REWARD MINERALS LTD

LAKE DISAPPOINTMENT POTASH PROJECT

NIGHT PARROT MONITORING AND MANAGEMENT PLAN
EPBC 2016/7727

Information	
Project Name	Lake Disappointment Potash Project
EPBC Number	2016/7727
Proponent	Reward Minerals Ltd. ACN: 009 173 602
Proposed Action	To construct and operate a potash mining operation at Lake Disappointment, approximately 320 km east of Newman, Western Australia
Document Name	Night Parrot Monitoring and Management Plan
Document ID	NP_MMP_Version 1
Date	27th February 2020
Prepared by	Botanica Consulting
Reviewed by	LC / MR

Version	Revision	Date	Details	Author	Reviewer
1	0	20/09//2019	Preliminary draft for review	L Pick	LC / MR
2	0	27/02/2020	Updated risk assessment; changes to align with preliminary reviewer comments	LC/LP	GC
2	1	25/05/2020	Minor revision to correct table numbering and clarify direction of laden vehicle movements	LC	GC

Declaration of accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed:

Full name (please print): Greg Cochran

Organisation (please print): Reward Minerals Limited

Date: 25h May 2020

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Reward Minerals Limited (Reward) proposes to abstract potassium-rich brines from sediments associated with Lake Disappointment and to produce sulphate of potash by means of solar evaporation of the brine (referred to as the Lake Disappointment Potash Project). Lake Disappointment is located in the northern Little Sandy Desert, approximately 320 km east of the town of Newman WA, 140 km south of Telfer, WA and 70 km south of the Karlamilyi (Rudall River) National Park. Potash product would be transported by road to Newman and then to export facilities at Port Hedland. The project disturbance footprint covers a total area of ~7,776 ha.

Potential impacts to Night Parrots related to the development of the Lake Disappointment Potash Project include:

- Direct loss of birds and / or eggs during vegetation clearing;
- Direct loss of birds by vehicle strikes;
- Direct loss of birds and / or eggs by wildfires arising from project activities;
- Direct loss of birds by collisions with fences;
- Increased predation by feral animals (foxes and cats) on adults and young due to predators having greater access along tracks in Night Parrot habitat; and
- Increased herbivore feral animal activity (due to site access development) increasing competition for food/ water.

Management Actions to avoid/ minimise impacts to the Night Parrot for each potential impact fall into the following management categories:

- Training and awareness
- Pre-clearance inspections/ clearing controls
- Traffic management
- Fire management
- Introduced fauna management
- Night Parrot reporting and monitoring

This Night Parrot Monitoring and Management Plan (NPMMP) has been prepared to address potential direct and indirect impacts of the implementation of the Lake Disappointment Potash Project on the Night Parrot (*Pezoporus occidentalis*) and its habitat. The actions described in this plan are binding on Reward Minerals Limited, its employees and contractors. The NPMMP actions apply to all stages of project implementation from construction to closure. Actions described in the plan apply within mining and miscellaneous tenements granted for the implementation of the Lake Disappointment Potash Project.

1 Project Description

Reward Minerals Limited (Reward) proposes to abstract potassium-rich brines from sediments associated with Lake Disappointment and to produce sulphate of potash by means of solar evaporation of the brine. Lake Disappointment is located in the northern Little Sandy Desert, approximately 320 km east of the town of Newman WA, 140 km south of Telfer, WA and 70 km south of the Karlamilyi (Rudall River) National Park (Figure 1).

In addition to trenches, ponds and pipelines required for the production of sulphate of potash from natural brines, the Lake Disappointment Potash Project (LDP Project) includes the construction and use of associated infrastructure (water supply bore fields, a processing plant, offices, workshop, accommodation and roads). Halite by-product from the production of sulphate of potash would be stored in permanent stockpiles on the Lake Disappointment playa. Potash product would be transported by road to Newman and then to export facilities at Port Hedland. The project disturbance footprint covers a total area of ~7,776 ha. Details on the disturbance footprint are provided in Table 1. Maps of the proposed disturbance features are provided in Figure 2 to Figure 4.

Table 1: Lake Disappointment Potash Project Disturbance Footprint

Feature	Disturbance Footprint (ha)[1]
Ponds and Halite Stockpiles	6785
Brine Trenches	405
Access Roads	416
Plant	51
Airport	49
Northern Bore Field	26
Cory Bore Field	15
Borrow Pits	18
Haul Road / Causeway	7
Camp	2
Landfill	1
TOTAL	**7776**

[1] Existing clearing of Talawana track and Willjabu track is included in disturbance footprint calculations (that is, the disturbance footprint area includes both the existing cleared formation and proposed new clearing for upgrade of the tracks)

