

Appendix A - DEPWS Application Review

21 December 2020

Malcolm Harris
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Dear Mr Harris,

RE: Pastoral land clearing application – NT Portion 0307 Ucharonidge Station, PPL 1072

The Department of Environment, Parks and Water Security (DEPWS) has assessed the information contained in the above application and provides the following comments.

Environment Division

The application has been considered with respect to responsibilities under the *Environment Protection Act 2019* (EP Act).

The application for clearing 4,898.52ha of native vegetation, in combination with recently approved (within the past two years) native vegetation clearing would result in a cumulative total of 10,1132.43ha of native vegetation clearing on Ucharonidge Station.

Application/Permit	Area (ha)
Proposed	4,898.52
PLC20/01	4,916.10
PLC19/03	317.81
Total:	10,132.43

The cumulative impacts of the current application, in combination with recently approved applications have not been identified, but have the potential to be significant, based on the cumulative scale of vegetation clearing on Ucharonidge Station as well as the potential cumulative greenhouse gas emissions. It is recommended that the applicant refer the proposal to the Northern Territory Environment Protection Authority (NT EPA) for consideration under the *Environment Protection Act 2019*.

The Environment Division recommends the proponent meet with the Environmental Assessment Unit to discuss the purpose of environmental impact assessment; the role of the Northern Territory Environment Protection Authority (NT EPA) and the process of referring a proposal to the NT EPA. Information about the referral process can be found at the following web page:

<https://ntepa.nt.gov.au/your-business/environment-impact-assessment>. For further information or to arrange a meeting, please contact 08 8924 4218 or eia.ntepa@nt.gov.au.

There are statutory obligations under the *Waste Management and Pollution Control Act 1998* (WMPC Act) that require all persons to take all measures that are reasonable and practicable to prevent or minimise pollution or environmental harm and reduce the amount of waste. The proponent is required to comply at all times with the WMPC Act, including the General Environmental Duty under section 12 of the Act. The Act, administered by the NT EPA, is separate to and not reduced or affected in any way by other legislation administered by other departments or authorities. The Environmental Operations Branch may take enforcement action or issue statutory instruments should there be non-compliance with the WMPC Act. Guidelines to assist proponents to avoid environmental impacts are available on the NT EPA website at <https://ntepa.nt.gov.au/publications-and-advice/environmental-management>.

Water Resources Division

There are no significant surface water features in the proposed clearing area. The buffer proposed for a drainage line near Rita Holdings is appropriate.

Flora and Fauna Division

Mitchell Grass Downs Bioregion/Sturt Plateau and Gulf Fall and Uplands Bioregions

Ucharonidge Station covers an area of approximately 245,000ha on the northern Barkly Tableland. The property is predominately situated within the Mitchell Grass Downs Bioregion, with the northern and eastern portions overlaying the Sturt Plateau, and the Gulf Fall and Uplands Bioregions. A total of 5,479ha has been previously cleared or approved for clearing on the property. The total cleared land represents approx. 2% of the total area of the property. The majority of the approved clearing is associated with the pending development of dryland cropping (4,916ha) adjacent to the proposed clearing extent.

Regional scale mapping of grassland vegetation communities for the NT is available at approx. 1:1,000,000 scale. Despite the notional scale limitations associated with spatial data of this resolution, the stark contrast in vegetation structure and floristics associated with the boundaries of grassland systems means that this scale of information relatively accurately reflects the actual extent of these formations at a finer spatial resolution.

The grassland vegetation on Ucharonidge Station is largely mapped as a mid-tussock grassland of variable composition, but dominated by *Chrysopogon fallax*, *Iseilema vaginiflorum* and *Dicanthium fecundum* (Mapping Unit 98 in Wilson *et al.* 1991). This grassland vegetation is typical of the northern parts of the Mitchell Grass Downs Bioregion and further north into the adjacent Sturt Plateau, Gulf Fall and Uplands and Gulf Plains Bioregions. Towards the south of the station (and further south on the Barkly Tableland), this community transitions towards an *Astrebla* dominated low tussock grassland (Mapping Unit 96 in Wilson *et al.* 1991) with *A. pectinata* being the most dominant species in the community.

Vegetation descriptions provided with the application describe the dominant community as a variable *Astrebla* sp. +/- *Paspalidium retiglume*, *Iseilema vaginiflorum* low tussock grassland with sub-dominant *Sorghum timorense* +/- *Astrebla* sp. mid-tussock grassland. This is broadly consistent with mapping unit 96 (Wilson *et al.* 1991), although it is likely that seasonal conditions as well as the sampling methods may have influenced the comprehensiveness of the floristics descriptions within the clearing areas. Despite this limitation, the

information provided is considered adequate to enable an assessment of the regional implications of the proposal on grassland communities, in the context of the previous and proposed clearing applications.

