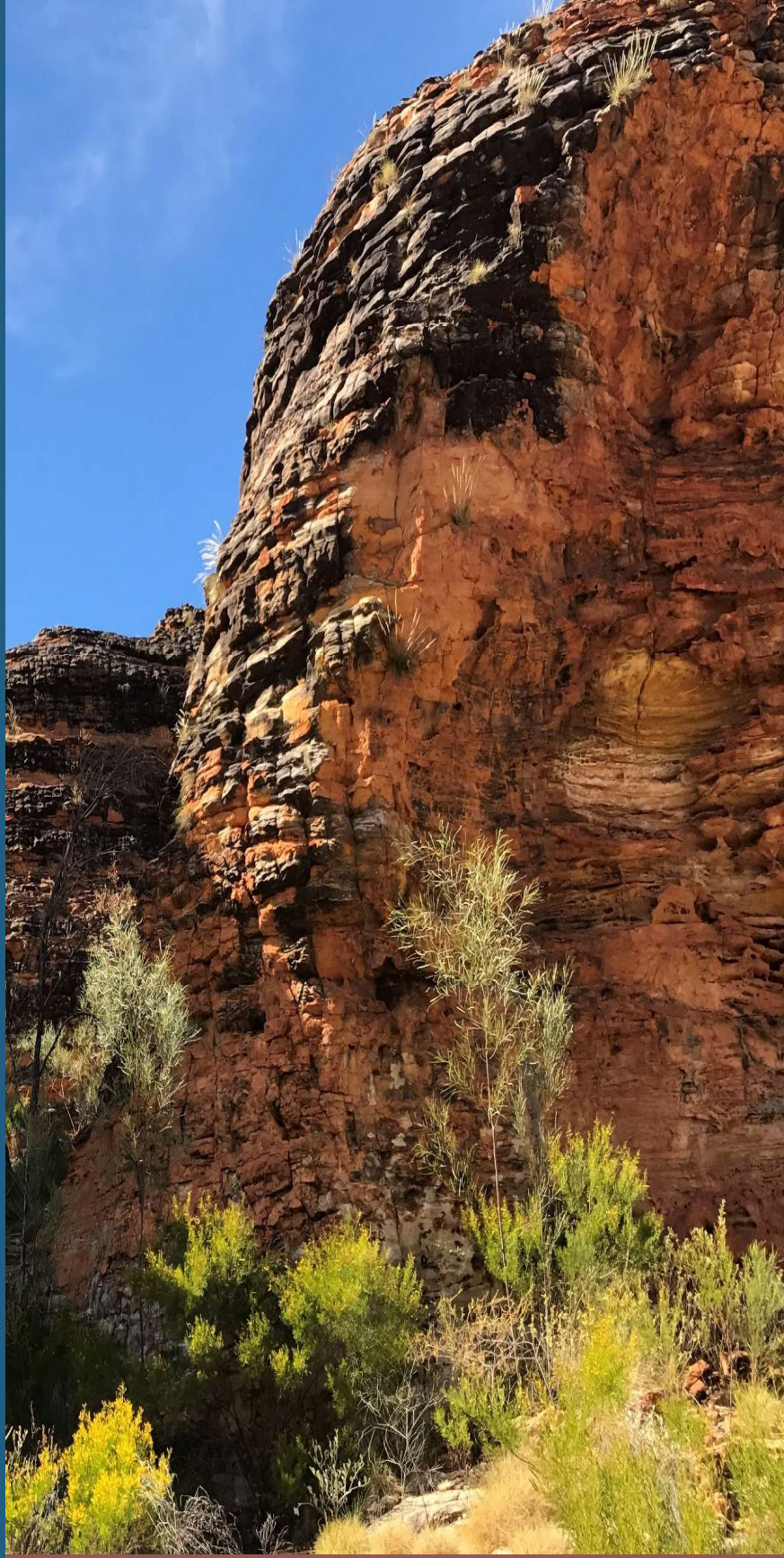
Clearing purpose permit application

Supporting Information

Prepared for Coventry Machine Works & Shire of Wyndham East Kimberley

September 2025



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HYDRO SCAPE ENVIRONMENTAL

Executive summary

Coventry Machine Works, is seeking to apply for a purpose permit to clear Cumbungi (*Typha domingensis*) and weeds on behalf of the Shire of Wyndham East Kimberley (SWEK) on an annual basis for a 10 year period. Hydroscape Environmental Pty Ltd (Hydroscape) has been engaged by Coventry Machine Works to compile the necessary information to support the purpose permit application.

The Shire of Wyndham East Kimberley (SWEK), have previously held purpose permits CPS 8275/1 and CPS 1844/1 to clear Cumbungi as part of regular maintenance of the foreshore and surrounds of Lake Kununurra, including Lily Creek Lagoon and areas of the Ord River adjacent to tourism and recreational facilities, boat ramps to ensure safe and clear access to residents and mosquito control within the area. Under these permits, SWEK have undertaken some clearing, however have not cleared since the expiry of the permit. At this time, the overgrowth of Cumbungi and other non-native weeds have limited access to the Lily Creek lagoon and areas within the Ord River for recreational activities, in some areas - reduced access for the local community for swimming, kayaking and boating and increased the risk of mosquito borne disease.

