



1. Application details

1.1. Permit application details

Permit application No.: 1882/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Kimberleyland Holiday Park Pty Ltd

1.3. Property details

Property: WATER FEATURE (KUNUNURRA 6743)
LOT 3004 ON PLAN 46759 (KUNUNURRA 6743)
Local Government Area: Shire Of Wyndham-East Kimberley
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3		Mechanical Removal	Miscellaneous

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The area under application consists of aquatic and terrestrial environments. The aquatic environment consists of a variety of plants including <i>Nymphoides indica</i> (Water snowflake), <i>Cyperus difformis</i> (Rice sedge), <i>Typha</i> spp. (Cumbungi), <i>Chara</i> spp. (Stonewort), <i>Najas graminea</i> and <i>Sesbania formosa</i> (white dragon tree), Kimberley fern and an unidentified algae (Kenneally et al, 1996; Sainty and Jacobs, 1988). The terrestrial environment at the jetty consists of <i>Sesbania formosa</i>, <i>Eucalypt</i> spp and <i>Pandanus spiralis</i> (<i>Pandanus</i> palm). An unidentified grass species dominates the parkland area.</p> <p>Weeds identified throughout the application area include <i>Passiflora foetida</i> (Wild passionfruit), <i>Azadirachta indica</i> (Neem tree), <i>Tribulus cistoides</i> (Caltrop) and <i>Cyperus involucratus</i> (sedge) (Kenneally et al, 1996; Sainty and Jacobs, 1988).</p>	<p>The clearing is for the purpose of mosquito control, visual aesthetics and small boat access.</p> <p>The area has previously been disturbed by historical removal of terrestrial and aquatic vegetation from the riparian zone and foreshore area, and in-filling activities near the jetty.</p> <p>The current application is to slash 1.8ha of grasses in the park, and to remove 1.2ha of aquatic vegetation from within the lagoon. Additionally the boat jetty structure will be regularly maintained to a depth of 2m.</p> <p>The aquatic environment retains a structure that is generally in good condition. The removal of cumbungi (<i>Typha</i> sp.) from the parkland area towards the eastern side of the application area has resulted in the significant alteration of the vegetation structure, however since clearing activities have been restricted over the last 12 months, cumbungi and other aquatic vegetation have regenerated in the area.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>The description of the vegetation to be cleared was obtained during a site visit by DEC staff on 10 August 2007 (DEC TRIM Ref: DOC38397).</p>

The terrestrial environment along the entire foreshore of the caravan park is completely degraded and no longer contains a riparian zone.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal may be at variance to this Principle**

This proposal involves slashing 1.8ha of grasses in the park, and to remove 1.2ha of aquatic vegetation from within the lagoon. The vegetation is of good condition.

The proposed clearing is within Lily Creek Lagoon which forms part of the Ramsar wetland system of Lakes Kununurra and Argyle. This classification has been afforded to the lakes due to their outstanding biodiversity values within the Victoria Bonaparte bioregion.

The vegetation within the proposal area is comprised of aquatic and riparian species. These include *Nymphoides indica* (Water snowflake), *Cyperus difformis* (Rice sedge) *Typha* spp. (Cumbungi), *Chara* spp. (Stonewort), *Najas graminea* and *Sesbania formosa* (white dragon tree), Kimberley fern and an unidentified algae (Kenneally et al, 1996; Sainty and Jacobs, 1988). The terrestrial environment at the jetty consists of *Sesbania formosa*, *Eucalypt* spp and *Pandanus spiralis* (Pandanus palm) (DEC, 2007).

Given the condition of the vegetation under application and the biodiversity values of the Ramsar wetland the vegetation under application may be considered to hold high biodiversity values.

Methodology Kenneally et al (1996);
Sainty and Jacobs (1988);
DEC (2007);
SAC Biodatasets (120907);
GIS Databases:
- Kununurra 50cm Orthomosaic
- Interim Biogeographic Regionalisation of Australia (subregions)
- RAMSAR, Wetlands
- ANCA, Wetlands

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal is not likely to be at variance to this Principle**

There are no recorded occurrences of threatened or priority fauna within the area proposed to be cleared, however a number occur within the local area (10km radius).

The priority 4 listed Water Rat (Rakali) (*Hydromys chrysogaster*) (Wildlife Conservation (Specially Protected Fauna) Notice 2008 has been located 2.2km north of the area proposed to be cleared. The water rat is a nocturnal, territorial rodent preferring permanent fresh or brackish water, which forages close to the shoreline and nests in burrows in banks (Menkhorst and Knight, 2004). The area within which the clearing is proposed contains similar habitat (DEC, 2007), majority of that to be cleared being within the shoreline area.