Recent revisions of the land systems mapping and associated geomorphic surfaces in the area suggest that the vast majority of grasslands occurring on clay-dominated substrates are associated with the Mitchell Grass Downs Bioregion (Barkly Tableland Subregion), rather than the Nicholson and Newcastle Subregions of the adjacent Bioregions. As such, it is therefore appropriate to perform an analysis of the cumulative impacts of vegetation clearing, by considering the grassland extents across each of the identified subregions (Barkly Tableland, Nicholson and Newcastle) holistically.

Currently, the extent of permitted clearing within the bioregion represents approx. 0.1% of the mapped extent of the relevant vegetation communities (Map Units 96 and 98) within the Barkly Tableland, Nicholson and Newcastle Subregions. The clearing proposed in the current application represents a net loss of an additional approx. 0.09% of the mapped extent of these vegetation communities. To date, the total clearing for the property is approx. 6,240ha. The addition of 4,898.52ha brings the total proposed cleared extent in the region to approx. 11,138ha or approx. 0.2% of the native tussock grasslands within the region. The Flora and Fauna Division considers that the current proposal, as well as cumulative impacts, are unlikely to significantly reduce the extent of the relevant vegetation communities in the regional context.

Threatened Species

There have been no comprehensive biodiversity surveys in the proposed area. Based on a search of DEPWS databases within 30km of the boundary of the proposed clearing extent, expert knowledge of species' habitat requirements, and information about habitats occurring within the site, the following threatened species may occur within or immediately adjacent to the area proposed to be cleared. The likelihood of these species occurring and the risks to each is discussed below.

Table 1 – Threatened species recorded within 30km radius of proposed clearing extent

Common Name	Scientific Name	TPWC Act*	EPBC Act**
Gouldian Finch	<i>Erythrura gouldiae</i>	Vulnerable	Endangered
Grey Falcon	<i>Falco hypoleucos</i>	Vulnerable	
Floodplain Monitor	<i>Varanus panoptes</i>	Vulnerable	

*TPWC Act – Territory Parks and Wildlife Conservation Act 1976

**EPBC Act – Environment Protection and Biodiversity Conservation Act 1999

Gouldian Finch: habitat preference of this species changes seasonally, preferring rocky upland woodland dominated by *Eucalyptus tintinnans* (or similar species such as *E. leucophloia*) and within proximity of persistent waterholes or springs in the breeding season, and moving to lowland grassy systems with the Wet season. While there are no records of the species from Ucharonidge Stations, there are DEPWS database records 45km from the proposed clearing area.

Potentially suitable feeding habitat for the species has been identified within the clearing footprint and from adjoining areas. Due to sustained grazing pressure on Ucharonidge Station, the suitability of grassland habitat for Gouldian Finch is expected to be low. The proposed clearing would remove up to 4,898.52ha, representing only a small reduction of feeding habitat locally available to this species. The Flora and Fauna Division considers that the potential impacts on Gouldian Finch from the clearing proposal is low.

Grey Falcon: This species is highly nomadic and sparsely distributed with few known nesting locations. It prefers timbered lowland plains, especially those that are acacia-dominated, and interspersed with tree-lined

watercourses, but may forage open grassland areas. Despite the presence of suitable foraging habitat the likelihood of significant populations in or adjacent to the area proposed for clearing is considered to be low due to their low densities.

Floodplain Monitor: This species may occur within or immediately adjacent to the proposed clearing, and is most likely to occur around wetlands and riparian habitats in the southern section of Ucharonidge Station. DEPWS database records reveal a cluster of >10 recent records of Floodplain Monitor on neighbouring Mungabroom Station in low tussock grassland used for cattle grazing. The species was historically common across its range but has recently undergone significant declines due to the spread of cane toads.

The species is known to forage in agricultural and modified environments and the proposed land use may still provide some suitable foraging habitat for the species within or immediately adjacent to the proposed clearing. Due to this factor, there is a moderate likelihood of occurrence of the species, however as this species commonly occur in low densities, the number of individuals potentially using the area is expected to be low. Due to the large area of intact suitable habitat in the surrounding region and the low number of individuals likely to use the area, the Flora and Fauna Division considers the risk to Floodplain Monitor from the clearing and future land use to be low.

Biodiversity

The applicant is proposing to retain native vegetation (300m wide) between the proposed clearing extent and areas of existing clearing. The same buffer is also proposed between the individual proposed clearing polygons. However, no justification has been provided for the clearing configuration or wildlife corridor locations; and neither align with existing fencing. The Northern Territory Planning Scheme Land Clearing Guidelines (LCG) recommends that a wildlife corridor with a minimum width of 200m be incorporated within clearing proposals greater than 100ha. The applicant's proposal to retain 300m wide corridors between clearing areas is less than what would normally be required if the default recommendations in the LCG were implemented.