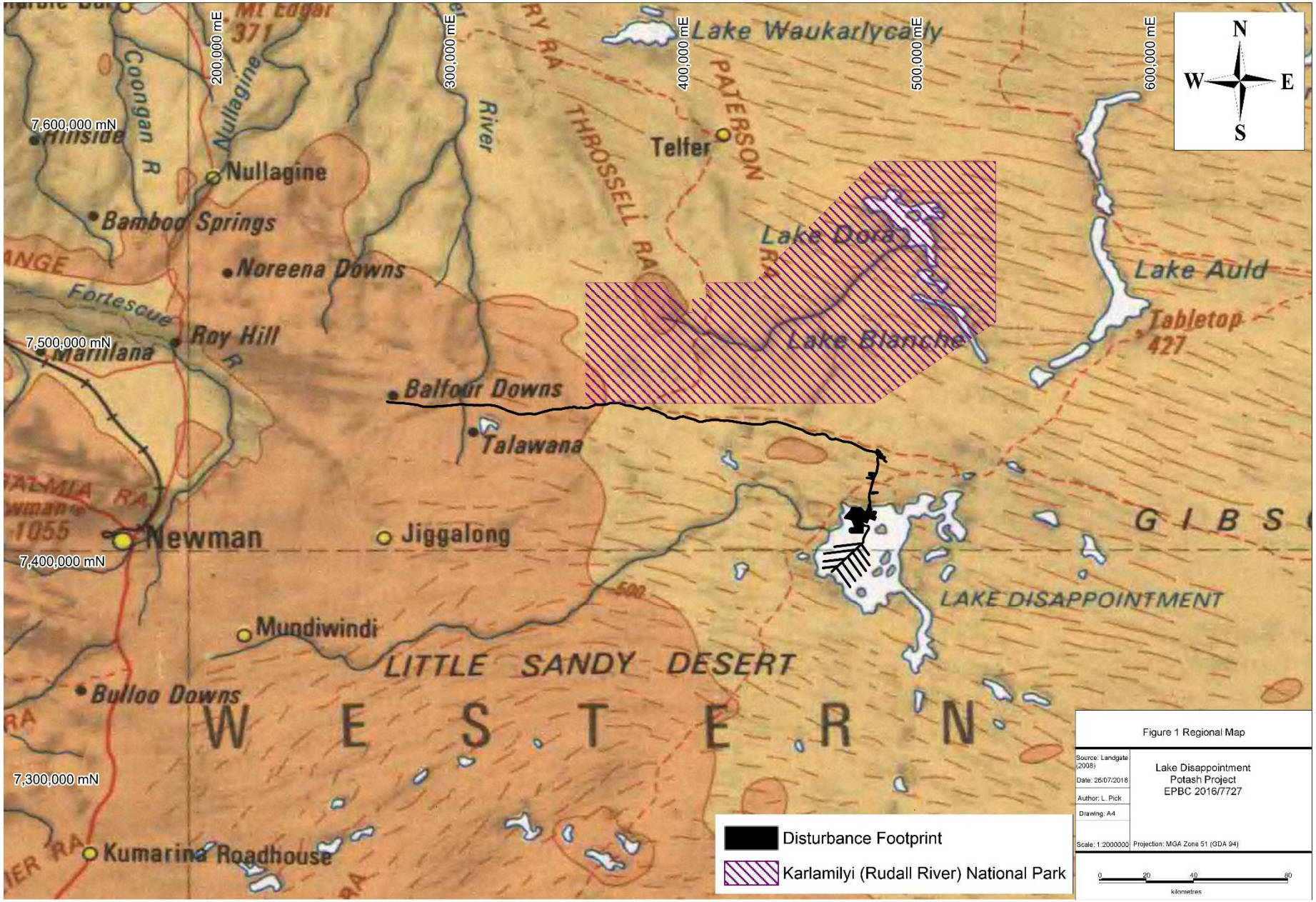

Figure 1: Regional Map of the Lake Disappointment Potash Project

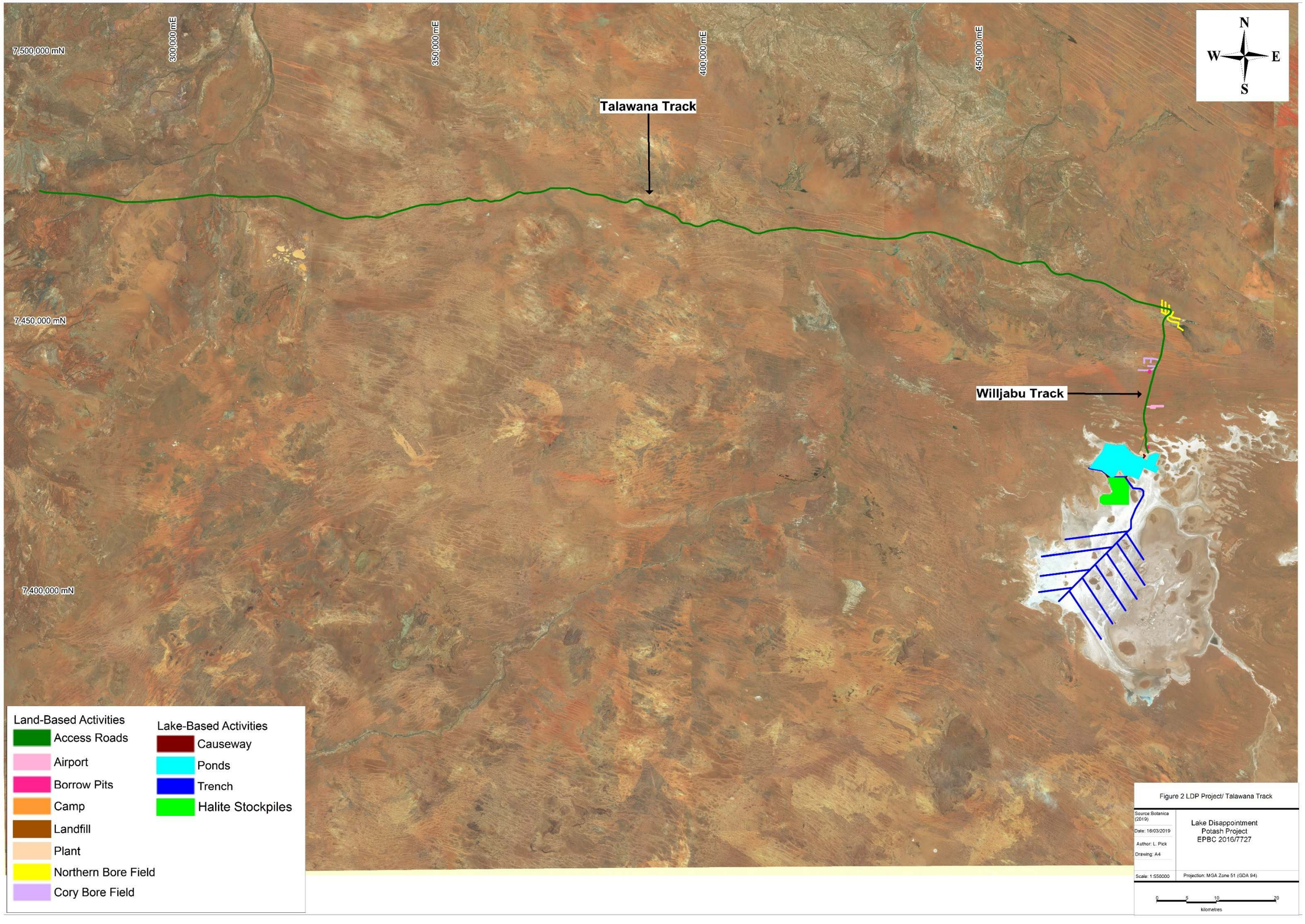

Figure 2: Lake Disappointment Potash Project-Talawana Track Upgrade

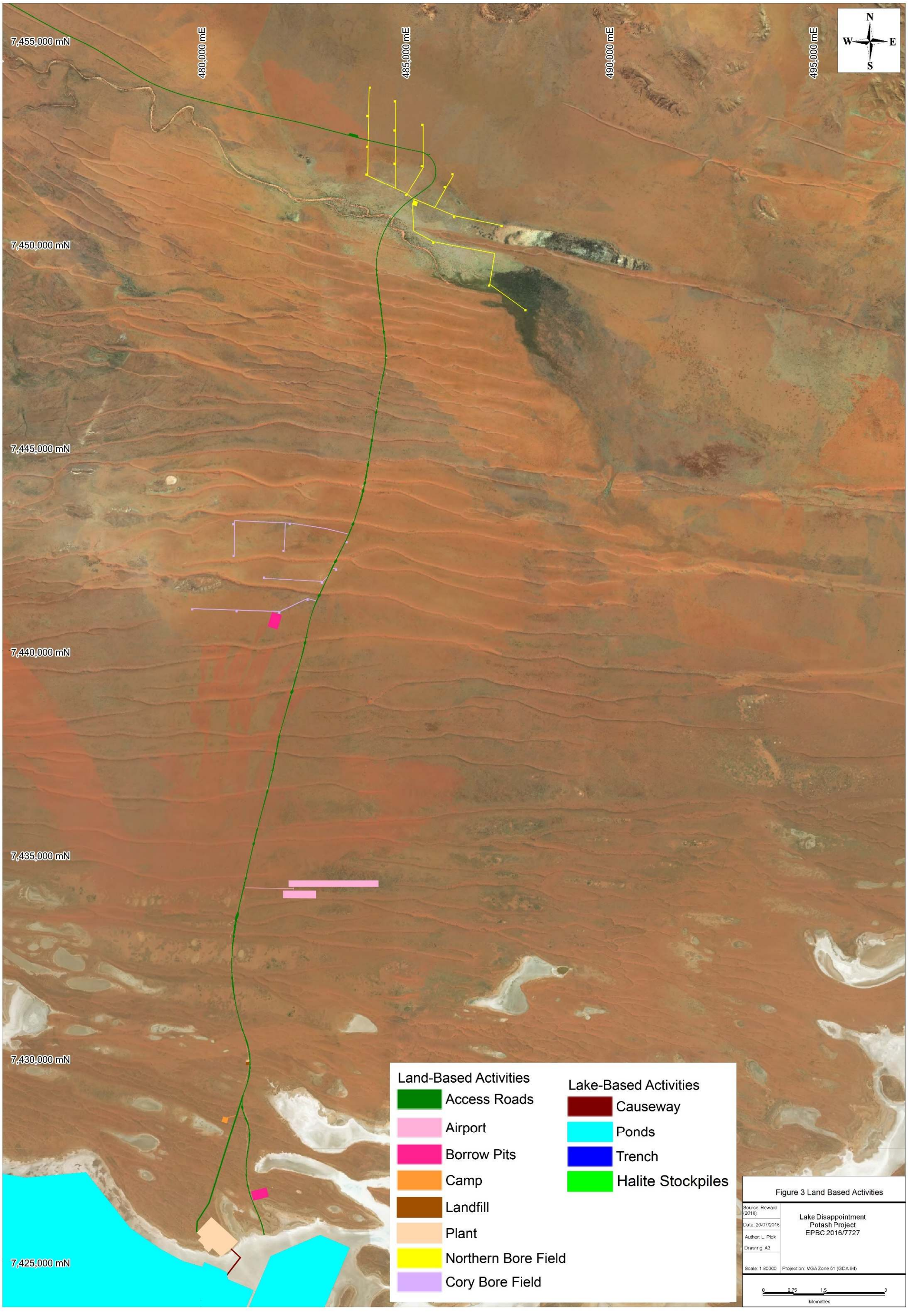

Figure 3: Lake Disappointment Potash Project-Land Based Activities

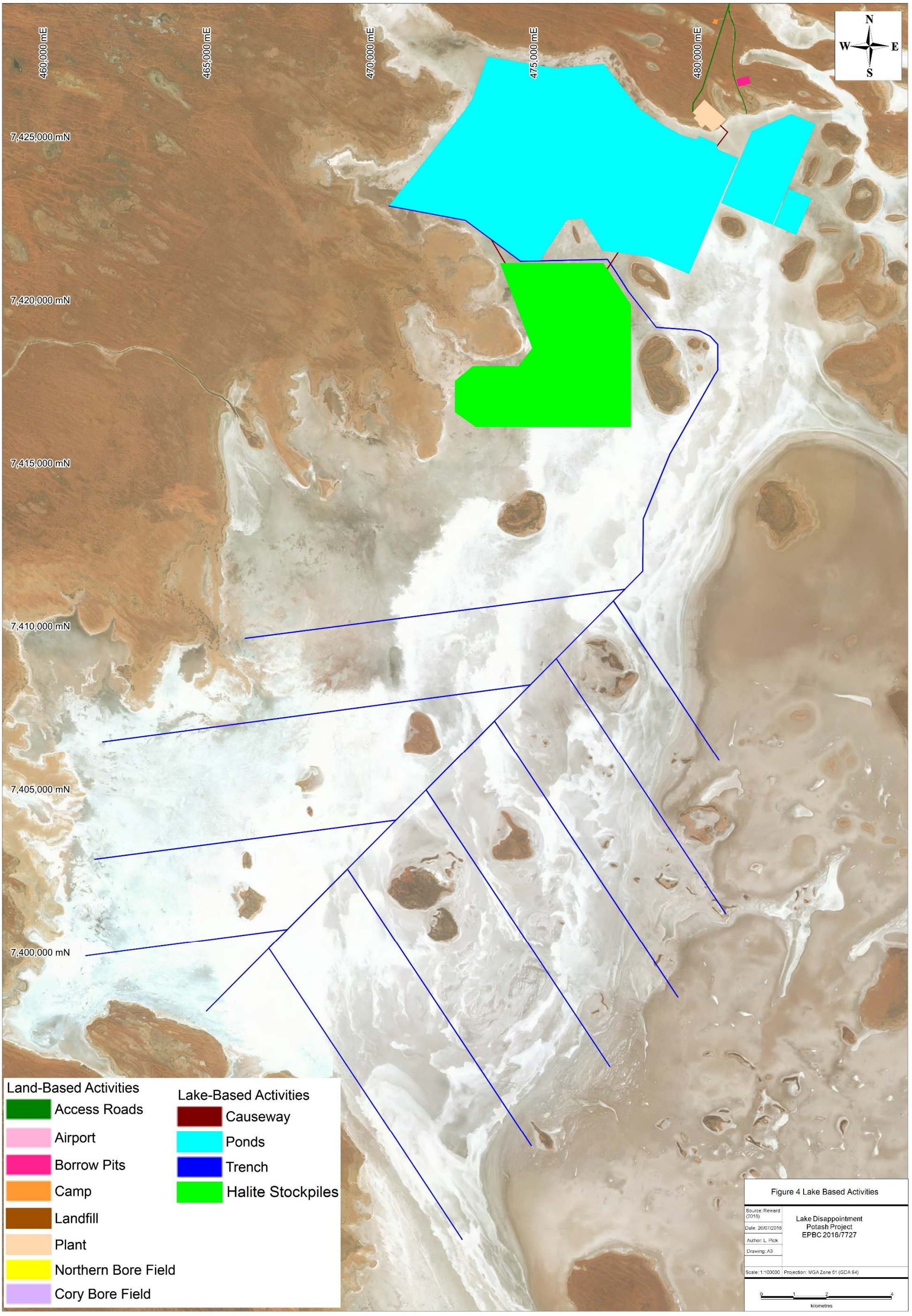

Figure 4: Lake Disappointment Potash Project-Lake Based Activities (indicative layout)

Potash production involves pumping of brine from trenches excavated in the playa sediments into ponds, where the brine is concentrated by solar evaporation to crystallize a series of evaporite salts. The project will involve:

- Abstraction of natural brines and evaporative concentration of potassium salts in on-playa ponds;
- Purification of potassium sulphate at an off-playa plant;
- Storage of halite in on-playa stockpiles;
- Abstraction of brackish groundwater from two bore fields to supply process water to the plant and accommodation village;
- Development and use of support infrastructure;
- Upgrade and minor realignment of existing tracks for use as access / haul roads; and
- Road transport of potash product

2 Scope and Objectives

2.1 Scope

This Night Parrot Monitoring and Management Plan (NPMMP) has been prepared to address potential direct and indirect impacts of the implementation of the Lake Disappointment Potash Project on the Night Parrot (*Pezoporus occidentalis*) and its habitat. The actions described in this plan are binding on Reward Minerals Limited, its employees and contractors. The NPMMP actions apply to all stages of project implementation from construction to closure. Actions described in the plan apply within mining and miscellaneous tenements granted for the implementation of the Lake Disappointment Potash Project.

2.2 Objectives

The purpose of the plan is to:

- Define areas of potential Night Parrot habitat in relation to the Project area;
- Identify key threatening factors relevant to local Night Parrot populations;
- Describe the key project aspects that have the potential to directly or indirectly impact the Night Parrot;
- Describe the management measures proposed to avoid or mitigate adverse impacts on the Night Parrot and its habitats (and if possible, to deliver an overall reduction in threatening factors);
- Specify the roles and responsibilities for the implementation and ongoing management of the activities proposed in the NPMMP;
- Define a set of performance targets which will be used to test the attainment of objectives of the NPMMP;
- Describe how evidence will be collected – through monitoring and other means – to enable assessment of compliance with the NPMMP;
- Outline the corrective actions that will be implemented where performance targets/ objectives are not being met; and
- Describe the audit and review process for the NPMMP throughout the life of the project.

Objectives of the NPMMP and the commitments made by Reward in order to achieve these objectives are provided in Table 2 below.

Table 2:Night Parrot Monitoring and Management Plan Objectives and Commitments

Objective	Commitment
Establish management measures to minimise the potential impacts on the Night Parrot and their habitats within the LDP Project	Management measures proposed in the NPMMP aim to minimise project impacts on Night Parrots and their habitats (detailed in Section 5) will be implemented throughout the life of the project.
Develop and implement monitoring programs to detect project-related impacts on the Night Parrot and their habitats within the LDP Project	Monitoring programs will be implemented as described in Section 5.4 of this plan
Implement appropriate corrective actions and review effectiveness of management strategies to ensure impacts on the Night Parrot are minimised.	Corrective actions will be implemented (detailed in Section 5.5) where monitoring/ auditing indicates management strategies are ineffective and/or objectives of the NPMMP are not being met. The NPMMP plan will be reviewed and revised on a regular basis (detailed in Section 8) to ensure objectives of the NPMMP are being met.

3 Night Parrot Ecology

3.1 Background Information

3.1.1 Published literature and other publicly available information

The Night Parrot (*Pezoporus occidentalis*) is listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* and Critically Endangered under the *Biodiversity Conservation Act 2016* (WA).

The Night Parrot is a small, arid-adapted, nocturnal, ground-feeding parrot (Johnstone and Storr 1998, Threatened Species Scientific Committee 2016). Its length is 22-25cm with a body mass of approximately 104g (Threatened Species Scientific Committee 2016). Although it was previously suggested that they were semi-nomadic, the Night Parrots in south-western Queensland and in central and northern Western Australia are reported to be sedentary (Leseberg 2019; Murphy 2015).

The Night Parrot was probably originally distributed over much of semi-arid and arid Australia (Garnett *et al.* 2011, Threatened Species Scientific Committee 2016), although its current distribution is thought to be much reduced. Garnett et al. (2011) suggested that there were between 50-250 mature individuals in less than 5% of its previous range.

Recent Sightings

Sightings in northwest Queensland in the early 1990s were in a broad cross section of the habitats available (Garnett *et al.* 1993). There have been sightings in the Pilbara in 1980, 2005 and 2017; central WA in 1979; 2009 and 2011 (Hamilton *et al*. 2017); north-eastern South Australia in 1979; western Queensland (including Pullen-Pullen-Mt Windsor-Diamantina population) in 1980, 1990, 1993, 2006 and 2013-17 (Davis and Metcalf 2008, Garnett *et al.* 2011, Palaszxzuk and Miles 2017); and near Lake Eyre in 2017 (McCarthy 2017). In 2017, calls were recorded and a nest discovered in the East Murchison region in Western Australia (Jackett *et al.* 2017). There is also a record in the WA Department of Biodiversity Conservation and Attractions (DBCA) threatened species database of 12 Night Parrots at a pool approximately 150 km north-west of the project area in 2003. The confidence level for this sighting is low.