The Burdekin Duck or Radjah Shelduck (*Tadorna radjah*) is classified as 'other specially protected fauna' (Wildlife Conservation (Specially Protected Fauna) Notice 2008 and has been located 2.5km north of the area proposed to be cleared. It inhabits tropical coastal wetlands, rivers and flooded areas (Simpson and Day, 2004) the proposed clearing will disturb aquatic areas that could be potential feeding areas of the duck.

The Priority 4 listed Little Bittern (*Ixobrychus minutus*) (Wildlife Conservation (Specially Protected Fauna) Notice 2008) has been located 5.3km south of the proposal area. The Little Bittern inhabits dense reeds and rushes bordering swamps and creeks (Simpson and Day, 2004), the same habitat present within the application area

Though, given the small size, and disturbed surrounding area, it is unlikely that the Water Rat, Burdekin Duck and Little Bittern would depend on the application area has significant habitat.

The aquatic vegetation under application provides feeding habitat for numerous bird and fish species, crocodiles (*Crocodylus johnstoni*) and turtles (*Chelodina rugosa* and *Elseya dentata*). Crocodile nesting holes were not observed during a site visit, however the jetty area, within the area under application, is known to be the territory of a freshwater crocodile (DEC, 2007).

Turtles tend to nest between February and May (Greer, 2006), however extensive areas of aquatic habitat exist outside the application area that would also serve as turtle nesting areas.

Given the above, the proposal is not likely to be at variance to this principle.

Methodology Wildlife Conservation (Specially Protected Fauna) Notice 2006(2);
Strahan (1995);
Menkhorst and Knight (2004);
DEC (2007);
Simpson and Day (2004);
Greer (2006);
SAC Biodatasets (280208)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal is not likely to be at variance to this Principle

There are no known records of Declared rare Flora, but six recorded occurrences of priority flora within the local area (10km radius). These are *Echinochloa kimberleyensis* (P1), *Typhonium* sp. Kununurra (P1), *Platysace saxatilis* (P2), *Acacia richardsii* (P3), *Brachychiton tuberculatus* (P3) and *Ficus lilliputiana* (P4). The area proposed to be cleared does not contain habitat suitable for these species (FloraBase, 2007), therefore they are not likely to be located within the area proposed to be cleared.

Given the above, the proposal is not likely to be at variance to this principle.

Methodology FloraBase (2007);
SAC Biodatasets (120907)
GIS Database:
- Soils, Statewide

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments Proposal is not likely to be at variance to this Principle

There are no recorded occurrences of threatened or priority ecological communities within the local area (10km radius).

Therefore, the proposal is not likely to be at variance to this principle.

Methodology SAC Biodatasets (120907)

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not likely to be at variance to this Principle

The aquatic and riparian vegetation of Lake Kununurra has not been mapped to determine measurable extents. Aerial imagery of Lily Creek Lagoon shows extensive areas on the southern and western sides are intact and undisturbed.

However the northern side, where the current clearing is proposed, has been extensively cleared by past land management and recreational activities. This has resulted in the destruction of the riparian zone along the foreshore (DEC 2007), thereby placing a greater ecological importance on the remaining aquatic vegetation. Portions of the proposal area have been subject to previous clearing, including 1.8ha of slashed grasses in the park. Those areas that remain vegetated are valuable remnant vegetation in a landscape that has been extensively cleared. A buffer area to protect the remnant vegetation on Reserve 41812 has been agreed upon by the Department of Water, the Shire of Wyndham East Kimberley and Kimberleyland (DOC51984). Buffer areas have been excluded from this application by the proponent.

Furthermore, The Kununurra and Lily Creek Lagoon Vegetation Management Plan (2008), recommends that Kimberleyland Caravan Park remove cumbungi where access and views are needed, reduce weeds infestations and replant the banks of Lily Creek Lagoon with smaller native sedges.

Given the above, the proposal is not likely to be at variance to this principle.

Methodology VMP, 2008
TRIM Ref: DOC51984
GIS Databases:
- Pre-European Vegetation
- Kununurra 50cm Orthomosaic

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal is at variance to this Principle

The proposed clearing is located within the water body and along the banks of Lily Creek Lagoon.

Lily Creek Lagoon is part of a wetland system that is classified under the Ramsar Convention and listed on the Directory of Important Wetlands in Australia.

