Arid Lands Environment Centre

Office: 90 Gap Road Alice Springs NT
Mail: PO Box 2796 Alice Springs 0870 NT Web: www.alec.org.au Phone: 08 89522497
Email: policy@alec.org.au

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Fortune Agribusiness' Western Davenport Water Allocation Request: ALEC Comment

The Arid Lands Environment Centre (ALEC) is Central Australia's peak community environmental organisation that has been advocating for the protection of nature and ecologically sustainable development of the arid lands since 1980. ALEC actively contributes to the development of water policy and planning through written submissions and active participation with water advisory committees. Our advocacy in water policy is focused on ensuring the equitable and sustainable use of water resources to maintain full ecological function and protect cultural values.

ALEC is pleased to have the opportunity to make a comment on Fortune Agribusiness Funds Management's (FAFMs) development in the Western Davenport Water Control District (the District). ALEC is opposed to the development as it has the potential to have a significant impact on the environment. Under section 50 of the *Environment Protection Act*, ALEC urges the Water Controller to use their discretion to refer this development to the Environmental Protection Authority (EPA) to undergo an Environmental Impact Assessment (EIA).

Our comment is focused on six key areas: the size of the development; groundwater dependent ecosystems (GDEs); groundwater recharge; sites of cultural significance; a lack of information; and climate change impacts. ALEC is concerned by the potential of FAFMs development to cause permanent damage to biodiversity, groundwater and sites of cultural significance. ALEC considers that an EIA is essential to preventing significant environmental damage.

Size of the development

FAFM is seeking a licence for 40,000ML (40GL) per annum over a production period of 30 years. Water demand for the FAFM development will reach peak capacity after 12 years. Total water use for the District in 2019-20 was 3115ML.

ALEC holds serious concerns at the size of the FAFM development which is likely to cause serious environmental and cultural harm. The development is likely to cause significant degradation for decades, with the potential for permanent damage to occur. These concerns will be unpacked in more detail in sections below.

FAFMs water extraction licence application if granted will account for 40GL of the maximum 104GL in the consumptive pool allocated for agriculture, industry, aquaculture and cultural beneficial uses in the District. ALEC opposes a single corporation controlling nearly 40% of the general pool of water in the District. ALEC further opposes a development which would account for the vast majority of water use in the District compared to use in 2019-20.

ALEC is concerned about the potential banking of the water resource by the proponent if the proposed development does not stack up economically. This could result in a range of unplanned and relatively unregulated activities being conducted as a result of water trading activities that would be permitted should the proponent be granted the licence of this scale. Does the Water Controller have discretion as to how adaptive management processes may be prescribed to ensure the hoarding and trading of water resources outside of the proposed activities will not be allowed?

Groundwater dependent ecosystems

Given that water mining can have a severe impact on GDEs, ALEC has concerns with the implementation of *Guidelines*: *Limits of acceptable change to*

groundwater dependent vegetation in the Western Davenport Water Control District (the Guideline) by FAFM. How is FAFM going to minimise impact on GDEs that are large in individual extent; are in good condition; provide habitat for threatened or rare species; have relatively high species richness; have relatively complex vegetation structure; represent the range of environmental variation in these ecosystems found in the region and; are important in maintaining connectivity between habitat and patches across the landscape?

The Guideline determines that up to 30% of GDEs may be negatively impacted within the District. ALEC opposes a single allocation which will account for nearly ¼ of alluvial and ⅛ of sandplain GDEs to be negatively impacted within one particular zone of the District.

ALEC opposes the clearing of 4850 Ha of land without the completion of an EIA. A deficit of knowledge exists in what GDEs, threatened species and threatened ecological communities exist in the development zone. Considering the large scale of land clearing causing permanent environmental damage, ALEC considers an EIA as essential.

Groundwater mining brings dissolved salts to the surface, which can have a severely negative impact on the land. While the water will evaporate, salt will be left behind. It is unclear what impact hundreds or over a thousand tonnes of salt per year will have on the long-term health of the land. This may have a significant impact on soil quality and the ecosystems the landscape supports. As a result, ALEC considers an EIA to be essential to determine the impact of groundwater saline intrusion on soil health and biodiversity within the development zone.