Preferred Habitat

The Night Parrot's preferred habitat appears to be in *Triodia* (spinifex) grasslands, chenopod shrublands, shrubby samphire and floristically diverse habitats dominated by large-seeded species (Threatened Species Scientific Committee 2016, McCarthy 2017, Murphy *et al*. 2017b). It nests under *Triodia* and has a runway and a tunnel entrance with an apron of dead *Triodia* sp. leaves. Tunnels are constructed by a combination of chewing some leaves to length and pushing and shaping others (Murphy *et al*. 2017). It produces clutches of two to four sub-elliptical, white eggs with a lustrous appearance (Murphy *et al*. 2017a). It is thought that breeding generally occurs between April and October with breeding events often triggered by rainfall and subsequent seeding of *Triodia* (McDougall et al. 2009; Murphy *et al.* 2017a).

Jackett *et al*. (2017) successfully discovered parrots and an active nest by selecting sites where *Triodia* spp. form interconnected rings, close to drainage channels or low-lying salt lakes, with samphire present. It seems that the structure of the spinifex, rather than the size of the spinifex expanse, or the substrate type, is key to Night Parrot nest site selection. Two other factors believed to be important to nest site selection are the proximity of a dense ground layer vegetation (e.g. *Triodia*) to i) suitably diverse foraging grounds, and to ii) surface water (Jackett *et al*. 2017; Kearney *et al*. 2016; Murphy *et al*. 2017).

Kearney *et al.* (2016) state that there are several credible, historical records of Night Parrots from chenopod (a salt-tolerant, arid-adapted, succulent shrub) without *Triodia*. Radio- and GPS-tag work shows that, at least sometimes, Night Parrots venture out into non-*Triodia* habitats for most of the night to forage (Kearney *et al*. 2016; Murphy *et al*. 2017). These other habitats include periodically inundated plains and support a high diversity of plant communities including ephemeral herbs and annual grasses (Kearney *et al*. 2016; Murphy *et al*. 2017).

The area where Jackett *et al.* (2017) discovered an active nest has no record of being burnt since well before the year 2000, with the blend of spinifex and samphire likely creating natural barriers to fire. Historical burning regimes by Traditional Owners would have been conducted in the cool season using a small-scale, mosaic approach, resulting in a heterogeneous landscape providing continual food and refuge sources for the parrots (Jackett *et al*. 2017).

The (then) Department of Parks and Wildlife (2017) defines roosting/ nesting habitat as follows: At the local (site) level, roosting and nesting sites are in clumps of dense vegetation, primarily old and large spinifex clumps (often >50 years unburnt), especially hummocks that are ring-forming. These may be in expanses or isolated patches, but sometimes associated with other vegetation types, such as dense chenopod shrubs. Spinifex hummocks that are collapsed (i.e. less than about 40-50 cm in height) are not likely to provide adequate shelter.

Diet

Kearney *et al.* (2016) suggest that Night Parrots can persist on dry seed during winter conditions without exceeding dangerous levels of dehydration, but would need access to water or succulents during summer. If correct, this hypothesis has significant implications for where Night Parrot might be found, and its preferred habitat.

In Queensland, Murphy *et al*. (2017) recorded Night Parrots foraging in floristically heterogeneous habitats dominated by large-seeded species, although it appears that they also feed on the *Triodia* spp. in which they roost. Characteristic of these Queensland feeding grounds were prolifically seeding, large-seeded ephemeral species, most notably the annual grass *Uranthoecium truncatum*. Analyses of scats suggest that Night Parrots feed opportunistically on a taxonomically diverse range of plants, including grasses (e.g. *Triodia longiceps, Brachyachne* spp.) and herbs (e.g. *Trianthema triquetra*) (Kearney *et al*. 2016). There is also evidence associating it with the highly succulent desert plant genus *Scleroloaena* spp. and in captivity it has been observed to prefer green food (Higgins, 1999; Kearney *et al*. 2016). It is believed that Night Parrots derive substantial dietary water from chenopods and other succulent plant species, particularly in periods of low rainfall where there is little to no standing water (Kearney *et al*. 2016). Several specimens have been found with soil compacted in their upper mandibles, leading to the theory that they may dig for roots or tubers (Higgins, 1999).

Behaviour

Published accounts of Night Parrot behaviour suggest that the Night Parrot may be prone to vehicle strikes when breeding or foraging near roads or tracks in or near the project area: Hamilton *et al* (2017) observed a bird crouching on a road, 1-1.5m from the road edge. The bird did not fly when approached, but ran under a slow-moving vehicle. A second observation recorded a bird emerging from the base of a group of *Eremophila* shrubs surrounded by small grasses and other plants. The bird ran across the road, then hopped over the road edge into another group of thick *Eremophila*.

When disturbed, observed Night Parrot behaviours are usually running or squatting, keeping close to cover, or sometimes flying low for 20-80 m before dropping back into cover and potentially running off at a right angle to the line of flight (HANZAB-DBCA). Flight when flushed is said to be swift, direct or erratic, but not undulating, and they can dive suddenly or glide down into cover (HANZAB-DBCA). A captive bird was observed to move about with short hops and agile runs and some claim to have seen them perched in trees or shrubs (HANZAB-DBCA). It is said that they may sometimes roost in caves or take shelter in tunnels, such as those dug by rabbits, in order to escape the heat of the day (HANZAB-DBCA; Kearney *et al.* 2016).

Several different Night Parrot calls have been recorded, with Jackett *et al*. (2017) noting some calls seeming to be in response to others, possibly duetting. Some vocalisations indicated a single pair occupying one nest site. Recordings have shown that the parrots call throughout the night, with vocalisations peaking soon after sunset and before sunrise. More than 40% of calls were made at or near the nest site (Jackett *et al*. 2017). Night Parrots also reportedly whistle in flight, when coming in to water or leaving, make a croaking note when alarmed, and squeak (as if hurt) when flushed (HANZAB-DBCA; Jackett *et al*. 2017). It is not known whether they call outside of breeding season, although a captive male was heard to utter a raucous or harsh loud double note (HANZAB-DBCA).

Leseberg (2019) observed a nest where two chicks hatched in early May. The camera showed the parents visiting two or three times a night to feed their young. The chicks remained very quiet for the first couple of weeks but became vocal, attracting the interest of a cat. This supports historical observations of young giving squawking calls when begging for food from an adult (HANZAB-DBCA). The chicks observed by Leseberg (2019) fledged in late May, spending at least a couple of weeks close by the nest site, out in the open, calling loudly and regularly throughout the night. This behaviour highlights the need to monitor and control cat (or other predator) populations around known Night Parrot populations.

Night Parrots conserve water by remaining inactive during the day, venturing out for most of the night to forage (Kearney *et al*. 2016). Murphy *et al*. (2017) tagged two birds and found that both habitually left the roost area 20-30 minutes after sunset, following a bout of calling. They then returned to the roost site 40-60 minutes before sunrise, making one or two calls most mornings before settling for the day. From this study it was concluded that the birds were travelling at least 5 km, and possibly more than 10 km, away from the roost to forage at night in habitats that included floodplains and non-*Triodia* grasslands. One of the tagged specimens was found to travel up to 9.4 km away from its roost site in a night, with a total of at least 41 km travelled in a single night. It made many visits to a range of feeding grounds, with some visits lasting over 20 minutes and others more than 60 minutes, with favoured sites being visited multiple times a night. One stopping point was an artificial watering site for stock, approximately 60 m wide, and three of the logged feeding sites were situated on a floodplain which is periodically inundated with waters from the Diamantine River (Murphy *et al*. 2017). Historical observations indicate the birds first visit water bodies before feeding, returning to drink 2-3 times throughout the night. They are reported to arrive at water in singles, twos or groups of up to eight (HANZAB-DBCA). Logs from tagged birds indicated a minimum flight speed capability of 38 km per hour (Murphy *et al*. 2017).

While much of the information about the movements of Night Parrots is speculative, it has been suggested that they undertake large-scale, rainfall-driven movements, as the birds seem to disappear during dry spells (Murphy *et al*. 2017). However, no evidence has been found of nomadic behaviour, with both captured birds being found to move within the same relatively small area (~70 km^2) and acoustic monitoring indicating that the species has continuously occupied the same area for at least 4 years (Murphy *et al*. 2017). Further studies are required to assess the theory that Night Parrots make use of multiple roosts within a large home range, depending on the proximity to changing feeding areas.

3.1.2 Summary of studies conducted for Lake Disappointment Potash Project

In June 2017, targeted surveys for Night Parrots were conducted by Zoologists Greg Harewood and George Swann at various points along the Talawana Track, Willjabu Track, at the proposed processing plant site and around the edge of north western edge of Lake Disappointment, near sections of Savory Creek. Survey work included passive acoustic surveys using Autonomous Recording Units (ARUs), listening surveys and targeted area searches around waterholes/bores while looking for Night Parrot feathers. Two camera traps were also placed at watering points at two bores. The passive acoustic and listening surveys were carried out in areas that appeared to contain the most likely roosting and nesting habitat (e.g. long unburnt spinifex, in particular near areas of healthy stands of samphire, if present) located within the defined study area and any other location in close proximity to proposed development areas or Lake Disappointment). Site selection was carried out by Greg Harewood and George Swann.

Motion sensing cameras were used during the course of all fauna survey work (reconnaissance and detailed fauna surveys) conducted by Zoologist Greg Harewood at the Lake Disappointment Potash Project. A total of 100 motion sensing cameras were deployed across the Project between May 2013 and June 2017, with a combined total of 280 days of recordings. No records of Night Parrots were observed in any of the motion sensing camera footage.

Since the initial surveys described above, Reward has conducted acoustic surveys using ARU's over 616 monitoring nights at a total of 111 recording sites. A map showing the locations of all survey sites is provided in Figure 5.

Multiple Night Parrot surveys (using acoustic recording units, ARUs) have been conducted at Lake Disappointment and in surrounding areas between June 2017 and July 2019 (Table 3). The locations selected for Night Parrot monitoring included sites both inside and outside the project development envelope. Monitoring

sites with mature spinifex vegetation were preferentially targeted and, with the exception of some sites deployed to survey proposed access / haul roads, all sites were within approximately 5 km of seasonally inundated areas (lake edges, drainage lines, claypans) where succulent vegetation and/or free water was likely to be available. No recently burnt areas were surveyed, except for one re-survey of an area conducted in September 2019 where highly likely Night Parrot calls were previously recorded in June 2017 (pre-fire). Probable/ possible Night Parrot calls were again recorded in the same general area post-fire.

Table 3: Summary of ARU Night Parrot Surveys Conducted for Lake Disappointment Project

Night Parrot Survey	Findings
June 2017 – Survey points located [redacted]	Fourteen ARU sites established: • one site-confirmed record • 13 sites-no night parrot call
August/September 2017 – Survey points located [redacted]	Twelve ARU sites established: • six sites-possible records • six sites-no night parrot call
October/November 2017 – A "regional survey" at various locations [redacted]	Eight ARU sites established: • eight sites-no night parrot calls
December 2017 – Survey points located [redacted]	Five ARU sites established: • three sites-possible records • two sites-no night parrot calls
March/April 2018 – As with the December 2017 survey – survey undertaken at points located [redacted]	Seven ARU sites established: • six sites-possible records • one site-no night parrot calls
August/ September 2018-Survey points located [redacted]	Eighteen ARU sites established: • two sites-possible records • sixteen sites-no night parrot call
October/ November 2018-Survey points located [redacted]	Sixteen ARU sites established: • sixteen sites-no night parrot calls
March 2019 -Survey points targeting [redacted]	Eight ARU sites established (48 recording nights) • No night parrot calls detected
April 2019 – Surveys near [redacted]	Seven ARU sites established (42 recording nights) • No night parrot calls detected
May 2019 - Survey points targeting [redacted]	Eight ARU sites established (48 recording nights) • No night parrot calls detected
July 2019 – Survey points targeting [redacted]	Eight ARU sites established (48 recording nights) • No night parrot calls detected

Figure 5: Night Parrot ARU Surveys of the LDP Project

No direct observations of the Night Parrot or nesting/ roosting sites have been made during these surveys, however acoustic surveys identified calls that are 'highly likely' to be Night Parrot calls at one location in June 2017, probable and possible calls at four closely spaced locations in August 2017, at two locations in December 2017, at five locations in March 2018, at one location in August 2018 (Bullen, 2019). No calls have been recorded after August 2018, despite additional surveys having been conducted in September and October 2018 and in March, April, May and July 2019. The timing of the individual calls shows a pattern that is separated in time by typically several hours and covers a number of days. This pattern does not show the expected pattern of roosting birds in that the calls are not in repetitive groupings. Such groupings would be expected if the birds were sitting at or close to a roost. The pattern of calls is more easily interpreted to be from birds that are moving about in the area and are therefore most likely to be from birds foraging (Bullen, 2019).

