Adrian Tomlinson
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NT 0870

19 August, 2025

To pastoralassessment.daf@nt.gov.au.
Via 'Development Applications Online'

RE: Standard Pastoral Land Clearing Application - Scott Creek, PPL 1037, NTP 3981, Katherine Pastoral District

I am writing to object to the application to clear 2443.59ha for non-irrigated improved pasture/hay/fodder on the above property.

I am strongly object to this proposal on the following grounds:

1. **The application and personnel involved are unqualified to assess and do not report the significant groundwater considerations and consequent impacts on sensitive environmental receptors. This renders the application inadequate for public exhibition**
2. **Impacts on Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Listed Pig Nose Turtle**
3. **Impacts on receiving groundwater dependent ecosystems (GDEs) in the regionally important Tindall Limestone Aquifer**
4. **Groundwater quality impacts are mischaracterised and impacts on sensitive receptors (i.e. Giwining and other GDEs) are not considered**
5. **Weeds risks**
6. **Other impacts on Giwining Nature Park**
7. **Unacceptable greenhouse gas emissions which are not offset**
8. **Self assessment under the NT Environment Protection Act 2019 is inaccurate and diminishes the risks**
9. **Referral under Federal EPBC ACT is needed**
10. **This proposal is of very low merit**

Discussion

1. **The application and personnel involved are unqualified to assess and do not report the significant groundwater considerations and consequent impacts on sensitive environmental receptors. This renders the application inadequate for public exhibition.**

   This proposal overlies shallow groundwater in the Tindall Limestone Aquifer, in close proximity to known terrestrial GDEs in Mathison Creek and terrestrial and aquatic GDEs in Flora River, just a couple kilometres from the northern extent of clearing. Giwining is well known to be dependent upon discharges from the Tindall Limestone Aquifer. Groundwater considerations should pervade every aspect of this application and yet they are hardly acknowledged.

For example:

- Species like the pig-nosed turtle, are identified as occurring north from the proposed clearing (in a down groundwater gradient location), yet there is no acknowledgement of risks that deleterious impacts on groundwater pose to the turtle. Hence there is no analysis of the risk or what to do about it.

- The application incorrectly and without any justification states there are no GDEs.

The application is written by Matt Barnes of 'Canopus Consulting'. Mr Barnes' 'Linked in' profile describes himself as an 'agronomist, agriculture and forestry' consultant. There is no evidence that any other expertise in groundwater hydraulics, groundwater dependent ecosystems, or aquatic ecology has been used in developing the application.

This failure to consider shallow groundwater or groundwater dependent ecosystems, let alone provide any meaningful analysis of these, means this application is absolutely inadequate. It is absolutely unsuitable for the public exhibition. I am aware of parties that are deeply concerned about land clearing, potentially including Wardaman custodians, who will review this application in good faith, but will not have the specialist expertise to identify the unacknowledged risks that this proposal poses.

Supporting information:

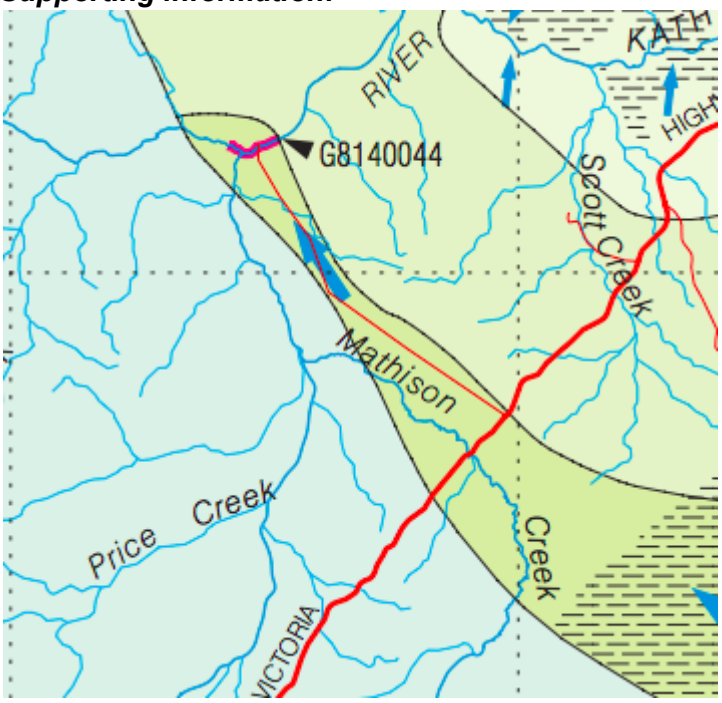

Image: Groundwater flowpath in unconfined Tindall limestone aquifer (pistachio green) is exactly concurrent with the clearing proposal and moves towards Flora river pools (Giwining).[1] The map describes that 'Pink' indicates the sections of a creek or river into which a significant amount of groundwater discharges. These groundwater discharges maintain the dry season river flows in the Katherine, Flora and Daly Rivers. Arrows indicate flow directions within the highest yielding aquifers. Large arrows like that drawn along Giwining (Flora) Rd indicates significant groundwater flow.