Cumbungi grows back following every wet season experienced in the East Kimberley and since the damming of the Ord River, the natural flushing of the river system has been altered. The altered flow regime has provided the native Cumbungi with the ideal conditions to over grow and over populate the inland waters of Lily Creek Lagoon and the surrounding water ways, acting as a weed, which requires ongoing management. This purpose permit application seeks to conduct annual clearing when necessary, of up to 50 hectares over a 10 year period, in order to effectively manage the foreshore area of Lily Creek Lagoon, Lake Kununurra and the Ord River. Clearing will be undertaken where required, using an Aquatic Weed Harvester, particularly where the Cumbungi grows back following a significant wet season.

This purpose permit application seeks to clear up to 50 hectares of Cumbungi within an 1880 hectare area, over a 10 year time frame (with a maximum of 5 hectares per year), for the purpose of “weed management”. This purpose permit will not facilitate a change in land use but to ensure to maintain the existing land use of “Water Ways” and “Foreshore Area” which covers the foreshore of the SWEK leased Caravan Parks, recreational areas, including Celebrity Tree Park and portions of the inland water reserve, including the Ord River. This area, is a declared environmentally sensitive area and a Ramsar Wetland. This document addresses the clearing principles of the *Environmental Protection Act 1986* and outlines the potential risks and the mitigation measures that will be employed while executing the Cumbungi management along the foreshore and inland waters.

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1. Introduction

1.1 Background

The Shire of Wyndham East Kimberley (SWEK) is applying for a purpose permit to undertake clearing of Cumbungi (*Typha domingensis*) a native aquatic species, along the foreshore and aquatic areas within Lake Kununurra, which include Lily Creek Lagoon and the Ord River. SWEK has engaged a local contractor, Coventry Machine Works to undertake the environmental management of the foreshore area and inland waters, which includes the removal and thinning out of Cumbungi, including weeds, to allow better access for tourists and residents to undertake recreational activities safely. Coventry Machine Works has recently purchased an aquatic weed harvester which is specifically designed to target weed species and to undertake minimal disturbance of waterways during operation.

Since the damming of the Ord River, water levels and slower moving water have allowed vegetation along the foreshore to increase in density with aquatic flora and native plants like Cumbungi and non-native species like Neem trees (*Azadirachta indica*) now impeding access to the water and recreational use of some foreshore areas. Likewise, aquatic plants have flourished within the waterways, with waterlilies and other aquatic plants almost covering the surface of Lily Creek Lagoon (SWEK 2024). Community engagement conducted by the Shire of Wyndham East Kimberley showed strong support for the clearing of aquatic flora, particularly in Lily Creek Lagoon to facilitate greater use, there was also strong support to maintain and preserve the foreshore as a natural space, by minimising and controlling vegetation removal. (SWEK 2024).

This report aims to provide the supporting information detailing the risk assessment and mitigation measures to undertake clearing of Cumbungi on the foreshore areas of Lake Kununurra, Lily Creek Lagoon and the Ord River. The application is closely aligned with other historical purpose permits issued to Kimberleyland and the Shire of Wyndham East Kimberley.

1.2.1 Description of applicant

The Shire of Wyndham East Kimberley has the responsibility to manage and permission to access the waterways and foreshore areas as the Department of Planning, Lands and Heritage now considers the Shire of Wyndham-East Kimberley to be responsible for the controlling and managing the waters of Lily Creek Lagoon on the basis that it is a watercourse which is an 'otherwise unvested facility' under the *Local Government Act 1995*. See below an abstract from the *Local Government Act 1995*.

Subdivision 6 — Various executive functions

3.53. Control of certain unvested facilities

(1) In this section —

former section 300 means section 300 of the *Local Government Act 1960* [4] as in force before the commencement of this Act;

otherwise unvested facility means a thoroughfare, bridge, jetty, drain, or watercourse belonging to the Crown, the responsibility for controlling or managing which is not vested in any person other than under this section.

(2) A local government is responsible for controlling and managing every otherwise unvested facility within its district unless subsection (5) states that this section does not apply.

(3) If the facility is partially within each of 2 or more districts, it is to be controlled and managed as the local governments for the districts concerned agree or, if they do not agree, as the Minister directs.

(4) An agreement or direction under subsection (3) has effect according to its terms.

(5) This section does not apply if any person was, immediately before the commencement of this Act, responsible for controlling or managing the facility unless —

(a) the responsibility arose under the former section 300; or

(b) the Governor, by order, declares that the facility is to be controlled and managed under this section.

Owner	Shire of Wyndham East Kimberley
Address	Reserve 50438 Reserve 50467 Reserve 29297 Reserve 41812 Reserve 50425 Water – ID3093958, ID3126680
Certificate of Title	N/A
Plan	N/A
Previous permits	1844/1 8275/1

1.2.2 Project objectives and scope of works

The application area is located within the inland portions of Lilly Creek Lagoon, adjacent to Kimberleyland Caravan Park, Lily Lagoon Resort, westwards towards the Ord River in around

Discovery Parks Caravan Park, North West along the Order River up until the Kununurra Diversion Dam upstream along side Packsaddle Road towards Maxwell Creek. SWEK held previous, now expired clearing purpose permit 1844/1 and 8275/1 to undertake the foreshore and inland water management of Cumbungi. Figure One outlines the proposed purpose permit area.