All likely Night Parrot calls were recorded within one area, located [redacted]

The area in which Night Parrots calls were recorded (highly likely, probable and possible calls) covered approximately 1510 ha and comprised two interdunal swales mapped by Botanica Consulting (2017). Vegetation in the area where Night Parrot calls were recorded consists of open low woodland of *Corymbia opaca* over low scrub of *Acacia/Grevillea* spp. and mid-dense hummock grass of *Triodia basedowii,* adjacent to open mixed herbs in a clay-loam depression. Claypans are present in the lower lying areas and are subject to inundation by freshwater after significant rain events (Harewood, 2018). A map of the Night Parrot recorded locations is provided in Figure 6.

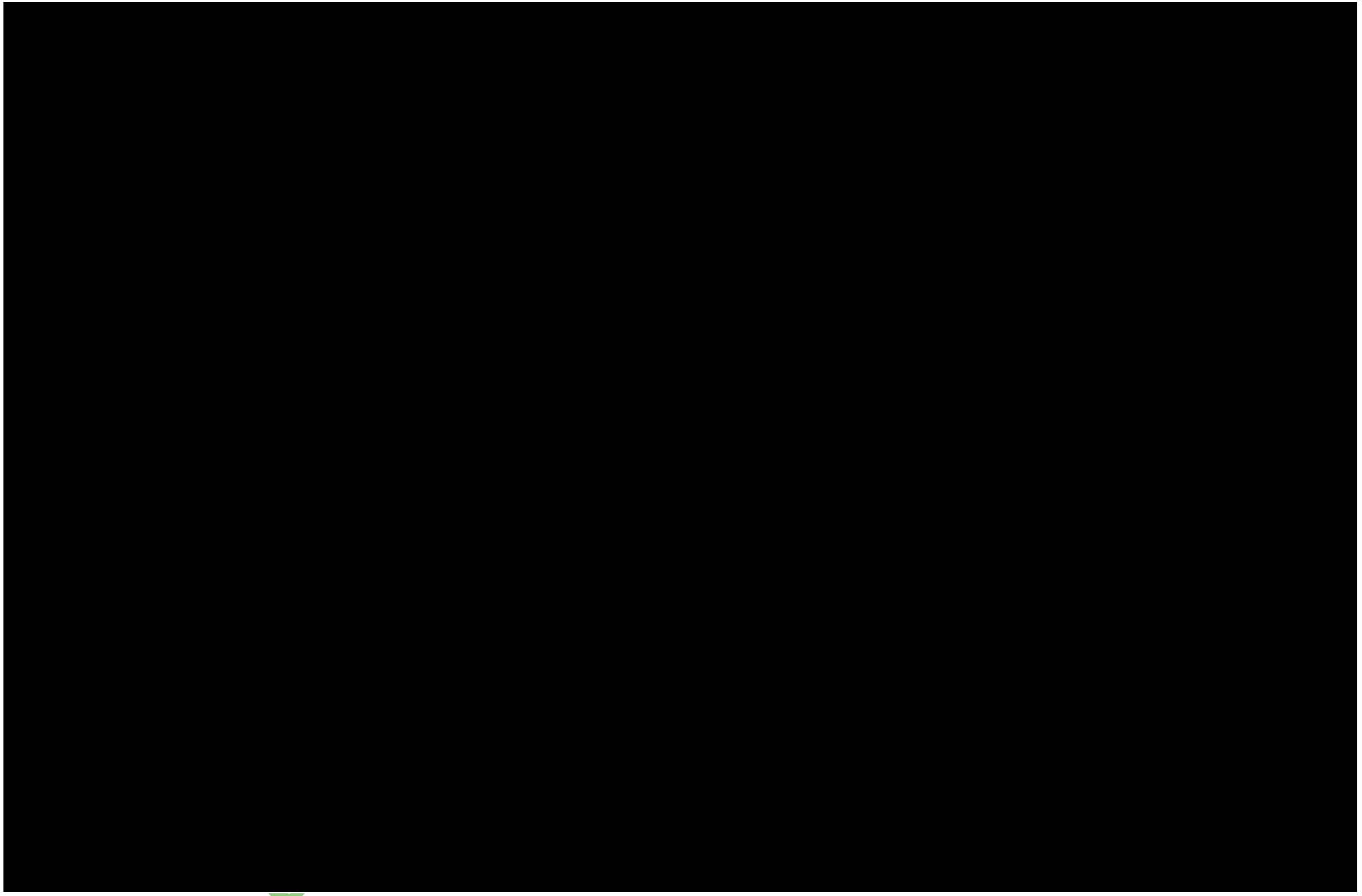

Figure 6: Night Parrot ARU Records of the LDP Project

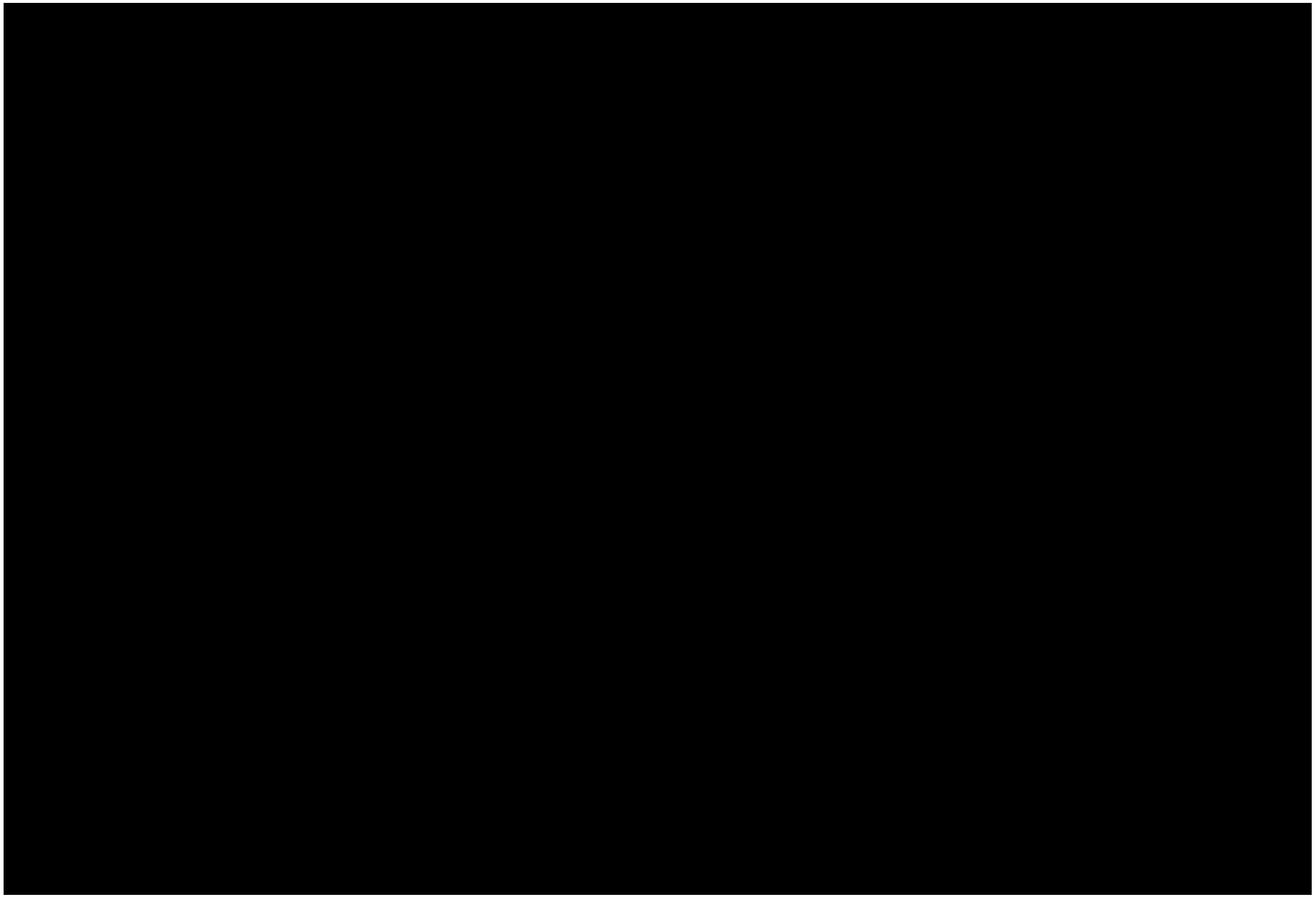

Figure 7: Night Parrot ARU sites-Night Parrot Calls Recorded

3.2 Night Parrot Habitat Assessment

Three habitat types were defined and mapped:

1. Spinifex (potential roosting/nesting habitat);
2. Samphire vegetation (potential foraging habitat); and
3. Claypan vegetation (potential foraging habitat / freshwater source).

The broad habitat requirements of Night Parrots (specified by Department of Parks and Wildlife (2017)) include areas of old-growth spinifex (*Triodia*) for roosting and nesting, together with foraging habitats that are likely to include various native grasses and herbs, and may or may not contain shrubs or low trees.

An assessment of potential Night Parrot habitats within the LDP Project area was conducted using vegetation mapping of the survey area (Botanica Consulting, 2017) and distribution of suitable vegetation within the wider area (determined by Botanica Consulting using aerial imagery/ findings of previous surveys) (Table 4) . Potential roosting/nesting and foraging/ freshwater source habitats were delineated and mapped (see Figure 7). Habitat has been assessed using the precautionary principle, with all spinifex (irrespective of age) included in the habitat mapping as potential roosting/nesting.

3.2.1 Spinifex habitat

Potential roosting/nesting habitat was defined using the spinifex-dominated vegetation types (Table 4). Generally, the spinifex present within the vegetation types of the LDP Project survey area occurs with an overstorey of woodland/ forest or shrubland (Table 4) which is thought to likely reduce the suitability of the habitat for Night Parrot (DPaW, 2017). With the exception of dunefield vegetation located directly north of Lake Disappointment, much of the spinifex associated vegetation in the Project area has been subjected to fire over the past ten years (see Figure 9). The spinifex habitat within the Project is part of a continuous extent of the same habitat both with the survey area and the wider area (Figure 8). Examples of the appearance of spinifex vegetation near Lake Disappointment and in the wider region are shown in Plates 1 and 2.

Using the broadest definition of potential roosting/nesting habitat as 'that containing spinifex', approximately 405 ha (98.8%) of the disturbance footprint contains potential roosting/ nesting habitat. Of the 405 ha of spinifex vegetation within the disturbance footprint, 265 ha has not been burnt within the past 10 years. The extent of potential roosting/ nesting habitat within the local area (based on the 64,721 ha of vegetation surveyed by Botanica and Greg Harewood for the LDP Project in 2016-2018) is 53,566 ha. Spinifex habitat within the disturbance footprint represents 0.76% (0.49% not burnt within the past 10 years) of the total equivalent habitat within the local survey area.

3.2.2 Samphire/ Claypan habitat

The Department of Parks and Wildlife (2017) broadly defines the foraging habitat requirements for Night Parrots as forbs, grasses (including spinifex at times of mass flowering and seeding), *Sclerolaena* spp. and other chenopods. Potential foraging habitat near Lake Disappointment was defined by vegetation types consisting of chenopod/samphire vegetation (Plate 4) and open mixed herbs in clay-loam depression/ claypans (also provides potential freshwater source – Plate 3) (Table 4).