However, in this particular grassland habitat, the value of retaining wildlife corridors in the context of land clearing is likely to be less than generally described in the LCG. This is because:

- the area is entirely grassland, so there is no need to retain structural complexity in a retained woodland corridor to assist movement of birds and arboreal species
- inspection of imagery suggested the area is subject to substantial grazing pressure, so that the habitat value of any retained vegetation will be relatively low
- without fencing, any retained corridor would likely to be subject to heavy grazing by cattle and therefore be of low habitat value.

Conclusion

In summary, the Flora and Fauna Division considers that the potential impacts and risks to flora and fauna from the proposal are low. Although the proposed native vegetation corridor does not fully meet the recommendations of the LCG, retention of such corridors is of lower importance in this particular landscape context.

Rangelands Division

Land Assessment Branch

The Land Assessment Branch has assessed the information provided in the application and outlined in the report, *Land Types And Land Capability On Parts Of Rita's Holding, Mick's East And Florence's East Paddocks, Ucharonidge Station (August 2020)*. A desktop review of the information provided by the proponent and other soil data held by the department on the Barkly Tableland, indicate the following has been undertaken.

Appropriately scaled land type investigation

The Branch supports the findings of the supplied report, that the entire proposed clearing extent consists of one land type. The site data and photos provided by the applicant indicate the area is a level to very gently undulating plain, with moderately well drained grey cracking self-mulching clays (Vertosols). The vegetation is *Astrebla sp.* low open tussock grassland. This scale of the land type mapping (1:50,000) is considered appropriate given the uniformity of the landscape and the land use proposed (dryland pasture).

Field investigation

Thirteen field sites have been described within or immediately adjacent to the proposed clearing extent, in addition to the sixteen described in 2019. Soil profile data and soil pit photos presented in Attachment A of the report confirm the dominant soil type is a strongly structured grey cracking clay (Vertosol). Descriptions and photos from all thirteen field sites indicate very similar soil characteristics and a high degree of soil uniformity.

Soil laboratory analyses (pH/EC/Cl) were undertaken on eleven sites, with cations also assessed on three of these. These results indicate low levels of inherent soil salinity to depths of at least 1m, and confirm an adequate effective rooting depth for dryland agriculture, significant capacity for fallow soil moisture storage (>120mm/1.0m = broadacre dryland cropping soils in Central Queensland), and confirm subsoil salinity and sodicity are not significant constraints.

Land capability assessment

A desktop assessment by DEPWS shows surface flow across the development area is ephemeral and only occurs infrequently after very significant monsoonal events. The clearing envelope resides at the top of the local catchment, and satellite imagery confirms that intermittent flows are very shallow, slow moving, low energy and very short lived (2-3 days).

Based on the above information, the Land Assessment Branch supports the applicant's conclusion that the proposed clearing extent is all land capability Class 2 (i.e. land with minor to moderate constraints) as defined in the LCG. As such, the land is considered capable for the proposed land use - dryland grains and forage cropping. However, it is recommended the Department of Industry, Tourism and Trade (DITT) are consulted regarding the viability of intended crop species, and dryland cropping in the region generally.

Development Coordination Branch

Based on desktop assessment the Land Management Unit (LMU) provides the following advice. The application is generally in accordance with the LCG and the Pastoral Land Clearing Guidelines (Pastoral LCG) and there are no significant land management issues associated with the application.

Proposed clearing footprint

The area proposed for clearing is approximately 4,889ha. Soil sampling undertaken by the applicant indicates that the Exchangeable Sodium Percentage (ESP) >6% was recorded in the soil profile samples at depths >60cm. From a land management perspective soils that present a high erosion risk should be avoided. It is recommended that these moderately sodic soils (potentially at depths >60cm) are not disturbed.

Slope within the proposed clearing polygons are generally 1% with some minor occurrences of 1% to 2% within the Rita Holdings and Micks East polygons. Digital elevation modelling indicates the presence of an area (~1ha) of 2-3% slope within the Rita Holdings clearing polygon. The application identified that these areas were ground-truthed (slope measured using a clinometer) and confirmed that slope in the three locations within Rita Holdings was <2%. The LCG class slope of 0-2% as having a Low to Moderate risk of erosion and slope of 2-3% as having a High risk of erosion. Given that the proposed land use is to grow a mix of grain and forage crops for grazing and hay production and cotton seed for on farm use, slope within the proposed clearing footprint is considered to be acceptable and a formal Erosion and Sediment Control Plan (ESCP) will not be required. However, implementation of appropriate soil conservation and land management practices will be necessary to minimise the risk of erosion, in accordance with the recommended general permit condition below.