This clearing purpose permit application is to allow the maintenance of the foreshore area and the intermediate aquatic zone to allow safe access to the aquatic zone of Lilly Creek Lagoon and the Ord River and mosquito management. This includes the Shire's responsibilities to maintain safe boat ramp access, safe recreation areas and the management of mosquitoes which is a critical health hazard within the townsite area of Kununurra.

The proposed clearing is to remove narrow leafed Cumbungi, a rhizomatous, emergent perennial sedge, and native to the Ord River. Damming of the Ord River has resulted in optimum conditions for the rapid Cumbungi establishment and growth, considered as a nuisance within Lily Creek Lagoon (Kimberley TAFE and SWEK 2008).

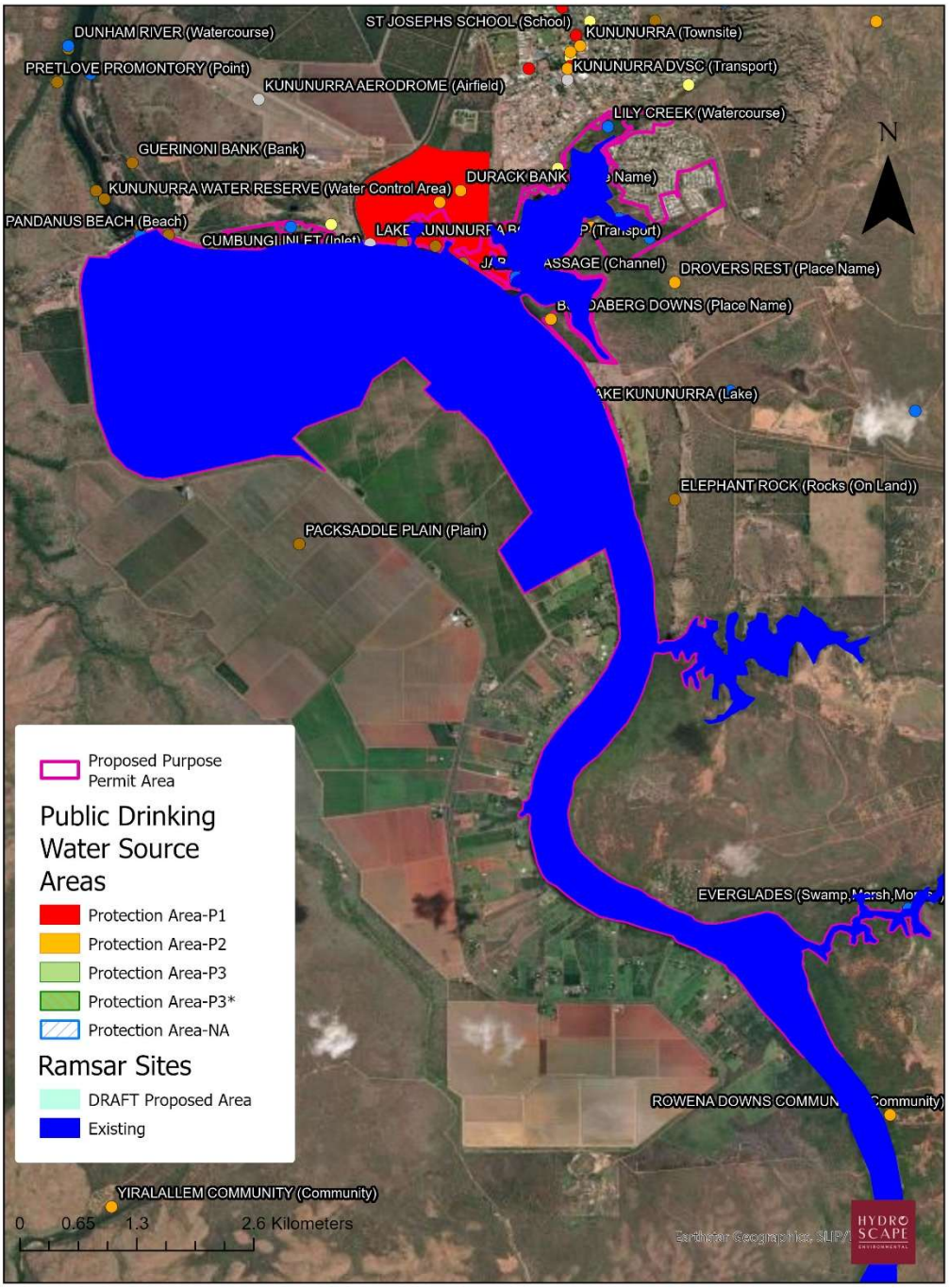
The management of the Lake Kununurra foreshore zone has historically managed soley by the Shire of Wyndham East Kimberley, in accordance with the Lake Kununurra and Lily Creek Lagoon Vegetation Management Plan (SWEK 2008) and the Mosquito Management Plan (SWEK 2016). The management plan aims to control weeds (aquatic, riparian and terrestrial) including the management of Cumbungi and other flourishing aquatic plants and protection and rehabilitation of riparian and foreshore vegetation. Recently, the Shire has conducted an extensive consultation process and engagement not only with the community but also with State Government agencies, including the Water Corporation and the Department of Water and Environmental Regulation, to establish an appropriate environmental management objective for the management of the Lake Kununurra foreshore. The *Lake Kununurra Foreshore Plan 2024* has been endorsed by the Committee Members, which includes the Department of Water and Environmental Regulation.