Using this definition, approximately 3 ha (0.7%) of the disturbance footprint contains potential foraging/ freshwater source habitat[2]. The extent of potential foraging/ freshwater within the local area (based on the 64,721 ha of vegetation surveyed by Botanica and Greg Harewood for the LDP Project in 2016-2018) is 6462 ha. Potential foraging/ freshwater source habitat within the disturbance footprint represents 0.04% of the total potential foraging/ freshwater source habitat within the local survey area.

[2] Based on chenopod/herb vegetation only (CD-CSSSF1 and CD-OGHSR1). 'Possible foraging habitat' identified in Table 4 (i.e. spinifex vegetation that may be suitable when *Triodia* flowering/ in seed) has been excluded as this vegetation has been included in possible roosting/ nesting habitat).

Plate 1: Mature spinifex vegetation (Lake Dora – Karlamilyi National Park)

Plate 2: Spinifex vegetation near Lake Disappointment

Plate 3: Claypans and dunes (north of Lake Disappointment)

Plate 4: Samphire vegetation (Lake Disappointment)

Table 4: Vegetation Types of the LDP Project (BC, 2018) and potential Night Parrot habitat

Habitat / Vegetation Type	Vegetation Code	Potential Foraging/ Freshwater source habitat	Potential Roosting/ Nesting habitat [Note 1; Note 2]	Total Area within Disturbance Footprint (ha)	Total Area within Survey Area[Note 3] (ha)	% local habitat (survey area) proposed to be impacted- Disturbance Footprint
Samphire Habitat						
Heath of mixed *Tecticornia* spp. on Salt Lake edge	CD-CSSSF1	Yes	No – lacks spinifex cover thought to be required for nests	0	5984	0
Claypan Habitat						
Open mixed herbs in clay-loam depression	CD-OGHSR1	Yes	No – lacks spinifex cover thought to be required for nests	3	478	0.56
Spinifex Habitat						
Low forest of *Allocasuarina decaisneana* over open scrub of *Acacia/ Grevillea* and mid-dense hummock grass of *Triodia basedowii* on sand dunes/ swales	D-CFW1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however dense overstorey (Allocasuarina/ Acacia/ Grevillea) and previous fires indicate vegetation is less suitable for nesting	6	642	0.94
Open low woodland of *Corymbia opaca* over low scrub of *Acacia/Grevillea* spp. and mid-dense hummock grass of *Triodia basedowii* on sand dunes/ swales	D-HG1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Yes	257	36,118	0.71
Scrub of *Acacia/Eremophila/Grevillea* spp. over mid-dense hummock grass of *Triodia basedowii* on sand dunes/ swales	D-HG2	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however previous fires indicate vegetation is less suitable for nesting			

Habitat / Vegetation Type	Vegetation Code	Potential Foraging/ Freshwater source habitat	Potential Roosting/ Nesting habitat [Note 1; Note 2]	Total Area within Disturbance Footprint (ha)	Total Area within Survey Area[Note 3] (ha)	% local habitat (survey area) proposed to be impacted- Disturbance Footprint
Open low woodland of *Eucalyptus camaldulensis/ Corymbia* spp. over mid-dense hummock grass of *Triodia* spp. in creekline	OD-EW1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however Eucalypt overstorey and previous fires indicate vegetation is less suitable for nesting	33	3029	1.09
Open low woodland of *Corymbia* spp./ *Hakea lorea* over low scrub of *Acacia* spp. and mid-dense hummock grass of *Triodia* spp. in sandplain	P-HG1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however previous fires indicate vegetation is less suitable for nesting	83	11162	0.74
Open shrub mallee of *Eucalyptus gamophylla/ E. kingsmillii* subsp. *kingsmillii* over low scrub of *Acacia bivenosa* and mid-dense hummock grass of *Triodia basedowii* in sandplain	P-HG2	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however Mallee overstorey and previous fires indicate vegetation is less suitable for nesting			
Scrub of *Acacia* spp. over mixed low scrub and mid-dense hummock grass of *Triodia pungens* on rocky hillslope	RH-AFW1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however Acacia overstorey and previous fires indicate vegetation is less suitable for nesting	12	1077	1.11
Open shrub mallee of *Eucalyptus gamophylla/ E. kingsmillii* subsp. *kingsmillii* over low scrub of *Acacia/ Grevillea* spp. and mid-dense hummock grass of *Triodia* spp. on rocky hillslope	RH-MWS1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however Mallee overstorey and previous fires indicate vegetation is less suitable for nesting	6	1356	0.45

Habitat / Vegetation Type	Vegetation Code	Potential Foraging/ Freshwater source habitat	Potential Roosting/ Nesting habitat Note 1; Note 2	Total Area within Disturbance Footprint (ha)	Total Area within Survey Area Note 3 (ha)	% local habitat (survey area) proposed to be impacted- Disturbance Footprint
Low woodland of *Acacia* spp. over low scrub of *Eremophila/ Senna* spp. And mid-dense hummock grass of *Triodia basedowii* on rocky plain	RP-AFW1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however Acacia overstorey and previous fires indicate vegetation is less suitable for nesting	5	1572	0.33
Open low woodland of *Corymbia aspera* over low scrub of *Acacia* spp. and mid-dense hummock grass of *Triodia basedowii* on rocky plain	RP-HG1	Possible – when *Triodia* flowering / in seed (DPaW, 2017)	Possible-spinifex dominant understorey however previous fires indicate vegetation is less suitable for nesting	3	1639	0.16
Other Habitat						
Low woodland of *Acacia* spp. over low scrub of *Senna artemisioides* and mixed dwarf scrub in drainage depression	OD-AFW1	No – no herbs/ chenopods or *Triodia*	No – lacks spinifex cover thought to be required for nests	3	516	0.58
Low woodland of *Hakea lorea/ Melaleuca glomerata* over low heath of *Fimbristylis eremophila* in drainage depression	OD-OS1	No – no herbs/ chenopods or *Triodia*	No – lacks spinifex cover thought to be required for nests	0	698	0
Total				**410**	**64,271**	**N/A**

Note 1: Based on DPaW (2017), vegetation units with substantial spinifex component assumed to be suitable if they are mature (40-50 cm in height)

Note 2: Recently burnt habitat (within past 10 years), may not be suitable even if spinifex is 'mature'

Note 3: Level 2 Flora/ Vegetation and Fauna survey area assessed by Botanica (2016-2018) and Harewood (2016-2018)

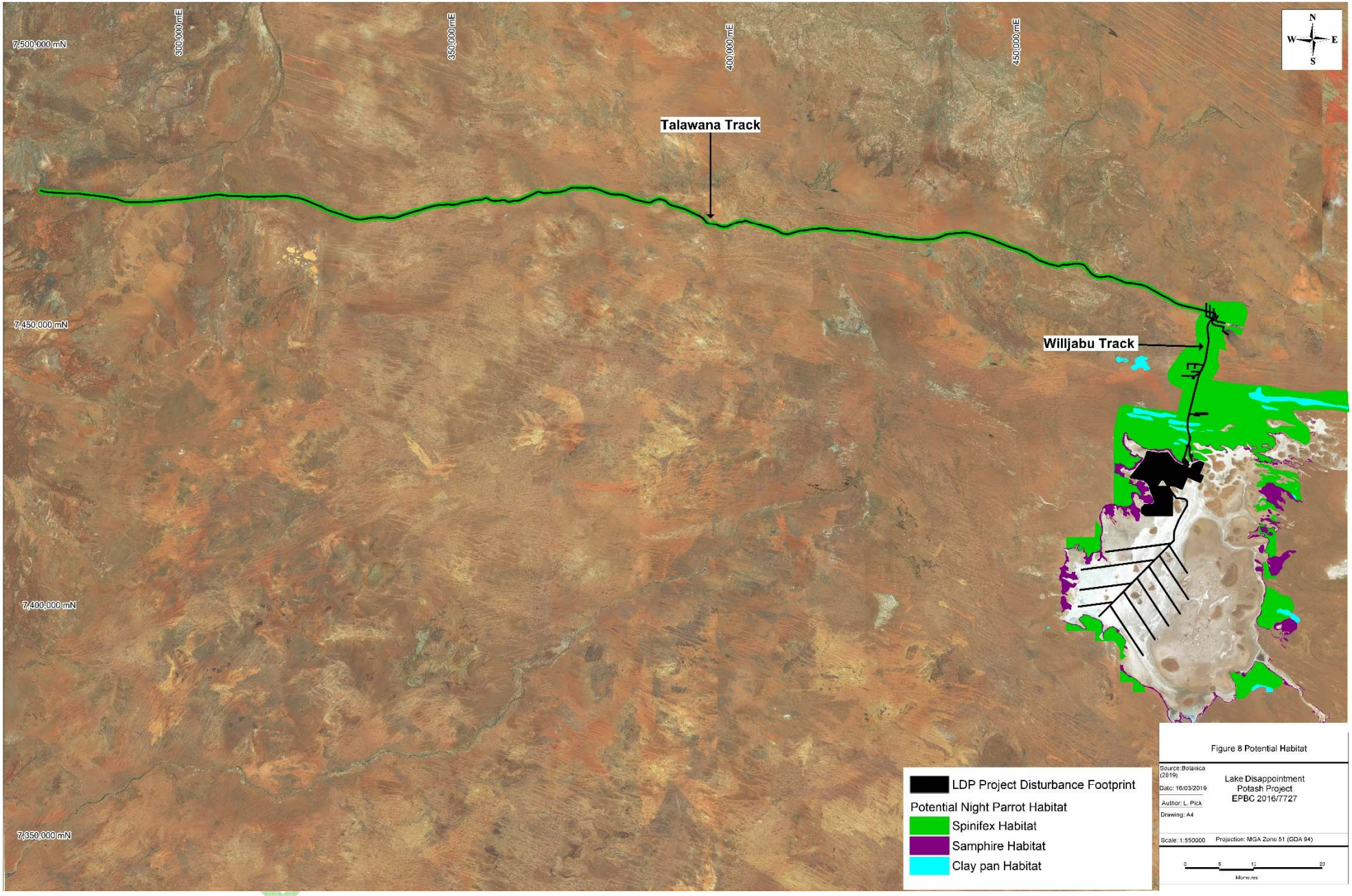

Figure 8: Potential Night Parrot Habitat in relation to the LDP Project

Vegetation with a dominant spinifex component accounts for 98.8% of vegetation in the project area. During baseline surveys, Reward conducted monitoring over 616 monitoring nights in vegetation types that included suitable mature spinifex. The only vegetation type in which Night Parrot calls were recorded (highly likely / probable calls) was in a vegetation mosaic comprising Open low woodland of *Corymbia opaca* over low scrub of *Acacia/Grevillea* spp. and mid-dense hummock grass of *Triodia basedowii* on sand dunes/ swales (D-HG1) and Open mixed herbs in clay-loam depression (CD-OGHSR1).

In order to determine suitable locations for future monitoring sites and assess the potential risks of the project on Night Parrot habitat, the likelihood of the Spinifex habitat to provide suitable roosting/nesting habitat within the disturbance footprint was categorised using the ranking system devised by Reward for spinifex dominated vegetation types, (shown in Table 5). The ranking system has been based on results of Night Parrot surveys/ recordings and habitat quality/ requirements specified in the DPaW Interim Guidelines, 2017.

Table 5: Spinifex Habitat-Likelihood of Roosting/ Nesting Habitat

Time since last burnt		Distance to Samphire or Claypan vegetation[Note1]	
		>5 km	<5 km [Note 2]
< 5 years		Low	Moderate
5 - 10 years		Low	High
>10 years		Moderate	High

Note 1: Relates to the samphire and claypan habitats identified in Figure 8 (i.e. CD-OGHSR1 vegetation listed in Table 4). Samphire vegetation and 'Possible foraging habitat' (i.e. spinifex vegetation that may be suitable when *Triodia* flowering/ in seed) identified in Table 4 is not associated with a freshwater source.

Note 2: Use of 5km distance from samphire or claypan habitat to determine the potential for spinifex areas preferred for roosting/ nesting habitat is based broadly on findings by Murphy et al (2017). Movements and habitat use of the night parrot *Pezoporus occidentalis* in south-western Queensland, *Austral Ecology* (2017) **42**, 858–868.