Method, and timing of works

The applicant proposes to initially plough the area using a tractor drawn offset disc plough, then use Kelly chains to mulch down and incorporate the vegetation into the soil in order to prepare a fine tilth which is intended to improve the level of moisture held in the soil. This will be followed by post-cultivation control of grass and weed species using herbicide and then the planting of crops. The applicant proposes to undertake the clearing works during the 2020/2021 Wet season followed by planting during January to February 2021. It is recommended that works associated with clearing and ground preparation be undertaken during periods when soil moisture is adequate but prior to the soils becoming saturated and waterlogged and/or after they have sufficiently drained in order to avoid the creation of wheel ruts and channels which can concentrate surface water flow and potentially lead to erosion.

General Permit Condition: Appropriate erosion and sediment control measures are to be employed throughout the clearing and establishment phases of the development, to the satisfaction of the Pastoral Land Board, including (but not limited to): retention of buffer zones where appropriate and measures to address seasonal timing of works, management of groundcover and minimisation of bare ground, crop layout and maintenance of natural sheet flow patterns, avoidance or removal of soil windrows or other surface modifications that create concentrated flow paths for runoff, and installation of erosion controls on access tracks, fence lines and firebreaks where appropriate. Information regarding erosion and sediment control is available on the NTG website at <https://nt.gov.au/environment/soil-land-vegetation>.

Weed Management Branch

The Weed Management Branch did not conduct an inspection of NT Portion 307 (the site) for this application. An assessment of the NT Weeds Database for the proposed clearing extent, surrounding areas and adjoining roads reveals data records of the following:

Table 2 – Weeds species recorded within the vicinity of the proposed clearing extent

COMMON NAME	BOTANICAL NAME	DECLARED
prickly acacia	<i>Vachellia nilotica</i>	Class A
burr - star	<i>Acanthospermum hispidum</i>	Class B
parkinsonia	<i>Parkinsonia aculeata</i>	Class B
rubber bush	<i>Calotropis procera</i>	Class B

Statutory Requirements

The *Weeds Management Act 2001* (the Act) enables the following weed declarations: Class A (to be eradicated); Class B (growth and spread to be controlled); Class C (not to be introduced into the NT). All Class A and B weeds are also Class C.

All land in the Northern Territory is subject to the Act. Section 9 of the Act states that the owner and occupier of land must - (a) take all reasonable measures to prevent the land being infested with a declared weed; (b) take all reasonable measures to prevent a declared weed or potential weed on the land spreading to other land.

Prickly acacia is subject to a Statutory Weed Management Plan. All landholders and managers must adhere to management obligations outlined in these plans.

Recommendations

Under the Act it is an offence to move or spread declared weeds off or within the site.

Any works that cause disturbance to vegetation and soils will create conditions favourable for the growth of weed species, and weed control will be required following disturbance caused by clearing native vegetation. Weed control prior to seed set should be carried out in all areas affected by these works.

The proponent must ensure that all vehicles and machinery are free of weeds, weed seeds, soil and vegetative material prior to entering or exiting the site. Vehicles must avoid driving through weeds already present on-site to prevent further spread. Vehicles and machinery exhibiting such material must be thoroughly washed down before entering/departing.

There will be an increased risk of weed spread during the planting, maintenance and harvesting of crops. Weed hygiene practices are critical in preventing new weeds from establishing, there is a high risk of new weed outbreaks with the use of farm machinery from interstate. Should a new weed incursion occur on NT Portion 307, the proponent is required to contact the Weed Management Branch within 14 days.

The Weed Management Branch may conduct random inspections of the proposed site to ensure weeds have not been spread or introduced to the site.

Further management requirements and copies of the Weed Management Plan for prickly acacia is available at: <https://nt.gov.au/environment/weeds/weed-management-planning>. Alternatively contact the Weed Management Branch for further advice on (08) 8999 4567.

Bushfires NT

NT Portion 307 falls in the Barkly Fire Management Zone. The developer has indicated that all vegetative material will be ploughed into the soil but is requested to dispose of any timber resultant from the land.

The developer is encouraged to consider fire management on the property and it is recommended that a minimum 4m* wide break, free of vegetation, is maintained around the cropping extent and any infrastructure installed to manage the crop.

*NOTE: As per exemption (i) of the Pastoral Land Clearing Guidelines, a pastoral land clearing permit is required for firebreaks exceeding 10m in width.

A permit to burn is only required during the Fire Danger period (usually between December and March); however the lessee is encouraged to seek a Permit to Burn all year round.

Further information and/or a Permit to Burn can be obtained by contacting Bushfires NT Alice Springs and Barkly Regional Office on (08) 8952 3066.

Should you have any further queries regarding these comments, please contact Angela Estbergs, Land Development Facilitator by email angela.estbergs@nt.gov.au or telephone (08) 8999 4454.

Yours sincerely



Maria Wauchope
Director, Development Coordination