This purpose permit application is aligned with the Shire of Wyndham East Kimberley's strategic vision and objectives for the environmentally sensitive management of the foreshore area. The Shire of Wyndam East Kimberley, together with the Water Corporation and the Department of Water and Environmental Regulation understand the importance of managing this aquatic flora species to ensure the safety of tourists and residents who frequent the area for boating, fishing, kayaking and swimming (SWEK 2024).

The Shire of Wyndham East Kimberley is committed to updating the Lake Kununurra and Lily Creek Lagoon Vegetation Management Plan published in 2008 when required. However,

due to the nature of the town of Kununurra and the minimal change in land use across the foreshore areas since 2008, the Shire considers the plan still relevant not requiring a critical update at this time.

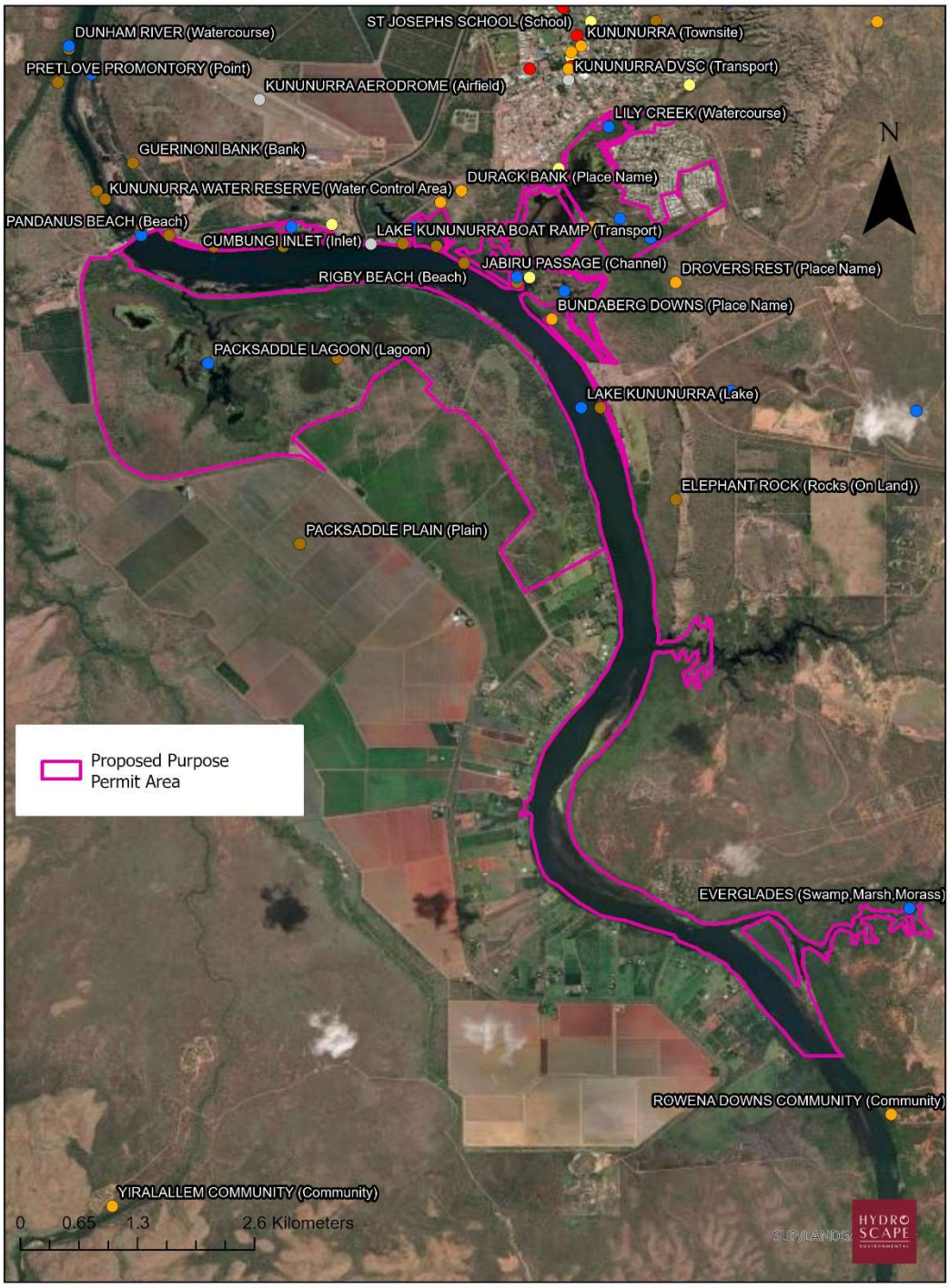
Proposed Purpose Permit Application Area - surrounding features



Proposed Permit Application area prepared by Hydroscape Environmental for Coventry Machine Works 10 March 2025.
This map is to be used for consultation purposes only and is indicative. All data sourced from DataWA March 2025.