A map showing the fire history within the LDP Project area is provided in Figure 9. Fire data were obtained for the period between 2007-2018 from the North Australia and Rangelands Fire Information database (NAFI, 2019). A map of habitats with low, moderate and high prospective for future Night Parrot monitoring (using the classification scheme described in Table 5) is provided in Figure 10 and Figure 11.

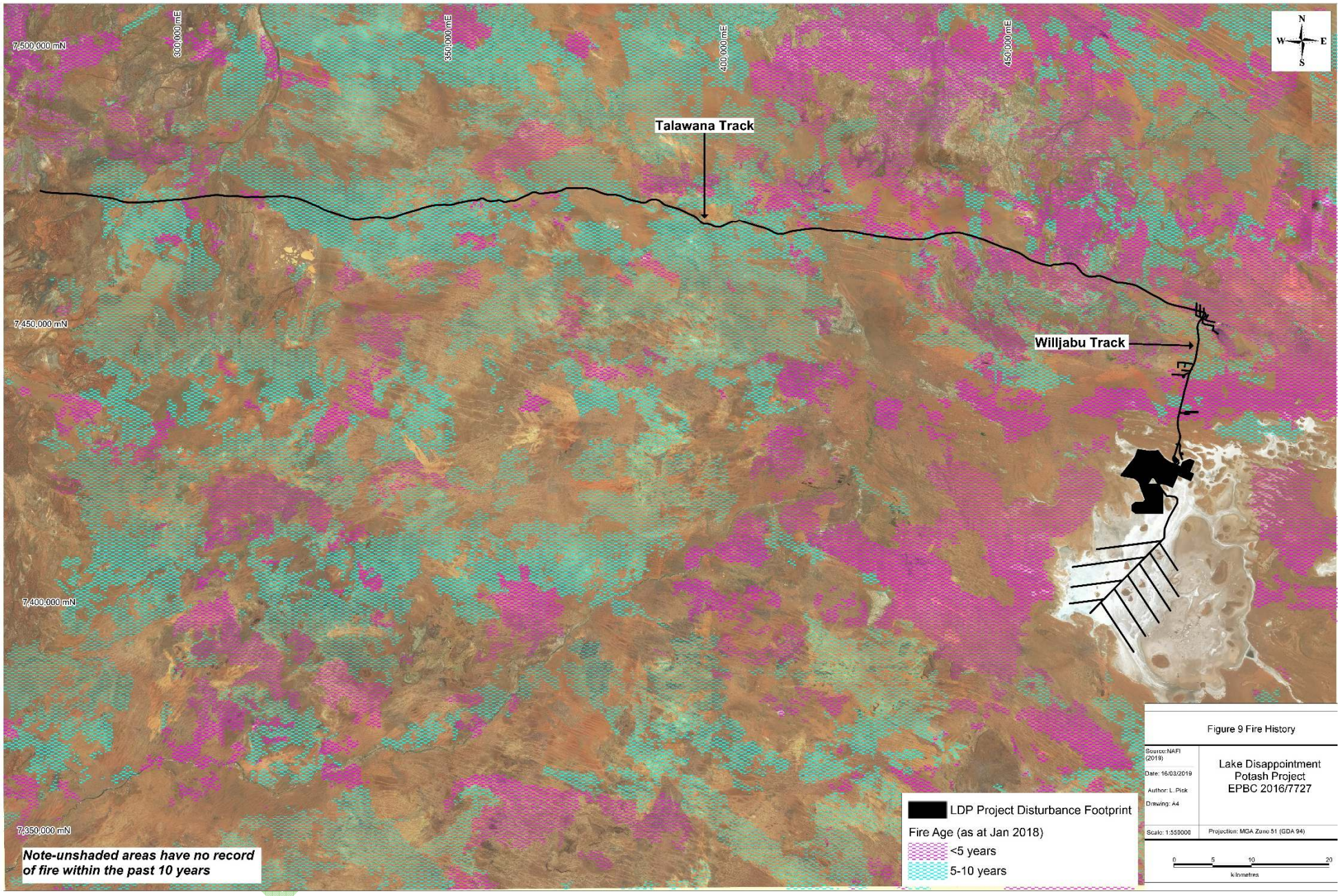

Figure 9: Fire History 2007-2018 (NAFI, 2019) in relation to the LDP Project

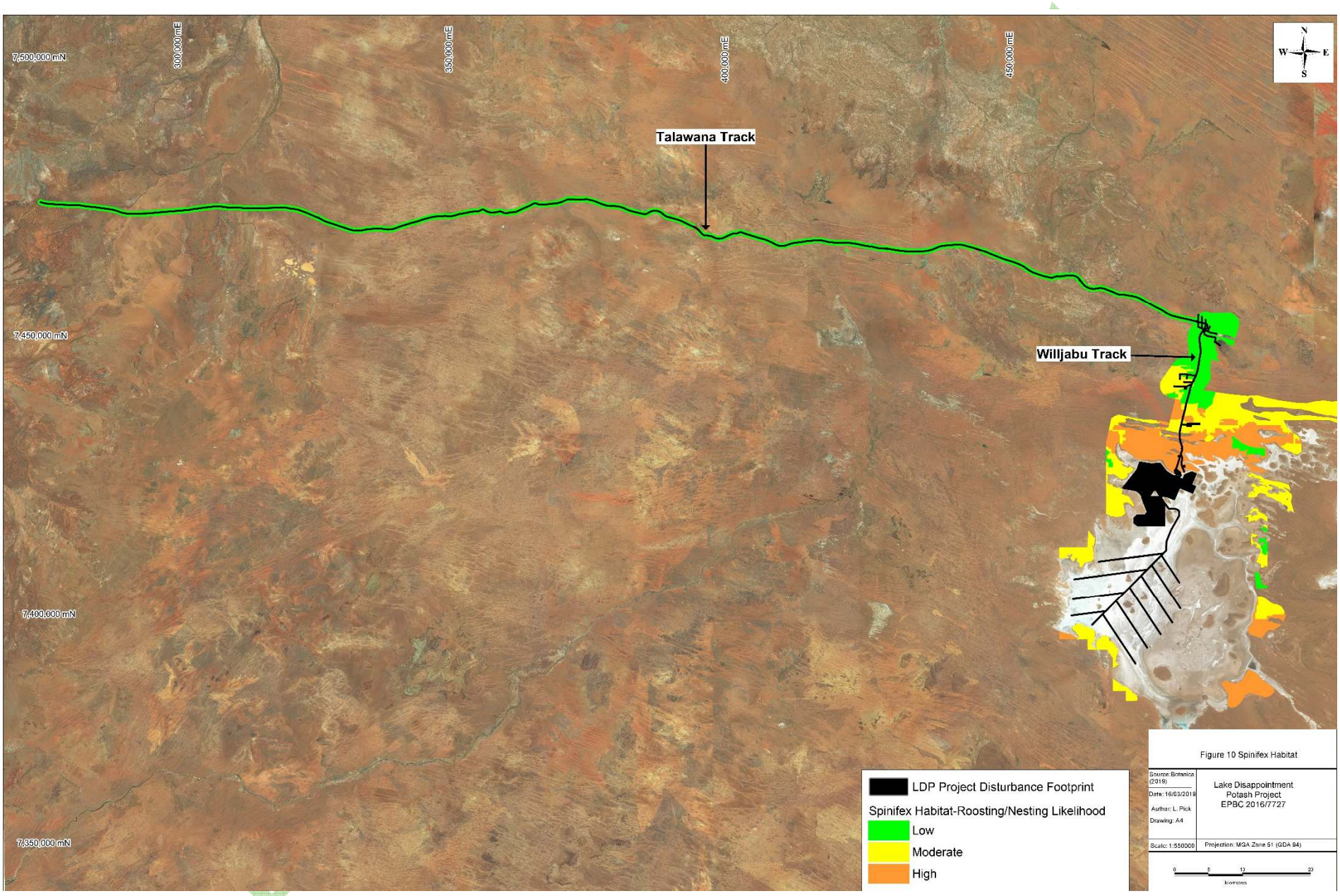

Figure 10: Ranking of future Night Parrot monitoring locations in relation to the LDP Project

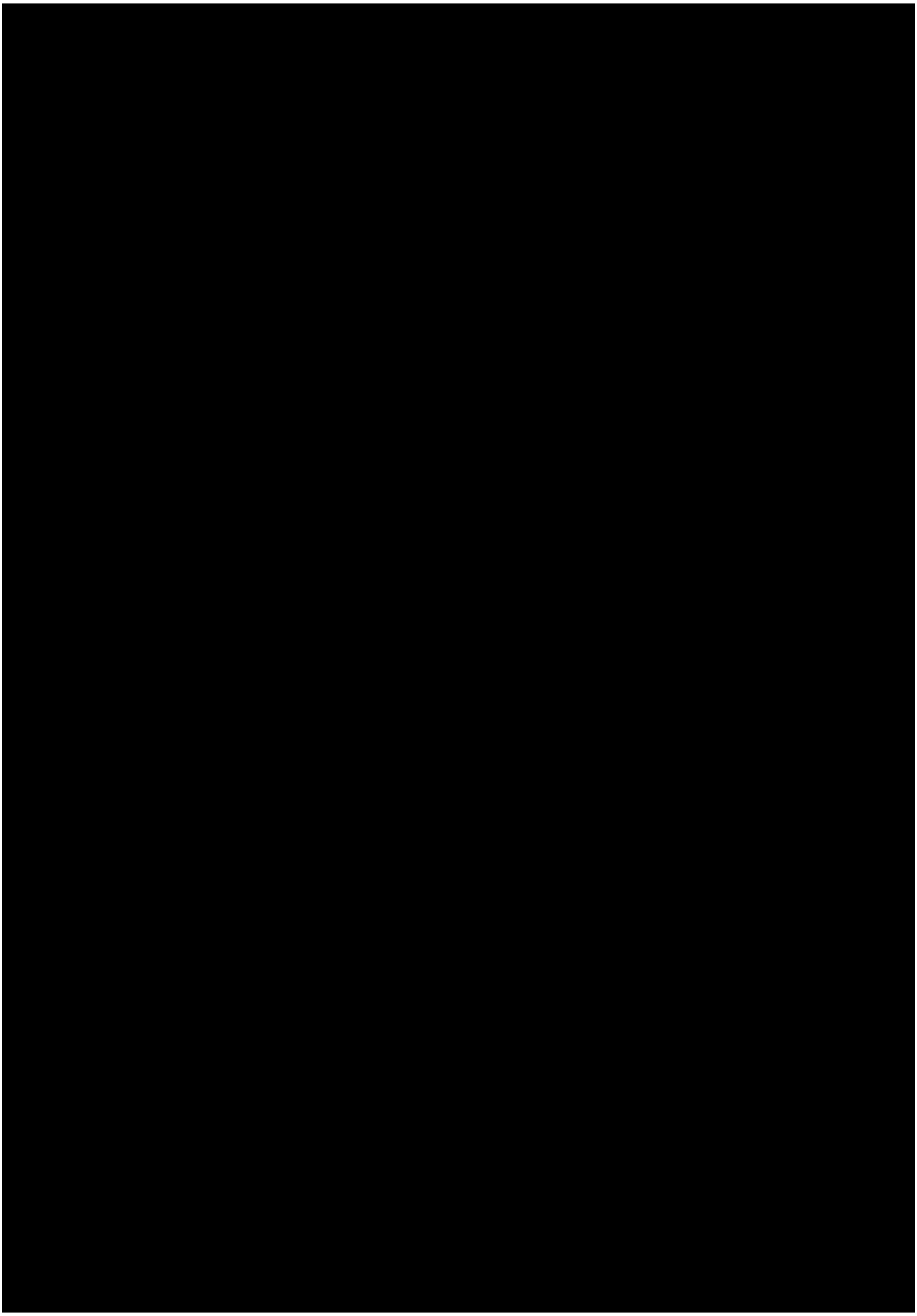

Figure 11: Ranking of habitat suitability for future monitoring, in relation to the LDP Project

4 Potential Environmental Impacts and Risks

4.1 Threats to matters protected under the EPBC Act

Potential threats and impacts to the Night Parrot are summarised in Table 6.