[1] Extract from Map DALY RIVER CATCHMENT WATER RESOURCES NTG 2002

2. Impacts on EPBC Listed Pig Nose Turtle

The area is singled out in the National Conservation Advice for Carettochelys insculpta (pig-nosed turtle)[2].

Relevant considerations from the advice include:

- *The species occurs on Wardaman and Njanjma land. Wardaman and Wagiman Rangers have expressed interest in developing future monitoring and research projects, particularly in areas where water extraction for cotton and other agriculture is affecting waterways (Freshwater Turtles on Country Workshop Darwin 2022).*

- *The pig-nosed turtle consume aquatic vegetation such as Vallisneria spiralis (ribbonweed), algae and Najas tenuifolia (water nymph). Animal matter consumed includes molluscs, crustaceans, fishes.*

- *The habitat critical to the survival of the pig-nosed turtle is the parts of the Daly River system, including its tributaries the Katherine and Flora Rivers, with these characteristics: Continuous low flow, with connectivity between sites to allow turtles to move along and between catchments. Access to spring fed systems and reaches with well-developed riparian vegetation and instream structure. Fine sand on the riverbank or on isolated sand bars, in areas with minimal vegetation within 4 m from the water's edge for nesting.*

- *All populations should be considered as important populations. Therefore, all populations require protection to support the overall recovery of the species.*

The threats specifically identified in the Federal Threat Abatement advice, which the proposal can be expected to exacerbate are:

- Invasive weeds
- Habitat modification and destruction
- increased erosion and siltation of waterways
- Trampling by livestock such as cattle has been a known source of turtle mortality in the Daly River
- Susceptibility to novel diseases.

In addition, the risk of algal blooms is increased because of nutrients from additional cattle wastes, fertilisers entering Giwining and other aquatic ecosystems via groundwater discharges. These should be expected to impact on major river food sources like Vallisneria spiralis. Additionally decaying algal blooms and other sources of carbon could also lead to

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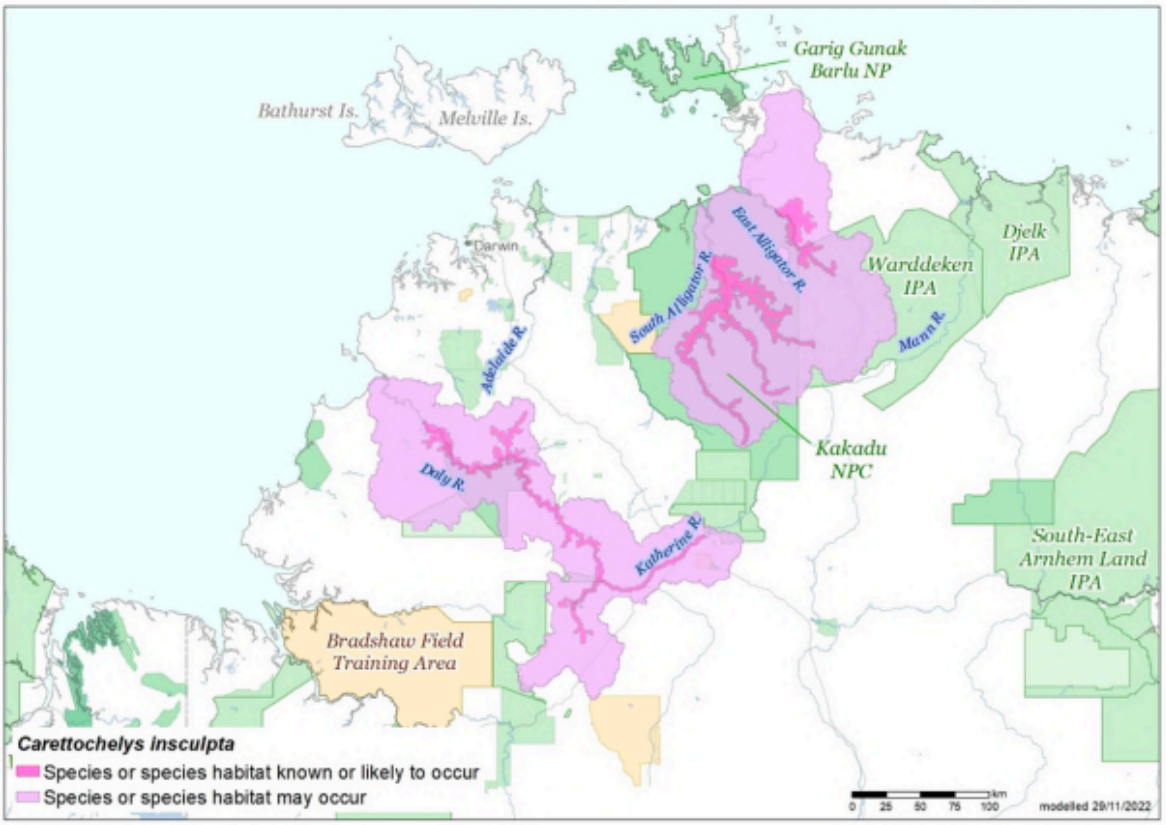
[2] http://www.environment.gov.au/biodiversity/threatened/species/pubs/1762-conservation-advice-16072024.pdf

