elevation within a landscape. These areas should be dominated by forest and scrub, allowing biomass and nutrients to accumulate before naturally shifting downslope toward the agriculturally productive mid zone. The establishment of recharge areas can involve new plantations or installing fencing to protect existing native remnant vegetation found on site, such as lignum shrubland and inland riverine forests of *Eucalyptus largiflorens* and *E. camaldulensi*[8].

3. **Contour planting**
   Establishing plantations along contour belts intercepts surface runoff while energy is relatively low, allowing water to spread and infiltrate more broadly across the landscape. By fanning out the water, energy dissipates, and erosion potential is reduced while landscape rehydration is maximised.

4. **Biodiversity values:**
   The Biolink project site runs adjacent to the NSW Central Murray Forests Ramsar wetlands[9], and as such should be considered to have a considerable influence on the functioning and health of the Murray River and its tributaries. There is potential for landholders within the Biolink to establish a Biodiversity Stewardship Agreement (BSA) and obtain biodiversity credits through conservation management. The River Country Biolink falls within the Murray Fans IBRA subregion[10] where biodiversity credits are currently registered as in-demand. To

[8]NSW Office of Environment and Heritage. (2016). NSW Plant Community Type classification.- Available at https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet/nsw-plant-community-type-classification

[9]Harrington, B., & Hale, J. (n.d.). (rep.). Ecological Character Description for the NSW Central Murray Forests Ramsar site. Canberra: Department of Sustainability, Environment, Water, Population and Communities.

[10] NSW Office of Environment and Heritage. (2023). Available at https://nswbcst.maps.arcgis.com/apps/webappviewer/index.html?id=4d395e012e304b1090eea3e33e8f9112

pursue the establishment of a BSA, landholders must submit a Stewardship Expression of Interest through the NSW DPE.
It is recommended that any revegetation or vegetation conservation measures progressed as part of the Biolink project seek to maximise overall landscape function and productivity utilising opportunities outlined in points 1–3 above.

the Edward Wakool system is a prime candidate site for investment priority to deliver a pilot natural capital stewardship program as the region has the following environmental attributes;

- Many wetlands recognised under the Ramsar Convention, and are called 'Wetlands of National and International Importance'. Maintaining connectivity across Australia's wetlands through seasonal water flows and networks of riparian vegetation is essential if we are to support and maintain these areas, which contain important habitats for migratory species and are centres of biological diversity (Appendix A).
- Is recognised as having high biodiversity conservation value and concentrated scientific research in the region. This is noted in the following;
    - Recognition of the importance of the region in the Draft National Wildlife Corridors Plan as one of 4 key prospective corridors in Australia (see Appendix A).
    - Major investment and scientific research conducted on targeted environmental water use in the Edward Wakool System as part of the Commonwealth Environmental Water Office's 5 year Long-Term Intervention Monitoring Project, and now Monitoring, Engagement and Research (MER) project (see Appendix C).
    - Supporting wildlife survey and habitat data including recommendations for threatened species enhancement. Refer to Murrakool Wildlife Survey, ''Murrakool - Magnificent Diversity, Precarious Future, Herring, 2013'.
    - Community developed Murray Catchment Action Plan that aligns to the land management actions addressed in this proposal (Refer to Appendix I).
    - Murray Biodiversity Management Plan
- A community engaged and active in NRM and regenerative agriculture practices.

Suggest information outlined above is referenced in the EIS.

The region should also be regarded as a high priority investment site to assist in alleviating the social and economic impacts. Suggest referencing the many reports on social economics indices etc.