Table 6: Night parrot – summary of status and threats

Legal conservation status	Listed as Endangered under the EPBC Act and Critically Endangered under the *Biodiversity Conservation Act 2016*
Status at Lake Disappointment Potash Project	Night Parrot calls categorised as 'probable' or 'highly likely' have been recorded on multiple occasions within an area of approximately 2km by 3.5km either side of an existing track in a swale between two dunes (within 1.5km east of the Willjabu Track and within 2km west of the Willjabu Track).
Threats	Threats identified by the Threatened Species Scientific Committee (2016) and Murphy *et al*. (2018) that may be relevant to the Lake Disappointment potash project area and surrounds include: • predation by feral cats and foxes; • soil disturbance, erosion and loss caused by feral herbivores; • Degradation of habitat around water points by feral herbivores; • Competition for food by feral herbivores; • Reduction in water availability through over-use of waterholes by camels; • Human induced fire events; • Increased fires extent; • Fences; • illegal collection of birds or eggs; and • Disturbance from bird watching activities. Although not listed by the committee, clearing of roosts or foraging habitat (if birds are sedentary) could also be a threat. Clearing of a nest with eggs or chicks would be a significant impact. If Night Parrots are prone to sitting and running on roads, rather than flying when disturbed, then they could be struck by moving vehicles. A wildfire through an area containing eggs or chicks will almost certainly result in the loss of these eggs or birds.

4.2 Potential impacts

Taking into consideration the range of threat outlined above, potential impacts on Night Parrot from the LDP Project include:

- Loss of birds and / or eggs during vegetation clearing;
- Loss of birds by vehicle strikes;
- Loss of birds and / or eggs by wildfires arising from project activities;
- Loss of birds by collisions with fences;
- Increased predation by feral animals (foxes and cats) on adults and young due to predators having greater access along tracks in Night Parrot habitat; and
- Increased feral herbivore activity (due to site access development) increasing competition for food/ water.

Potential impacts from infrastructure development (e.g. vegetation clearing) will be short-term, as the great majority of clearing would occur during the construction phase of the project. Unless an active nesting site is disturbed then this potential impact is considered low. Procedures included in the NPMMP will reduce the risk of clearing impacting on active Night Parrot nests, ensuring there will be no direct impact on Night Parrots due to vegetation clearing.

It is envisaged that there will be approximately 15 trucks per 24 hrs moving towards site along the Talawana and Willjabu Tracks and an equal number of laden haul trucks undertaking the return trip from site. In addition, other trucks and vehicles carrying general freight and fuel supplies will travel along this route to and from the project each day. This will equate to about 40 truck movements per day or about 1.5 trucks per hour in a 24-hour day. Vehicle trips to the borrow pits, airfield and Corey bore fields are all likely to be undertaken in daylight hours, so tracks to these facilities are unlikely to result in a significant impact on Night Parrots.

4.3 Risk assessment

A risk assessment was conducted on the potential impacts to the Night Parrot from the LDP Project using the risk assessment process specified in the DAWE *Environmental Management Plan Guidelines* (DAWE, 2014). The risk assessment is provided in Table 7. In conducting the risk assessment, Reward has assumed that loss of even a single bird would constitute a major impact, given the conservation status of the species, and uncertainty around the size of the local population. More detailed information on the management measures that will be implemented to manage the potential impacts to Night Parrots associated with the LDP Project is provided in Section 5.

Qualitative measure of likelihood (how likely is it that this event/issue will occur after control strategies have been put in place)	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances

Qualitative measure of consequences (what will be the consequence/result if this issue does occur) rating)	
Minor	Individuals may be affected but viability of local population and species not impacted
Moderate	May have impact on local population viability but no impact on species
High	Local population decline by >50%
Major	Extinction of local population
Critical	Potential to lead to collapse of the species

	Consequence				
	Minor	**Moderate**	**High**	**Major**	**Critical**
Highly Likely	Medium	High	High	**Severe**	**Severe**
Likely	**Low**	Medium	High	High	**Severe**
Possible	**Low**	Medium	Medium	High	**Severe**
Unlikely	**Low**	**Low**	Medium	High	High
Rare	**Low**	**Low**	**Low**	Medium	High

Table 7: Night Parrot Risk Assessment

Potential Impact	Inherent Risk			Planned Control Measures	Residual Risk		
	Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Death of bird during vegetation clearing	Possible	Major	High	• Induction and training on presence of Night Parrot and associated habitat potentially in the area to staff and contractors. • The boundaries of all vegetation clearing will be clearly demarcated before vegetation clearing commences. • Pre-clearance inspections in areas of moderate to-high potential nesting/ roosting habitat to determine presence of old-growth (ring forming) Spinifex • Pre-clearance acoustic monitoring for Night Parrot calls in moderate-high potential nesting/roosting habitat within the clearing boundary (refer Section 5.4 of this plan). • Supervision of all clearing activities to ensure compliance with Vegetation Clearing Procedures	Unlikely	Major	High
Direct loss of eggs during vegetation clearing	Possible	High	Medium	• Induction and training on presence of Night Parrot and associated habitat potentially in the area to staff and contractors. • The boundaries of all vegetation clearing will be clearly demarcated before vegetation clearing commences. • Pre-clearance inspections in areas of moderate to-high potential nesting/ roosting habitat to determine presence of old-growth (ring forming) Spinifex and identify nests/ eggs. • Pre-clearance acoustic monitoring for Night Parrot calls in moderate-high potential nesting/roosting habitat within the clearing boundary. • Supervision of all clearing activities to ensure compliance with Vegetation Clearing Procedures	Unlikely	High	Medium
Direct loss of bird by vehicle strikes	Likely	Major	High	• Induction and training on site travel/ road procedures to staff and contractors. • Vehicles restricted to cleared roads/ tracks only. • Restrictions for vehicle travel on the Willjabu Track between sunset and sunrise. • Restricted speed limits on the Willjabu Track between sunset and sunrise. • Acoustic monitoring for Night Parrot calls in moderate to high potential nesting/roosting habitat along the Willjabu Track • Recording/reporting of Night Parrot sightings/ strikes to Environmental Officer/ Project Manager and subsequent reporting to DBCA / DAWE.	Possible	Major	High
Direct loss of bird by wildfires initiated by project activities	Unlikely	Major	High	• Induction and training on fire prevention/ management procedures to staff and contractors. • Prohibition of open fires on site • Vehicles/ machinery movements restricted to cleared areas only. • Fire extinguishers in place across site and in all vehicles. • Activities where there is a risk of fire accidentally occurring, such as welding or cutting, will be controlled through Hot Work Permits.	Rare	Major	Medium
Direct loss of eggs by wildfires initiated by project activities	Unlikely	High	Medium	• Induction and training on fire prevention/ management procedures to staff and contractors. • Prohibition of open fires on site • Vehicles/ machinery movements restricted to cleared areas only. • Fire extinguishers in place across site and in all vehicles. • Activities where there is a risk of fire accidentally occurring, such as welding or cutting, will be controlled through Hot Work Permits.	Rare	High	Low
Direct loss of birds by collisions with fences	Possible	Major	High	• Construction of fencing restricted to around landfill and water treatment facility within the plant area only • Construction of a ring-lock (mesh) fence rather than use of barbed wire fencing. • Daily inspections of fencing to observe any Night Parrot trappings/ collision with fence. • Reporting of any Night Parrot deaths from fence collision to Environmental Officer/ Project Manager and subsequent reporting to DBCA	Rare	Major	Medium
Increased feral animal predation (foxes and cats) on adults and young due to predators having greater access along tracks in Night Parrot habitat	Possible	Major	High	• Storage of domestic waste in bins fitted with suitable lids to prevent access by wildlife. • Fencing of landfill/ water treatment facility to prevent fauna access and reduce attraction of feral animals. • Prohibition of feeding fauna onsite • A feral and pest animal management program will be implemented annually for the life of the project: Reward will investigate the possibility of using a broad scale bait to reduce feral cats. • Records will be maintained of all feral and pest fauna sightings (dead or alive).	Unlikely	Major	High

Potential Impact	Inherent Risk			Planned Control Measures	Residual Risk		
	Likelihood	Consequence	Risk Rating		Likelihood	Consequence	Risk Rating
Increased herbivore feral animal activity (due to site access development) increasing competition for food/ water.	Possible	High	Medium	• Storage of domestic waste in bins fitted with suitable lids to prevent access by wildlife. • Fencing of landfill/ water treatment facility to prevent fauna access and reduce attraction of feral animals. • Prohibition of feeding fauna onsite • A feral and pest animal management program will be implemented annually for the life of the project. • Records will be maintained of all feral and pest fauna sightings (dead or alive).	Unlikely	High	Medium

4.4 Proposed additional controls

The assessment of risks of adverse impacts on Night Parrots as a result of project implementation has concluded that a number of risks remain at 'high', even after Reward has put in place all reasonable impact avoidance and mitigation measures to address impacts arising from project implementation. This outcome arises because of the extreme rarity of the Night Parrot, which means that the loss of even a single bird could be considered a significant impact. Accordingly, Reward has proposed a range of additional actions aimed at combatting existing threatening processes (not related to the Lake Disappointment project) which would otherwise continue adversely affecting Night Parrots in the wider region, whether or not the project were to be implemented. By this means, the overall conservation status of Night Parrots in the Little Sandy Desert region would be maintained or improved, relative to a 'no project' scenario.

Proposed additional mitigation measures to address existing (non-project) threatening factors include:

- Implementation of a feral animal control programme over nominal 16,000 ha area annually (in addition to feral control within development envelope); and
- Implementation of a fire management programme over nominal 4,000 ha area annually (in addition to fire control within development envelope).

Both programmes would be designed and implemented in collaboration with the Martu Traditional Owners of the Lake Disappointment area.

Lack of detailed knowledge of night parrot ecology has also influenced the risk assessment by driving a precautionary approach. The current Australian standard on risk management (AS/NZS/ISO 31000:2018) defines 'risk' as 'the effect of uncertainty on outcomes'. For this reason, Reward considers that implementing a research programme to address current knowledge gaps in night parrot ecology is an appropriate means of reducing risks to the species. The proposed research programme would be funded by Reward and developed in consultation with Traditional Owners, DBCA, DAWE and with other knowledgeable stakeholders (potentially including conservation groups and tertiary institutions). Details of the research programme are not provided in this management and monitoring plan, but will be presented in a separate document (to be completed prior to the commencement of ground-disturbing works).

5 Environmental Management Measures

5.1 Environmental Management Roles and Responsibilities

All Reward employees and contractors are required to comply with the requirements of this Plan. The roles and responsibilities for the implementation and compliance with this NPMMP are outlined in Table 8.

Table 8: Reward Minerals roles and responsibilities – Night Parrot Management

Role	Responsibility
General Manager	• Ensure adequate resources provided to implement this plan (including additional actions to be implemented in collaboration with Traditional Owners) and the Night Parrot research programme
Environmental Officer	• Implement and maintain the Night Parrot Monitoring and Management Plan. • Assess ground disturbance and land access applications. • Participate in pre-clearance habitat inspections. • Record and report all sightings of or incidents involving Night Parrots to DBCA. • Implement and deliver education and awareness training program to personnel, contactors and visitors. • Implement Night Parrot monitoring programs. • Monitor progress of the development and implementation of the Night Parrot research programme.
Construction and Operation Project Managers	• Monitor implementation of this Night Parrot Monitoring and Management Plan by site personnel and contractors. • Participate in compliance audits and inspections.
All personnel, contractors and visitors	• Undertake education and awareness training before commencing duties onsite. • Implement this plan where relevant in daily activities. • Report all sightings of or incidents involving fauna (including native, significant and introduced fauna).

5.2 Environmental Management Activities, Controls and Performance Targets

Management actions to avoid/ minimise impacts to the Night Parrot for each potential impact are summarised in Table 9. These management actions fall into the following management categories:

- Training and awareness
- Pre-clearance inspections/ clearing controls
- Traffic management
- Fire management
- Introduced fauna management
- Night Parrot reporting and monitoring

These management categories are described in further detail below.

5.2.1 Training and awareness

All personnel, contractors and visitors to site will be made aware of the potential presence of Night Parrot in the vicinity of the Project. As part of inductions, project personnel will receive training in the identification of Night Parrot habitat and reporting of sightings. This will allow all sightings of Night Parrots to be appropriately recorded, reported and considered during project implementation.