Figure 1 – Proposed purpose permit area and surrounding features

Proposed Purpose Permit Application Area



Proposed Permit Application area prepared by Hydroscape Environmental for Coventry Machine Works 10 March 2025.
This map is to be used for consultation purposes only and is indicative. All data sourced from DataWA March 2025.

Figure 2 – Proposed Purpose Permit Area

2. Existing Environment

2.1 Location of application area

The application area is located along Victoria Highway and Old Darwin Road to the North of the application area and Packsaddle Road to the West, within the Shire of Wyndham East Kimberley, within the town of Kununurra (Figure 1). The application area is 1880 ha in size and forms an area within and alongside the foreshore area adjacent to and within Lily Creek Lagoon and the Ord River.

These foreshore reserves and associated areas are managed by a variety of agencies including the Shire of Wyndham East Kimberley, the Department of Water and Environmental Regulation, Water Corporation, the Department of Planning, Lands and Heritage, the Miriuwung Gajerrong Corporation and the Department of Biodiversity, Conservation and Attractions.

3.1 Landforms, soils and geology

Bioregion

The application area is located within the Victoria Bonaparte bioregion and includes dissected plateaus and alluvial plains and a number of river basins. Eucalypt woodlands are the dominant vegetation community (Graham 2001). The Phanerozoic strata of the Bonaparte Basin in the north-western part are mantled by Quaternary marine sediments supporting Samphire - Sporobolus grasslands and mangal, and by red earth plains and black soil plains with an open savannah of high grasses. Plateau and abrupt ranges of Proterozoic sandstone, known as the Victoria Plateau, occur in the south and east, and are partially mantled by skeletal sandy soils with low tree savannahs and hummock grasslands. In the southeast are limited areas of gently undulating terrain on a variety of sedimentary rocks supporting low snappy gum over hummock grasslands and also of gently sloping floodplains supporting Melaleuca minutifolia low woodland over annual sorghums. The climate is dry hot tropical, semi-arid summer rainfall (Graham 2001).

Land system

The application area is located within the Ivanhoe Land System, which spans approximately 1239 km^2. It is characterised by many small to medium areas of gently sloping alluvial 'black soil' plains with some timbered 'red' soil in the central and northern parts of the Ord-Victoria area (Payne 2011). The land type is said to comprise of Alluvial plains with tussock grasslands (Payne 2011).

Geology and geomorphology

The application area is underlain by geology classified as Quaternary alluvia. Geomorphology is characterized by Fine-textured fluvial plain. The floodplains of the area are characterised by deep broadly meandering channels, and the floodplains of the upper Baines and Armstrong rivers have an intense pattern of braided stream channels (Payne et al 2011).

4.1 Flora and fauna

Lily Creek Lagoon, part of the Lake Kununurra system in Western Australia, is a vibrant ecosystem with diverse flora and fauna. The lagoon is known for its lush vegetation and rich wildlife, making it a significant area for both ecological and recreational purposes.

Flora

The margins of Lily Creek Lagoon and the Ord River are densely vegetated, featuring a variety of plant species (Hale et al 2010). Common trees include:

- Broad-leaved paperbark (*Melaleuca viridiflora*).
- River red gum (*Eucalyptus camaldulensis*).
- *Nauclea orientalis*.
- *Sesbania Formosa*.
- *Lophostemon grandifloras*.

Aquatic plants are also abundant, contributing to the lagoon's healthy wetland environment.

No declared rare flora are known to occur within the application area but have known to occur outside the proposal area and within the region.

Fauna

The wetlands around Lake Kununurra, including Lily Creek Lagoon, are recognized for their importance to waterbirds. Species such as the glossy ibis, magpie goose, wandering whistling duck, and Pacific black duck are commonly observed (Birdlife Australia 2024)

Additionally, the lagoon supports various fish species and is a popular spot for fishing. More broadly, Lake Kununurra provides the habitat for approximately 19 species of fish species, with the most widespread and abundant species being *Nematalosa erebi*, *Craterocephalus stramineus*, and *Melanotaenia australis* (Gill et al 2006).

No declared rare fauna are known to occur within the application area but have known to occur outside the proposal area and within the region.

5.1 Vegetation

Beard Vegetation association 59 is located within the purpose permit application area. Beard vegetation association 59 is described as grasslands, high grass savanna sparse tree; bauhinia and coolabah over mitchell blue and tall upland grasses (Shepherd 2001).

The vegetation within and surrounding the purpose permit area is considerably altered, mainly through the use of the foreshore area for recreational purposes, which includes small boating in the area. The structure of the vegetation is severely disturbed with appropriate management required through intensive management measures (Keighry 1994).