deoxygenation of river pools. Sediment from the cleared land also could lead to siltation of habitat areas.

Map 1 Modelled distribution of the pig-nosed turtle



Map: Pignose habitat is recognised likely to occur in Flora River, Mathison Creek and its tributaries in the National Conservation Advice for Carettochelys insculpta (pig-nosed turtle)[3]

3. Impacts on receiving groundwater dependent ecosystems in the regionally important Tindall Limestone Aquifer

Section 8.3 states application states **"Groundwater dependent ecosystems are absent".** This is manifestly incorrect:

- Aquatic groundwater dependent ecosystems where aquifer discharge or intersect land surface, (i.e. Flora River and Mathison Creek, potentially also sinkholes and tributaries)
- Terrestrial groundwater dependent ecosystems can be expected or at least need to be investigated wherever depth to groundwater is less than about 15m.
- Subterranean groundwater dependent ecosystems can be expected in limestone aquifers especially with developed karst features.

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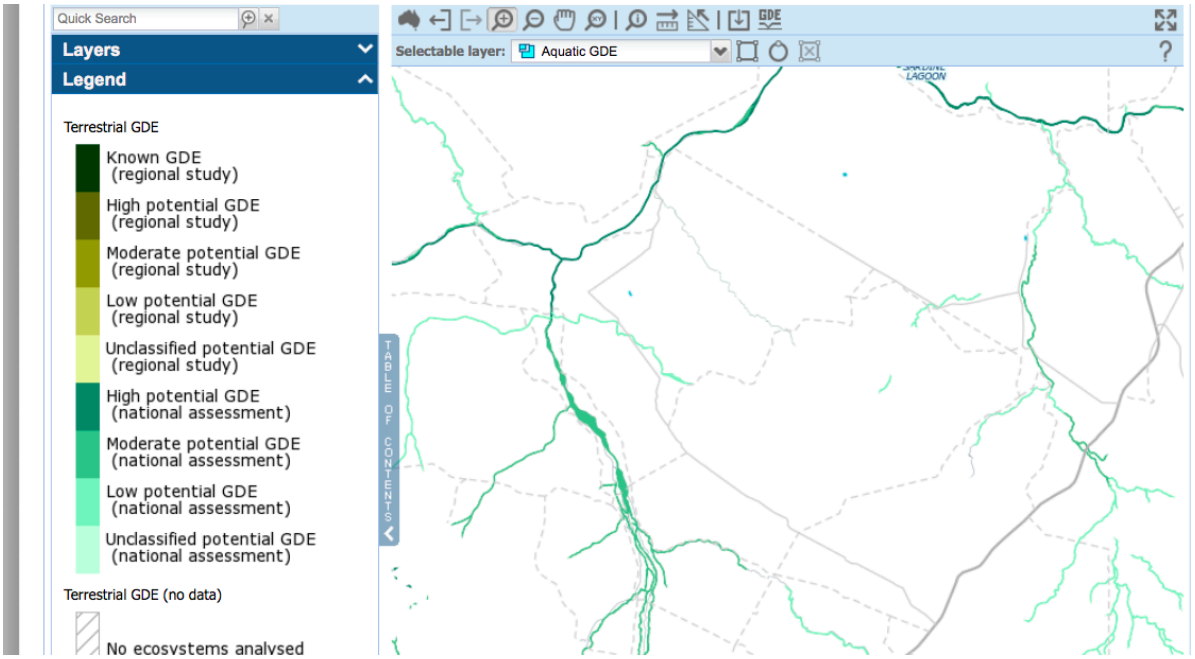
3 http://www.environment.gov.au/biodiversity/threatened/species/pubs/1762-conservation-advice-16072024.pdf

These conditions all occur in the vicinity of the proposed or down groundwater gradient in close proximity to the proposal. The impacts on these GDES need to be considered. **THEY ARE VERY IMPORTANT GIVEN PROXIMITY TO GIWINING AND EPBC LISTED PIG NOSE TURTLE.**