To ensure the conservation values of Lily Creek Lagoon are not compromised by this application, a buffer area has been agreed upon by the Department of Water, Shire of Wyndham East Kimberley and the proponent where vegetation can not be removed on Reserve 41812 (DOC51984). Furthermore recommendations have been made to the proponent, in the Kununurra and Lily Creek Lagoon Vegetation Management Plan (2008), for the best management of Cumbungi within the application area.

As the application includes the removal of native vegetation growing in or in association with a wetland or watercourse the proposal is at variance to this principle.

Methodology VMP, 2008
Trim Ref: DOC51984
GIS Databases:
- RAMSAR, Wetlands
- ANCA, Wetlands
- Hydrography, linear
- Hydrography, linear (hierarchy)

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments Proposal is not likely to be at variance to this Principle

The neighbouring foreshore area shows signs of minor land degradation as a result of water action and from previous excavation of the water body (DEC, 2007).

The location of the retained vegetation surrounding the application area provides protection to the banks, and in conjunction with laying shale on the bed and banks, will reduce erosion from wind and water action.

Given the above, the proposal is not likely to be at variance to this principle.

Methodology DEC (2007);
GIS databases:
- Hydrography, linear
- Kununurra 50cm Orthomosaic

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal is not likely to be at variance to this Principle

The proposed clearing is located within the water body and along the banks of Lily Creek Lagoon, part of a wetland system that is classified under the Ramsar Convention and listed on the Directory of Important Wetlands in Australia.

Lake Argyle and Lake Kununurra cover 150,000 hectares (Environment Australia, 2001). Given the small size of the application area in comparison, the clearing of 1.2 hectares of aquatic vegetation is not likely to impact upon the Ramsar values of the lake system.

Mirima National Park is located 1.7km north-east of the proposed clearing. The park is upstream of the lagoon therefore the proposed clearing is not likely to impact on the conservation reserve.

Given the above the proposed clearing is not likely to be at variance to this clearing principle.

Methodology Environment Australia (2001);
GIS Databases:
- CALM Managed Lands and Waters
- RAMSAR, Wetlands
- ANCA, Wetlands

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments Proposal may be at variance to this Principle

The area that is proposed to be cleared is located within the Canning-Kimberley groundwater sub-area, proclaimed under the Rights in Water and Irrigation Act 1914. The Public Drinking Water Source (PDWS) area, consisting of a P1 protection zone, is located adjacent to the area where the clearing is proposed. However, the direction of groundwater flow into the PDWS area is from Lake Kununurra in the south, moving northwards (Department of Environment, 2003), therefore the proposed clearing will be 'downstream' of the PDWS area and is not likely to impact upon the quality of the groundwater.

The area proposed to be cleared has experienced historical disturbance from previous clearing methods, and the proposed works have the potential to cause deterioration in the quality of surface water via localised sedimentation and turbidity due to the disturbance of soils (Boulton and Brock, 1999).

The proponent has excluded some areas from the application to clear, to increase the retention of vegetation in the local area. The location of the retained vegetation provides protection to the banks from onshore winds and high water velocities, and in conjunction with laying shale on the bed and banks, will reduce erosion and minimise deterioration in water quality.

Therefore, the proposal may be at variance to this principle.

Methodology Department of Environment (2003);
DEC (2007);
Boulton and Brock (1999)

GIS Database:
- Kununurra 50cm Orthomosaic
- Hydrology
- Public Drinking Water Source Protection Area

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

The proposed clearing of 3 hectares is not likely to influence the incidence or intensity of any flooding in the lake.

Therefore, the proposal is not likely to be at variance to this principle.

Methodology GIS Databases:
- Hydrography, linear
- Hydrography, linear (hierarchy)

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

Clearing is for the purpose of mosquito control, visual aesthetics and small boat access. It involves the slashing of 1.8ha of grass from the park and the removal of 1.2ha of aquatic vegetation from the lagoon.

The area proposed to be cleared is located on Reserve 41812 and unallocated Crown land (PIN 638581). Reserve 41812 is jointly managed by the Department of Water (DoW) and the Shire of Wyndham East Kimberley. The unallocated Crown land is vested with the Water Corporation and managed by the Department for Planning and Infrastructure.

The proponent holds a lease over a portion of Reserve 41812 for Kimberleyland Holiday Park with joint lessors Water and Rivers Commission (now Department of Water) and the Shire of Wyndham East Kimberley for the purpose of 'camping, boat launching and mooring and other ancillary uses associated with the operation of a Holiday Park and consistent with the designated purpose for which the Reserve is reserved under s.41 of the Land Administration Act 1997'. This lease expires on 31 December 2012.