6.1 Wetlands and Matters of National Environmental Significance

Lily Creek Lagoon is located within the Lake Argyle and Lake Kununurra, which cover over 150,000 hectares (Environment Australia 2001). These surface water bodies are classified under the Ramsar Convention and listed in the Directory of Important Wetlands in Australia. A Matters of National Environmental Significance search was undertaken using the Protected Matters Search database. The search returned Wetlands of International Importance (Ramsar – Lake Argyle and Kununurra), 19 Listed Threatended Species and 6 Listed Migratory Species, the search is included in Attachment 4.

The Lakes Argyle and Kununurra Ramsar site was listed in 7 June 1990 and comprises of approximately 117 495 hectares in area. This Ramsar site supports a large population of listed species including migratory birds, marine species and large numbers of water birds (Hale et al 2010).

2.2 Groundwater

An unconfined aquifer occurs within the surficial sediments of the Ivanhoe Plain. The coarser sand and gravel units are the main transmissive zones beneath the plains. (Department of Environment 2003) groundwater flow direction is from Lake Kununurra northward to the Ord River, downstream of the Diversion Dam (Department of Environment 2003).

2.3 Heritage – Aboriginal and European

The Miriuwung Gajerrong people are the recognised native title holders of the Kununurra foreshore area, and they have a rich cultural heritage that is deeply connected to the water and lands surrounding the Kununurra foreshore. (SWEK 2024). A search of the relevant databases did not return results for the presence of listed Aboriginal Heritage and European Heritage areas listed within the application area.

2.4 Land use history

Lily Creek lagoon and the Ord River area a popular destination for recreation and contains several key features, including Celebrity Tree Park, a public boat ramp, tourist developments, and the foreshore of the Lakeside residential subdivision (SWEK 2024).

Celebrity Tree Park is a significant cultural, recreation and environmental landmark, featuring trees planted by various celebrities and public figures. The park offers a range of recreational opportunities, such as picnicking, birdwatching, pathways for exercise, a playground and exercise equipment. It is also a venue used for community events such as the Kimberley Moon Festival, as well as private events including weddings and gatherings. The public boat ramp in this precinct provides access to Lake Kununurra, making it a popular destination for boating, fishing, and water sports. Tourist developments in this precinct offer a range of accommodation options, from luxury lodges to caravan and camping sites, and provide access to a range of recreational activities, such as fishing, boating, kayaking and birdwatching (SWEK 2024).

Kununurra Public Drinking Water Source Protection Area

The application area is located to the east of the Kununurra Public Drinking Water Source Protection Area (PDWSA). The Kununurra PDWSA is a protected area which includes groundwater bores that supplies the town of Kununurra with their water supply. Groundwater recharge for the bore field is predominantly derived from Lake Kununurra with some potential minor influence from the M1 supply channel (Department of Environment 2003).

3. Risk assessment and mitigation measures

A risk assessment of the clearing of up to 5 hectares of Cumbungi per year, over a 10 year time frame has been undertaken against the Native vegetation clearing principles defined in the *Environmental Protection Act 1986*. Cumbungi is a native aquatic plant species, which thrives in the environmental conditions of the Ord River, Lake Kununurra and Lily Creek Lagoon. While Cumungi provides habitat for aquatic species, it is extremely overgrown in the foreshore areas in Kununurra, particularly the banks of the Ord River. The risk assessment also included consideration of the potential impacts which included a desktop investigation of:

- Department of Biodiversity, Conservation and Attractions (DBCA) fauna and flora databases.

- Ramsar wetland management principles under the National framework and guidance for describing the ecological character of Australian Ramsar wetlands (Department of the Environment Water Heritage and the Arts 2008).
- Mapped physical characteristics of the assessment area including soils, geological and hydrological features.
- aerial photography of the site.

While the clearing of the Cumbungi has the potential to be at variance to some of the native vegetation principles outlined below, the clearing techniques, including the implementation of management measures – including weed control, reduces impact to the diversity of the species and has the potential for other native aquatic species to populate.

Principle (a): Biological Diversity

Native Vegetation Should Not Be Cleared if it Comprises a High Level of Biological Diversity

The area to be cleared is dominated by Cumbungi, which the species itself, is considered to have a high level of biological diversity. The clearing, however, will not significantly impact the overall biodiversity of the region as the Cumbungi is significantly overgrown in much of the Lily Creek and surrounding inland waters, in most wet seasons and particularly in the Lily Creek area, Cumbungi regrows following every wet season.

Principle (b): Habitat for Indigenous Fauna

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

The Cumbungi does not provide significant habitat for indigenous fauna. The minimal and considered process of clearing of Cumbungi and aquatic weeds will not adversely affect local wildlife populations and assist with the management of mosquito population in the area.

Mitigation measures

Prior to clearing to be conducted, the operator of the aquatic weed harvester will conduct site specific inspection. This will ensure that any significant fauna features, such as nests or borrows are not present within the area. If they are present, the area will be avoided of clearing.

Principle (c): Rare Flora

Native Vegetation Should Not Be Cleared if it Includes, or is Necessary for the Continued Existence of, Rare Flora

There are no known occurrences of rare flora within the proposed clearing area. A search of the database has not returned results of rare flora. Clearing will be restricted to one native species and avoid all other native vegetation.

