

5 February 2025

T 08 89228337

Roland Lee  
Environmental Assessment  
Environment Division, Department of Lands,  
Planning and Environment  
Northern Territory Government  
Level 1, Arnhemica House, 16 Parap Road, Parap  
GPO Box 3675, Darwin, NT 0801

File reference  
EFILE 2024/10267

Dear Roland

**Re: Department of Logistics and Infrastructure (DLI) - Adelaide River Off-stream Water Storage (AROWS) - Proponent Initiated Environmental Impact Statement**

Thank you for the opportunity to comment on the above proposal. Medical Entomology comments are as follows.

1. It is mentioned in Section 5.10 Human Health of the PEIS that a biting insect assessment is required. Medical Entomology supports this initiative, as the proposed water body will be very large, therefore it would be important to study the before and after impacts from a mosquito perspective.

The general recommendation would be to carry out 12 months of adult mosquito trapping adjacent to the proposed AROWS, and at nearby reference sites such as Manton Dam, Lake Bennett and swamplands nearby to the Adelaide River. Adult mosquito trapping once a month for a period of 12 months has been the usual baseline trapping schedule carried out by Medical Entomology in other areas of the NT. A 12-month trapping program is important as certain freshwater mosquito species reach peak abundance during different months of the wet and dry seasons. Therefore, adult mosquito trapping once a month for a minimum of 12 months is recommended for this project. Fortnightly baseline mosquito trapping would be more informative, however would require greater resources to carry out. Medical Entomology can be contacted for further advice regarding the prerequisites for a suitable baseline mosquito trapping program.

2. The potential for the AROWS to increase mosquito abundance in surrounding areas would depend on the availability of shallow water margins once the site has been flooded, and the rate of dry season water drawdown.

Satellite imagery (Google earth and Copernicus browser) suggests there are existing shallow seasonally flooded areas within the AROWS site, which would be current sources of pest and potential disease carrying mosquitoes. These sites will be flooded out with deep water and thus removed as potential mosquito sources, potentially improving the current situation from a

mosquito reduction perspective. The greatest potential for the AROWS to create new mosquito breeding sites would be if wide areas of shallow water (i.e. less than 60cm) are created. Shallow water can allow suitable conditions for semi-aquatic grass and reed growth, thus providing habitat for mosquito larvae. Shallow margins can be managed to minimise mosquito breeding via the dry season drawdown of water levels. The dry season reduction of water levels would strand shallow areas of semi-aquatic vegetation, and thus reduce the available habitat for mosquito larvae. Conversely, a relatively stable dry season water level will allow semi-aquatic vegetation to become dense and spread throughout shallow areas, which would encourage productive mosquito breeding.

Medical Entomology has not received any recent mosquito complaints from residents within 5km of Darwin River Dam, suggesting DWD is not a persistent source of high mosquito numbers, although there is no adult mosquito trapping data to verify if mosquito populations have changed. There are also no residents near the upstream shallow sections in DWD, where potential larval mosquito habitat exists. In general, the predominantly deep open water and dry season drawdown is likely to limit mosquito productivity in the dam. Fish are also likely to be carrying out effective natural mosquito control.

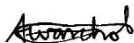
3. The new water body has the potential to attract more waterbirds to the area, as alluded to in the PEIS. Migratory water birds, such as herons and egrets, have the potential to carry pathogens such as Murray Valley encephalitis virus and Japanese encephalitis virus. Notwithstanding, Lake Bennett, Manton Dam and Darwin River Dam have not been attributed to nearby human cases of these serious mosquito borne diseases. However, mosquitoes from these sites have not been tested for the presence/absence of these viruses. An increased local risk might occur if migratory waterbirds use the AROWS as a rookery, and if extensive shallow water margins are created.

### **Recommended EIS conditions**

The proposed baseline mosquito investigation should be carried out before construction commences. The baseline study should identify current mosquito populations adjacent to the proposed AROWS site and at nearby reference sites such as man-made dams and natural wetlands. The baseline study should include management recommendations to minimise the creation of new mosquito breeding sites. The baseline study should be carried out for a minimum of 12 months, to cover different mosquito seasons.

Please contact me if there are any queries with this letter.

Yours sincerely



Allan Warchot  
Advice and Control Officer