This lease contains the following condition:

'3.7 (e) Foreshore Vegetation

Not to remove any vegetation from the land EXCEPT:

(i) in accordance with a foreshore management / rehabilitation plan approved by the Lessor;

The Lessee must ensure that all areas from which vegetation is removed shall be promptly rehabilitated and revegetated with local, native species in order to minimise soil erosion and run-off.'

A foreshore management / rehabilitation plan has been approved by the Department of Water and the Shire of Wyndham East Kimberley. DoW has advised that the application to clear extends beyond the approved plan. Although this area is outside Reserve 41812 so is not in their jurisdiction, DoW does not have any objections to

the extent.

The Department for Planning and Infrastructure does not object to the application, provided all other approvals are received.

The Shire of Wyndham East Kimberley supports the proposal. The shire has advised that the application to clear extends beyond the approved Foreshore Plan under the lease. Although this area is outside Reserve 41812 so is not in their jurisdiction, the shire does not have any objections to the extent.

The proposed works requires a Bed and Banks Permit under the Rights in Water and Irrigation Act 1914 from the Department of Water.

The proposed works fall within a Ramsar classified wetland. The proponent has not provided any information as to whether the proposal requires assessment under the Environment Protection and Biodiversity Conservation Act 1999 by the federal Department of Environment and Water Resources.

The area under assessment has been subject to four previous referrals to the Environmental Protection Authority. None of these referrals are related to the proposal under assessment, however two are in relation to the Kununurra-Wyndham Area Development Strategy (CRN 145595, CRN 136082). The proposal is not at variance to this strategy.

The proposed works are not listed as Prescribed Premises under the Environmental Protection Regulations 1987, therefore no licences or works approvals are required.

Native title has been resolved for the Miriuwung Gajerrong peoples during negotiations for the Ord Stage II horticultural initiative.

The proposed clearing occurs in an area that is covered by the following Registered Indigenous Heritage Site: Gunanurreng - Ord River (ID 15153). It is the proponent's responsibility to comply with the Aboriginal Heritage Act 1972 and ensure that no Sites of Aboriginal Significance are damaged through the proposed works.

Methodology

GIS Databases:

- Native Title Claims
- Aboriginal Sites of Significance
- Environmental Impact Assessments

4. Assessor's comments

Comment

The proposed clearing was found to be at variance to principle f, may be at variance to principle a and i, and not likely to be at variance to principles b, c, d e, g, h, and j.

Additionally, the proposed clearing requires a Bed and Banks Permit from the Department of Water.

5. References

- Boulton, A.J. and Brock, M.A. (1999) Australian Freshwater Ecology: Processes and Management. Cooperative Research Centre for Freshwater Ecology. Gleneagles Publishing, Australia.
- Department of Environment (2003) Kununurra Water Reserve - Drinking Water Source Protection Plan. Kununurra Town Water Supply. Water Resource Protection Series No WRP 51.
- Department of Environment and Conservation (2007) Site Inspection Report. Native Vegetation Conservation CPS 1882/1. DEC TRIM Ref: DOC38397
- Environment Australia (2001) A Directory of Important Wetlands in Australia. Third Edition. Environment Australia, Canberra.
- FloraBase (2007) FloraBase the Western Australian Flora 30/10/2007 <http://florabase.calm.wa.gov.au/browse/profile/> DEC TRIM Ref: DOC38616
- Greer, A.E. (2006) Encyclopedia of Australian Reptiles. Australian Museum Online 30/10/2007 <http://www.amonline.net.au/herpetology/research/encyclopedia.pdf> Version date 7 August 2006. DEC TRIM Ref: DOC38505
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Kenneally K.F., Edinger D.C. and Willing T. (1996) Broome and Beyond: Plants and People of the Dampier Peninsula, Kimberley, Western Australia. Department of Conservation and Land Management.
- Menkhorst, P. and Knight, F. (2004) A Field Guide to the Mammals of Australia. 2nd Edition. Oxford University Press.
- Sainty, G.R. and Jacobs S.W.L. (1988) Waterplants in Australia. Royal Botanic Gardens Sydney, Australian Water Resources Council, National Coordinating Committee on Aquatic Weeds.
- Simpson, K. and Day, N (2004) Field Guide to the Birds of Australia. 7th Edition. Penguin Books Ltd.
- Strahan, R. (1995) The Mammals of Australia. Australian Museum. The National Photographic Index of Australian Wildlife.
- Wildlife Conservation (Specially Protected Fauna) Notice 2006(2)

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)

