

**From:**

Danielle Sawyer on behalf of Parkplanning PWCNT

Good morning Holly/Roland,

Parks and Wildlife has the following response to the request for comments on the AROWS Project:

The proposed extraction site is approximately 4km from Manton Dam Recreation Area, approximately 30km from Litchfield National Park, approximately 30km from Djukbinj National Park and adjacent to the Adelaide River Foreshore Conservation Area. Given the proximity to parks estate and the potential extent of any impact of extraction of such a sizable amount of water, especially if it was to occur on a regular basis, there are likely to be some impacts on Park estate. It is unknown the extent of any negative impacts.

### **Adelaide River Parks**

The Adelaide River Floodplain is host to the dusky rats and water pythons (highest biomass in Australia). Currently, Thomas Madsen (Deakin University Faculty of Science Engineering and Built Environment/School of Life and Environmental Sciences) is assessing whether there may be impacts arising from the project based on floodplain water recharge if the wet season is below average with the Adelaide River off stream take remaining the same each year of 20000ML. Thomas may have further comment once all EIS details have been assessed.

The freshwater ecosystem for saltwater crocodile breeding at Melacca Swamp is currently with Peter Dostine (DLPE Aquatic Scientist) for review/ assessment of potential impacts on the hydrology including floodplain recharge, tidal influence and wet season recharge rates into the swamp. Melacca Swamp sits higher than the surrounding floodplains and is spring fed from the Howard aquifer and it is yet to be determined if the Adelaide River floodplains would affect the habitat if the extraction of 20000ML to remain even with a below average wet season. Grahame Webb suggests that it would not be impacted.

The habitat for saltwater crocodile breeding at Harrison Dam, Djukbinj and the upper Adelaide River floodplains may actually benefit from having the 20000ML of water extracted from the Adelaide River in the event of an above average wet season. Once the Adelaide River breaks the banks there is generally a 25% loss of saltwater crocodile nesting sites due to inundation. However, if the water extraction remains at 20000ML throughout a below average wet season, it may also have an adverse effect, leaving crocodile nests to be at a higher temperature affecting birth rates and abnormalities. In Appendix D Hydrology, the impact assessment (page 48) states that the modelling is not conclusive in terms of determining the ecological effect on the floodplain and further assessments will need to be completed as the water level variables range from 20 cm to 50 cm on the floodplain and potentially more as there is not enough data for EIS Phase to analyse. At present the Barramundi Farm extracts up to 15600ML of water per year for comparative amounts of extracted water.

The potential impacts generally on floodplain water levels would be dependent on water extraction models based on a below average wet season if the wet season Adelaide River off stream take remains the same each year at 20000 ML. However, there is still not enough information and data to be conclusive of the effects at this point in time.

### **Litchfield National Park**

Depending on the amount of water extraction from the Adelaide River, the upstream Adelaide River West Branch may be impacted on flow levels in the area and subsequent change in fire regimes if the river heights are reduced. The area in particular around the Silkwood block on Litchfield National Park's southern section relies heavily on the Adelaide River West Branch as a strategic firebreak from wildfire incursions from the Daly River and Dorat Roads.

**Kind regards**

**Danielle Sawyer**

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