Groundwater recharge

ALEC has strong concerns relating to the FAFM development and its proposal to drawdown groundwater levels by 50 metres after 30 years. The Georgina Basin has an extremely low rate of recharge, with only a few recharge events having occurred in the last hundred years (Noovao & Tickell, 2017; Larkin et al., 2020). The potential for negative impact is well above the modelled extraction rate of 0.2m/year. The District WAP “has an objective that detrimental impacts on the water dependent ecosystems as a consequence of consumptive use will be avoided as far as possible” (Northern Territory Government, 2020). How is this rate of groundwater drawdown sought by the

applicant in line with District WAP in avoiding detrimental impacts as far as possible? As a result, ALEC considers it essential that the development undergo an EIA to determine whether the groundwater system will be significantly impacted.

Considering that there are a variety of existing and future water mining stakeholders in the District, how will FAFMs modelling be impacted by existing or future groundwater mining upstream?

Groundwater from the Georgina Basin flows north-west into the Wiso Basin (Knapton, 2017). Despite limited research of stygofauna species in the District including in the Wiso Basin, it is understood that there is a high potential of occurence in this area (Northern Territory Government, 2018). How will FAFMs development impact groundwater recharge into the Wiso Basin and how will GDEs such as stygofauna within the District be impacted?

The impacts of groundwater withdrawal can take years and decades to be experienced in other parts of the aquifer system (Kelly et al., 2014). What monitoring capabilities will FAFM be adopting to ensure groundwater levels and GDEs are impacted as modelled?

Are the staged increases proposed by FAFM in line with the Guidlines? Additionally, do they have a scientific basis which will limit significant environmental harm to groundwater recharge and GDEs?

Considering the lack of research available, ALEC recommends that an EIA is essential to ensure the risks of significant and permanent environmental damage is minimised. ALEC urges the Water Controller to refer this project to the Environment Protection Authority for assessment under the NT *Environment Protection Act 2019*.

ALEC would also like to acknowledge that the NTG is yet to implement the National Water Initiative's pricing principles; continuing to provide a public asset to corporations for free. This continues to impact the sustainable use of water resources in the NT, including groundwater.

Sites of cultural significance

It is unclear as to how surrounding Alyawarr and Warlpiri communities have been informed about FAFMs development. How have sites of cultural significance been identified within the development zone? Under what protocol are FAFM ensuring that sites of cultural significance are to be protected by their development?

These issues can be addressed as part of an Environmental Impact Assessment.

Lack of information

As a result of COVID-19 the opportunity to conduct on the ground mapping at Singleton Station in the District was disrupted. Instead, probability mapping was adopted. ALEC has concerns that there is a lack of information known about sites of cultural significance, GDEs and threatened species and threatened ecological communities due to a lack of on site mapping. Given a general lack of data in addition to the use of probability mapping, how can it be ensured that FAFM is adhering to the principles of the Guideline?

There is a lack of research and data about stygofauna in the Georgina and Wiso basin. With what confidence can FAFM ensure that subsurface GDEs such as stygofauna are accounted for in the current GDE modelling?

In the Northern Territory, there are no groundwater monitoring bores within the Georgina Basin (Noovao & Tickell, 2017). How does this lack of data affect the modelling conducted by FAFM?

Due to the lack of scientific certainty, the precautionary principle should be applied to prevent environmental degradation. ALEC opposes the development as proposed and recommends that a referral for an EIA under the NT *Environment Protection Act* is made to better understand the significant impact on the environment. This will ensure more information is considered prior to a decision being made to develop this water resource at such a substantial scale.

Climate change impacts

Climate change is projected to have a severe impact on Central Australia, including in the Western Davenports District. The dryland rivers of the Georgina Basin are forecast to be significantly impacted by rising temperatures

and increased rates of evapo-transpiration negatively affecting its rate of recharge (Larkin et al., 2020). Considering the deficit of climate change models in the region, there are concerns about the potential 'deleterious change in groundwater discharges to dependent ecosystems' as per the NT Government's *Water Allocation Planning Framework*. What assurance can FAFMs provide that future climate change impacts will have no deleterious change in groundwater discharges to dependent ecosystems? Considering a lack of information, ALEC considers it essential that this development undergo an EIA.

Conclusion

ALEC is opposed to FAFMs proposed development as it is likely that significant environmental impact will occur to groundwater, biodiversity and sites of cultural significance. There is a general lack of information provided by the proponent. In addition, the region in question has a severe deficit of research in groundwater, GDEs and climate change impacts. It is unclear what sites of cultural significance will be impacted and what consultation with Traditional Owners and surrounding communities has occurred. As a result, ALEC recommends that the Water Controller use their discretion under Section 50 of the *Environment Protection Act* and refer FAFMs development to the Northern Territory Environment Protection Authority to undergo a comprehensive Environmental Impact Assessment.

References

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Alexander Vaughan

(Policy Officer)