Evidence:

A. Even course scale BOM GDE mapping highlights likely GDEs in the area



BOM - source: http://www.bom.gov.au/water/groundwater/gde/map.shtml

B. NTG reports and bore data show groundwater is shallow. For example Water Resources Division Technical Report 2/2022 'Water resources of the Flora water management area' (p51) [4] shows at its lowest point in the flow path at Flora River groundwater surface is at about 100mAHD while in the south of the proposal the groundwater surface is about 110mAHD. Spot land surface heights in the north of the clearing area are as low as 106mAHD (cells 12 and 15) suggesting the depth to groundwater is just a matter of a few metres in some places. Furthermore even in the south the bore log for bore RN037846 identifies groundwater is intersected at 13m below the surface.[5]

4. Groundwater quality impacts are mischaracterised and impacts on sensitive receptors (i.e. Giwining and other GDEs) not considered

The application (p26) states 'There is a low risk to groundwater from application of chemicals and fertilisers. There are no known recharge areas within the proposed clearing and nearby surface areas are protected by retained native vegetation buffers exceeding recommendations in LCG'.

[4] https://territorystories.nt.gov.au/10070/900060/0/0

[5] http://www.ntlis.nt.gov.au/hpa-services/borereport?bore=RN037846

This is clearly inaccurate. The Tindall Limestone aquifer is shallow and unconfined and multiple sinkholes exist in the area (and more could form). Groundwater can also move quickly due to secondary porosity in karst limestone. These secondary porosity features are often concentrated upon areas with major springs and groundwater discharge areas like Giwining.

5. Weeds risks

Clearing and increased activity introduces risks of weed infestations along roadways and waterways which are vectors for weed infestations at Giwining and in Mathison Creek. These risks are unacceptable given the high conservation value of these areas and that the Pig Nose Turtle conservation advice explicitly identifies weeds as a threat to turtle populations. The advice identifies that every turtle population is important for conservation.

6. Other impacts on Giwining Nature Park

I am aware that Giwining Nature Park has immense cultural significance and is also a highly significant place for everyone. Clearing in such close proximity to the park diminishes everyone's experience of this place.

7. Unacceptable greenhouse gas emissions which are not even proposed to be offset.

The calculated emissions are 259,897 tonnes. Based on a spot price of $42.50 on 19 November 2024 [6] the cost to offset emissions from this proposed damage is $11,045,622.

I object to carbon emissions not being offset by the proponent. More fundamentally, given the proposal's severe lack of merit, environmental harm, and the urgent need to make deep cuts in the NT's GHG emissions, this avoidable proposal is not in the people of the NT or the Earth's interest.

8. Self assessment under the NT Environment Protection Act 2019 is inaccurate and diminishes the risks.

The applicant's assessment is completely inadequate. The information I have outlined highlights that this proposal impacts on many environmental factors considered by the NTEPA, including:

- hydrological processes (described)
- groundwater quality (described)
- culture and heritage Giwining)
- aquatic ecosystems (groundwater discharges to Giwining and Mathison Creek, impacting EPBC listed pig Nose turtle etc)
- Community and economy (tourism at Giwining Nature reserve)
- terrestrial ecosystems (eg Victoria River Squat Snail threats).

Yet the application states 'No' in every case, without any information provided to support the claims.

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[6] https://cer.gov.au/markets/reports-and-data/quarterly-carbon-market-reports/quarterly-carbon-market-report-september-quarter-2024/australian-carbon-credit-units-accus

9. Referral under the Federal EPBC Act needed

Given avoidable, direct and proximate impacts to the EPBC listed pig-nose turtle; and proximity to the naturally and culturally important Giwining Nature Reserve this proposal needs to be referred to the Federal Minister for the Environment for assessment as a matter of National Environmental Significance, under the the EPBC Act.

10. Low merit

At best this proposal will allow a marginal increase in cattle production for the station lease holders. However it will have certain deleterious impacts on the profoundly important Giwining Nature Reserve, including severe risks to EPBC listed species; plus avoidable atmospheric emissions. It will devastate the ecosystems and populations within the clearing footprint.

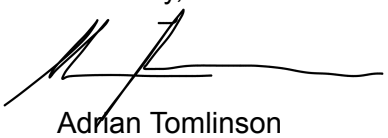
In short a small benefit is being sought by the applicant at a huge cost to nature and the rest of society.

Conclusion

Thank you for considering my submission. The issues I have raised have generally not been acknowledged by the applicant and are highly significant. I request the opportunity to speak in person about the reasons for my objection.

Thank you for your consideration.

Sincerely,



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CC
Chairperson, NT EPA
Federal Minister for the Environment