Principle (d): Ecological Functions

Native Vegetation Should Not Be Cleared if it Contributes to the Maintenance of Significant Ecological Functions

Cumbungi has been identified as playing an important role in wetland ecology (SWEK 2008) however, due to the distribution of the species, it does not play a critical role in maintaining significant ecological functions.

The purpose permit application area also forms part of the Lakes Argyle and Kununurra Ramsar site, with Cumbungi forming part of the overall wetland structure that supports a number of fauna species of national environmental significance. Given the small size of the area, in comparison to the area of the wetland, it is not likely that clearing would impact on the Ramsar values of the system.

Mitigation measures

The minimum and considered clearing and thinning of Cumbungi plays a role in maintaining the overall biodiversity of native flora species, managing the spread in the altered environment, allowing for other native species to populate.

Principle (e): Environmentally Sensitive Area

Native Vegetation Should Not Be Cleared if it is Growing in, or in Association with, an Environmentally Sensitive Area.

The area is located within the Environmentally Sensitive Area and classified as a Ramsar wetland. While the purpose permit application is in variance to this principle, the proposed clearing is considered minimum, which is a small percentage of the overall environmentally sensitive area. The proposed clearing will also occur over a long period of time, with a maximum of 5 hectares to be removed each year, in various pockets across the 1180 hectare purpose permit area. This will ensure the potential impacts of clearing to the water quality of Lake Kununurra and the Ord River to be minimised and allow for recovery following the clearing event.

Given the small size of the application area in comparison, the clearing of up to 5 hectare of aquatic vegetation, per year, as part of a foreshore management plan, is unlikely to impact upon the Ramsar values of the lake system.

Principle (f): Land Degradation

Native Vegetation Should Not Be Cleared if the Clearing of the Vegetation is Likely to Cause Appreciable Land Degradation

The proposed clearing does pose a minimal risk to land degradation from the aquatic weed harvester during the removal process of the Cumbungi and associated weeds.

Mitigation measures

Erosion control measures will be implemented to prevent land degradation and to maintain soil stability during the removal and thinning process. Dedicated and existing tracks into and exiting the foreshore area will be utilised. Where no tracks are present, tracks and paths with minimal vegetation will be considered.

While the clearing purpose is not to completely eradicate the species in the area, some Cumbungi will remain, including larger more established tree and shrub species within the purpose permit area ensuring soil and overall foreshore stability.

Principle (g): Water Quality

Native Vegetation Should Not Be Cleared if the Clearing of the Vegetation is Likely to Have an Impact on the Water Quality of Any Watercourse or Wetland

The proposed clearing does pose a minimal, short term risk to the water quality within Lily Creek lagoon during clearing activities as the Cumbungi species is an aquatic species. The risk to water quality from clearing activities to the Kununurra PDWSA is considered minimal as chemicals will not be used to remove the Cumbungi species not affecting the water chemistry of Lily Creek Lagoon.

Sedimentation presents a minimal risk to the PDWSA, the values supported by Lake Kununurra and the Ord River, as the yearly 5 hectare clearing area is considered relatively small, compared to the area of Lake Kununurra.

Mitigation measures

Measures will be taken to ensure that runoff and sedimentation are controlled during the clearing process. Additionally, clearing will be undertaken during the shoulders of the dry season, where flushing of the Lily Creek Lagoon occurs, minimising the sedimentation within the waterway.

Erosion control measures will be implemented to prevent land degradation and to maintain soil stability during the removal and thinning process. Dedicated and existing tracks into and exiting the foreshore area will be utilised. Where no tracks are present, tracks and paths with minimal vegetation will be considered.

The Shire of Wyndham East Kimberley currently hold a bed and banks permit under the *Rights in Water and Irrigation Act 1914*. PMB200521 (1) authorises modification of the bed and banks of the Ord River by removing Cumbungi from the river banks and jetty within the Lily Creek Lagoon on UCL PIN 638581. This permit expires on the 20 November 2027 and necessary measures will be undertaken to renew the permit to align with the purpose permit once approved.

Principle (h): Flooding

Native Vegetation Should Not Be Cleared if the Clearing of the Vegetation is Likely to Cause, or Exacerbate, the Incidence or Intensity of Flooding

The proposed clearing of the targeted species of Cumbungi and no land use change proposed will not contribute to flooding.

4. Clearing management

The clearing and management of Cumbungi removal will be undertaken to ensure no or minimal variance to the clearing principles of the *Environmental Protection Act 1986* with the implementation of the mitigation measures identified above. It is important to note that herbicides will not be used as part of this purpose permit application with removal of Cumbungi limited to mechanical removal.

An aquatic weed harvester has been purchased by Coventry Machine Works to manage cumbungi (Typha) and other water plants. Coventry Machine Works understands that mechanical methods are the preferred control method as it has the least physical impact and does not add chemical residue or decomposing biomass to the aquatic system of Lily Creek Lagoon.

The proposed clearing activities will have regard to the following principles:

- Avoid the clearing of native vegetation.
- Minimise the amount of native vegetation to be cleared.
- Reduce the impact of clearing on any environmental value.

When undertaking any clearing, the Shire of Wyndham East Kimberley and its contractor, Coventry Machine Works will take the following steps to minimise the risk of the introduction and spread of weeds:

- Clean earth-moving machinery of soil and vegetation prior to entering and leaving the purpose permit area.
- Ensure that no weed affected soil mulch, fill or other material is brought into the area to be cleared.
- Restrict the movement of machinery and other vehicles to the limits of the areas to be cleared.
- Avoid clearing in close proximity to stormwater drainage outlets as the Typha, riparian vegetation and aquatic vegetation filters out contaminants and reduces erosion.
- Inspect the area proposed to be cleared for native fauna prior to clearing and cease activities until the fauna have moved into adjacent vegetation.
- Clear in one direction to allow fauna to move into adjacent vegetation.
- Clear bank areas during the shoulder dry season to manage erosion.
- Removal of cut Cumbungi from the waterway to prevent eutrophication of the water way and increase the occurrence of sedimentation.
- Cut Cumbungi will be transported to a relevant approved landfill facility.

Additional weed management measures will also be undertaken that align with the relevant weed management principles outlined within the Kununurra and Lily Creek Lagoon Vegetation Management Plan January 2025 and is included as Attachment 5.

The Shire of Wyndham East Kimberley remains committed to reviewing and updating the Lake Kununurra and Lily Creek Lagoon Vegetation Management Plan, originally published in 2008. An updated draft has been included in Attachment 5, with the management measures remaining consistent across this latest revision.

Aquatic weed harvester

Coventry Machine Works has purchased an aquatic weed harvester which cuts/mows aquatic vegetation and is able to remove cut Cumbungi from the waterways. This mechanical removal is the preferred method of clearing and will be undertaken by a machine called a “Truxor”. The amphibious nature of Truxor combined with low ground pressure allows contractors to operate in sensitive areas without damage to the

environment. The Truxor is a well known piece of equipment used all over the world in sensitive areas to undertake wetland management successfully. Details of the Truxor are included in Attachment 6 with examples of the Truxor undertaking works in the East Kimberley in Attachment 7.

5. Conclusion

The proposed clearing of 5 hectares of Cumbungi per year over a 10 year period, is necessary for improving access, aesthetics, and mosquito control. The clearing will be conducted in accordance with the *Environmental Protection Act 1986* and the relevant mitigation measures mentioned above, ensuring minimal environmental impact and adherence to sustainable practices.

The proposed clearing of 50 hectares of Cumbungi over 10 years will be conducted in accordance with mitigation measures outlined in this supporting document. The applicant will implement measures to minimise environmental impact, engage with the community, and adhere to sustainable practices, ensuring that the clearing supports the overall ecological health and aesthetic value of the area.

6. References

BirdLife Australia. "Birds of Lake Kununurra." *BirdLife Australia*, 2023. Accessed December 19, 2024. https://www.birdlife.org.au.

Department of Environment 2003, Kununurra Water Reserve Drinking Water Source Protection Plan: Kununurra Town Water Supply, Department of Environment, Water Resource Protection Series No WRP 51.

Gill, H. S., Morgan, D. L., Doupe, R. G., & Rowland, A. J 2006. "The fishes of Lake Kununurra, a highly regulated section of the Ord River in northern Western Australia." *Records of the Western Australian Museum*, vol. 23, no. 1, 2006, pp. 1-6. Accessed December 19, 2024. https://museum.wa.gov.au.

GORDON GRAHAM AUGUST 2001 A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002, Department of Conservation and Land Management

Hale, J. and Morgan, D., 2010, Ecological Character Description for the Lakes Argyle and Kununurra Ramsar Site. Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra.

Kimberley TAFE and Shire of Wyndham – east Kimberley (SWEK) 2008 Lake Kununurra and Lily Creek Lagoon Vegetation Management Plan,

Keighry, B.J 1994 Bushland Plant Survey: A guide to plant community survey for the community. Wildfire Society of WA (inc) Nedlands, Western Australia

Payne, AL and Schoknecht, N 2011, Land systems of the Kimberley region, Western Australia, Technical Bulletin 98, Department of Agriculture and Food, Western Australia, Perth.

Shepard, D.P., Beeston, G.R. and Hopkins A.J.M. 2001 Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture Western Australia

Shire of Wyndham East Kimberley (SWEK) 2024, Lake Kununurra Foreshore Plan, available at https://www.swek.wa.gov.au/Profiles/swek/Assets/ClientData/Lake_Kununurra_Foreshore_Plan_Adopted.pdf

7. Attachments

Attachment 1 – Permission from Shire of Wyndham East Kimberley

Attachment 1a – Permission from Coventry Machine Works to Hydroscape Environmental

Attachment 2 – Shape File with proposed area from which Cumbungi will be cleared

Attachment 3 – Signatories for purpose permit

Attachment 4 – Protected Matters Search Report

Attachment 5 – Draft Kununurra and Lily Creek Lagoon Vegetation Management Plan 2025

Attachment 6 – Truxor mechanical brochure

Attachment 7 – Before and after photos of mechanical clearing undertaken in the East Kimberley