5.2.2 Pre-clearance inspections/ Clearing controls

Prior to clearing, all mature spinifex and chenopod shrubland within the proposed clearing footprint will be assessed by a suitability qualified person (fauna specialist or under the supervision of a fauna specialist) to determine whether it is possible that Night Parrots are nesting under the vegetation.

ARUs will be deployed in sufficient density (i.e. ~300m apart) within moderate-high potential roosting/ nesting habitat for a minimum period of seven nights four weeks prior to the scheduled vegetation clearing program to determine presence of Night Parrots.

All ARU recordings will be examined by a person knowledgeable in the Night Parrot calls prior to commencement of clearing. If calls are identified, then a further thorough search of the area will be undertaken by a suitability qualified person (fauna specialist or under the supervision of a fauna specialist) to determine whether Night Parrot nests are present (within two weeks of completed recordings/ call determinations). If Night Parrot nests are present, then all habitat within 500m of the nest will quarantined until the chicks have fledged/ breeding season is complete. Cameras will be deployed to monitor nests and to ensure no authorised access to the exclusion area.

Prior to clearing, the boundary of the clearing area is to be marked in the field and on site plans. All clearing is to be supervised by the Environmental Officer.

5.2.3 Traffic management

Vehicle strike is a potential threat to Night Parrot along the main access road (Willjabu Track), particularly if the vehicles are operating at night time. Management measures to reduce the potential for vehicle strike include:

- Use of buses to transport personnel to/from camp to the operations to limit vehicle movements along the Willjabu Track during sunset and sunrise.
- No vehicle access is permitted on the borrow pits, airfield (except in the case of a medivac emergency requiring use of the airfield) and Corey bore field tracks between sunset and sunrise.
- During the construction phase, vehicle travel on the Willjabu Track between sunrise and sunset is prohibited, excluding emergency vehicles engaged in a medical, fire or other emergency.
- Reward will observe a 2-year moratorium on any night time vehicle movements [redacted] to allow sufficient time to conduct further Night Parrot monitoring in areas where Night Parrots have previously been recorded.
- During operations, if a Night Parrot call is identified in proximity to [redacted] during monitoring, the vehicles speeds between sunset and sunrise will be reduced to 40km/hr for a distance of 2.5 km along the road on either side of Night Parrot call ARU location. Reduced speed limits will be signposted and monitored. Vehicle access outside of designated tracks/ cleared areas is prohibited.

5.2.4 Fire management

Management measures to prevent harmful effects arising from changed fire regimes include the following:

- burning of vegetation/ open fires on site are not permitted.
- activities where there is a risk of fire accidentally occurring, such as welding or cutting, will be controlled through Hot Work Permits.
- Reward will maintain appropriate levels of fire detection and response capability in its operations area for the duration of the project.

- Fire extinguishers will be in place across site (within administrative buildings/ accommodation village and at airstrip facility) and in all vehicles on site.

5.2.5 Introduced fauna control

Management measures to prevent harmful effects arising from feral animal activity within the Project area include the following:

- Fencing of water treatment facility and landfill to prevent fauna access and reduce attraction of feral animals.
- Implementation of further baseline surveys to quantify feral predator presence in the project area prior to project commencement
- Reporting of all feral animal sightings to Environmental Officer/ Project Manager
- Implementation of a feral and pest animal management program specifically targeting cats and foxes and including baiting programs and ground/ aerial culls. Delivery systems such as the Felixer grooming trap will be considered as an additional or alternative approach.
- Prohibition of feeding of animals on site and pets on site
- Storage of putrescible wastes in bins fitted with lids to exclude wildlife.

5.2.6 Night Parrot reporting and monitoring

All sightings/ strikes are to be reported to the Environmental Officer/ Project Manager within 24 hrs of observation. Should a Night Parrot be killed by vehicle strike, the specimen will be collected immediately and frozen for submission to DBCA. All personnel will receive training on the reporting/ collection process (see Section 6). Monitoring of Night Parrot activity will be conducted as detailed in Section 5.4.

Table 9: Key Management Actions for Night Parrot conservation

Potential Impact	Management Action	Performance Target	Reporting/ Evidence	Timing	Responsibility
Objective: Establish management measures to minimise the potential impacts on the Night Parrot and their habitats within the LDP Project					
Direct loss of birds and/or eggs during vegetation clearing	***Training and Awareness***				
	Induction and training on presence of Night Parrot and associated habitat potentially in the area to staff and contractors. Train staff on reporting protocols and habitat identification	• Completion of site induction/ training	• Induction records/ database • Identification booklet/profiles • Annual reporting	Ongoing	Environmental Officer
	Pre-clearance inspections/ Clearing controls				
	The boundaries of all vegetation clearing will be clearly demarcated before vegetation clearing commences (marked on a map prior to clearing and demarcated in the field).	• Formulation of construction plans/ drawings that show clearing zones/ exclusion zones. • No vegetation clearing undertaken outside of surveyed and approved areas during construction and operation.	• Survey Reports • Construction Plans/ Drawings	Prior to ground disturbance	Construction Project Manager Environmental Officer
	Pre-clearance inspections in areas of moderate-high potential Spinifex habitat to identify nests/ eggs **(see Section 5.3 Figure 12 & Section 5.4).**	• All moderate-high Spinifex habitat identified in the Plan assessed by suitability qualified personnel • Areas assessed shown on construction plans/ drawings that show clearing zones/ exclusion zones	• Survey Reports • Construction Plans/ Drawings	Prior to ground disturbance	Consultants/ Environmental Officer
	Pre-clearance acoustic monitoring for Night Parrot calls in moderate-high potential Spinifex habitat within the clearing boundary **(see Section 5.3-Figure 12 & Section 5.4).**	• Monitoring Program implemented	• Monitoring results • Monthly reports • Annual reporting	Prior to ground disturbance	Environmental Officer

Potential Impact	Management Action	Performance Target	Reporting/ Evidence	Timing	Responsibility
	Supervision of all clearing activities to ensure compliance with Vegetation Clearing Procedures	• No vegetation clearing undertaken outside of surveyed and approved areas during construction and operation.	• Survey Reports • Monthly compliance reporting • Development Plans	Prior to ground disturbance	Consultants/ Environmental Officer
Direct loss of birds by vehicle strikes	***Training and Awareness***				
	Induction and training on site travel / road procedures to staff and contractors.	• Completion of site induction/ training	• Induction records/ database • Annual reporting	Ongoing	Environmental Officer
	Traffic Management				
	Vehicles restricted to cleared areas only.	• Signage installed • Restricted zones in place and clearly marked on site plans • No vehicle access outside of designated area	• Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Construction and Operation Project Managers
	No unauthorised vehicles (haulage trucks only) travelling on the Willjabu Track between sunset and sunrise **(see Section 5.3-Figure 13).**	• Signage and cameras installed • Restricted zones in place and clearly marked on site plans • Regular site security assessments conducted on foot • No unauthorised vehicle access during sunset and sunrise.	• Record of any members of public/ non-authorised visitors • Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Construction and Operation Project Managers
	During the construction phase, vehicle travel on the Willjabu Track between sunrise and sunset is prohibited excluding emergency vehicles engaged in a medical, fire or other emergency.	• Signage and cameras installed • Restricted zones in place and clearly marked on site plans • Regular site security assessments conducted	• Incident Report • Monthly compliance reporting • Annual reporting	During construction phase	Construction Project Manager

Potential Impact	Management Action	Performance Target	Reporting/ Evidence	Timing	Responsibility
	During operations, speed restrictions [redacted] If a Night Parrot call is identified in proximity to [redacted] during monitoring, the speed will be reduced between sunset and sunrise to 40km for a distance of 2.5 km along the road [redacted] **(see Section 5.3-Figure 13).**	• Signage and cameras installed • Restricted zones in place and clearly marked on site plans • Regular site security assessments conducted • Speed restrictions adhered to.	• Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Operation Project Manager
	No vehicle travel on the borrow pits, airfield (except in the case of a medivac emergency requiring use of the airfield) and Corey bore field tracks between sunset and sunrise **(see Section 5.3-Figure 13).**	• Signage and cameras installed • Restricted zones in place and clearly marked on site plans • Regular site security assessments conducted • No unauthorised vehicle access during sunset and sunrise.	• Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Construction and Operation Project Managers
	Night Parrot Reporting & Monitoring				
	Conduct operational Night Parrot monitoring in accordance with the NPMMP (**see Section 5.3-Figure 12 & 5.4).**	• Monitoring Program implemented	• Monitoring Reports • Monthly compliance reporting • Annual reporting	See Section 5.4	Environmental Officer/ Construction and Operation Project Managers
	Record all sightings/ strikes of Night Parrot in the project area.	• Incident reported and investigated	• Records database- Register of all Night Parrot sightings and incidents • Annual reporting	Ongoing	Environmental Officer
Direct loss of birds and/or eggs due to fires	***Training and Awareness***				
	Induction and training on fire prevention/ management procedures to staff and contractors including prohibition of open fires on site	• Completion of site induction/ training • No unauthorised fires	• Induction records/ database • Incident Report • Annual reporting	Ongoing	Environmental Officer

Potential Impact	Management Action	Performance Target	Reporting/ Evidence	Timing	Responsibility
	Traffic Management				
	Vehicles/ machinery restricted to cleared areas only	• Signage installed • Restricted zones in place and clearly marked on site plans	• Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Construction and Operation Project Managers
	Fire Management				
	Fire extinguishers in place across site and in all vehicles.	• Fire extinguishers in all vehicles and in designated areas on site	• Site facilities map with fire extinguisher locations clearly marked • Records of vehicle compliance	Prior to construction/ Ongoing	Construction and Operation Project Managers
	Activities where there is a risk of fire accidentally occurring, such as welding or cutting, will be controlled through Hot Work Permits.	• No hot works conducted without permit • No fires generated from site works	• Permit register • Incident Report • Monthly compliance reporting • Annual reporting	Ongoing	Construction and Operation Project Managers
Direct loss of birds by collisions with fences	***Introduced Fauna Management***				
	Fencing restricted to landfill/ water treatment facility No barbed wire fencing on site	• Construction of a ring-lock (mesh) fence rather than use of barbed wire fencing. • Incident reported and investigated	• Daily visual inspection • Monthly compliance report • Annual reporting	Ongoing	Environmental Officer/ Construction and Operation Project Managers
Increased feral animal predation (foxes and cats) on adults and young with vegetation clearing	***Introduced Fauna Management***				
	Reduce and maintain feral animal numbers below a level that they can impact on conservation significant fauna	• Feral and pest animal monitoring and management program implemented. Putrescible waste bins with lockable lids on site	• Records database- Register of all feral animal sightings and incidents • Annual reporting	Annual or as required	Environmental Officer
	Prohibit feeding of animals on site and pets on site	• Awareness material included into site induction • No feral animals to be brought on site	• Induction records/ database • Annual reporting	Ongoing	Environmental Officer

Potential Impact	Management Action	Performance Target	Reporting/ Evidence	Timing	Responsibility
Objective: Develop and implement monitoring programs to detect any project-related impacts on the Night Parrot and their habitats within the LDP Project					
Unknown effectiveness of avoidance/ mitigation measures	***Night Parrot Reporting & Monitoring***				
	Conduct Night Parrot monitoring in accordance with Section 5.4 of this Plan.	• Monitoring Program implemented	• Monitoring Reports • Monthly compliance reporting • Annual reporting	See Section 5.4	Environmental Officer/ Project Manager
Objective: Implement appropriate corrective actions and review effectiveness of management strategies to ensure impacts on the Night Parrot are minimised.					
Ineffective management/ Unauthorised activities/ incidents	***Night Parrot Reporting & Monitoring***				
	If an incident occurs, corrective actions will be employed	• Incident reported	• Incident Report • Monthly review of incidents • Annual reporting	When an incident occurs	Environmental Officer/ Project Manager
	Review mitigation measures and monitoring programs for the Night Parrot to inform an adaptive management approach for the life of the mine	• Conduct compliance audits • Corrective measures identified and implemented • Review and update management approach	• Monthly review of incidents • Annual reporting • Updated Management Plan	When a significant incident has occurred and at regular intervals throughout the operation (See Section 8)	Environmental Officer/ Project Manager

5.3 Environmental Management Maps and Diagrams

A map of the proposed monitoring locations is provided in Figure 12. A map of the proposed restriction zones is provided in Figure 13. The map habitat 'likelihood zones' will also inform future research activities.

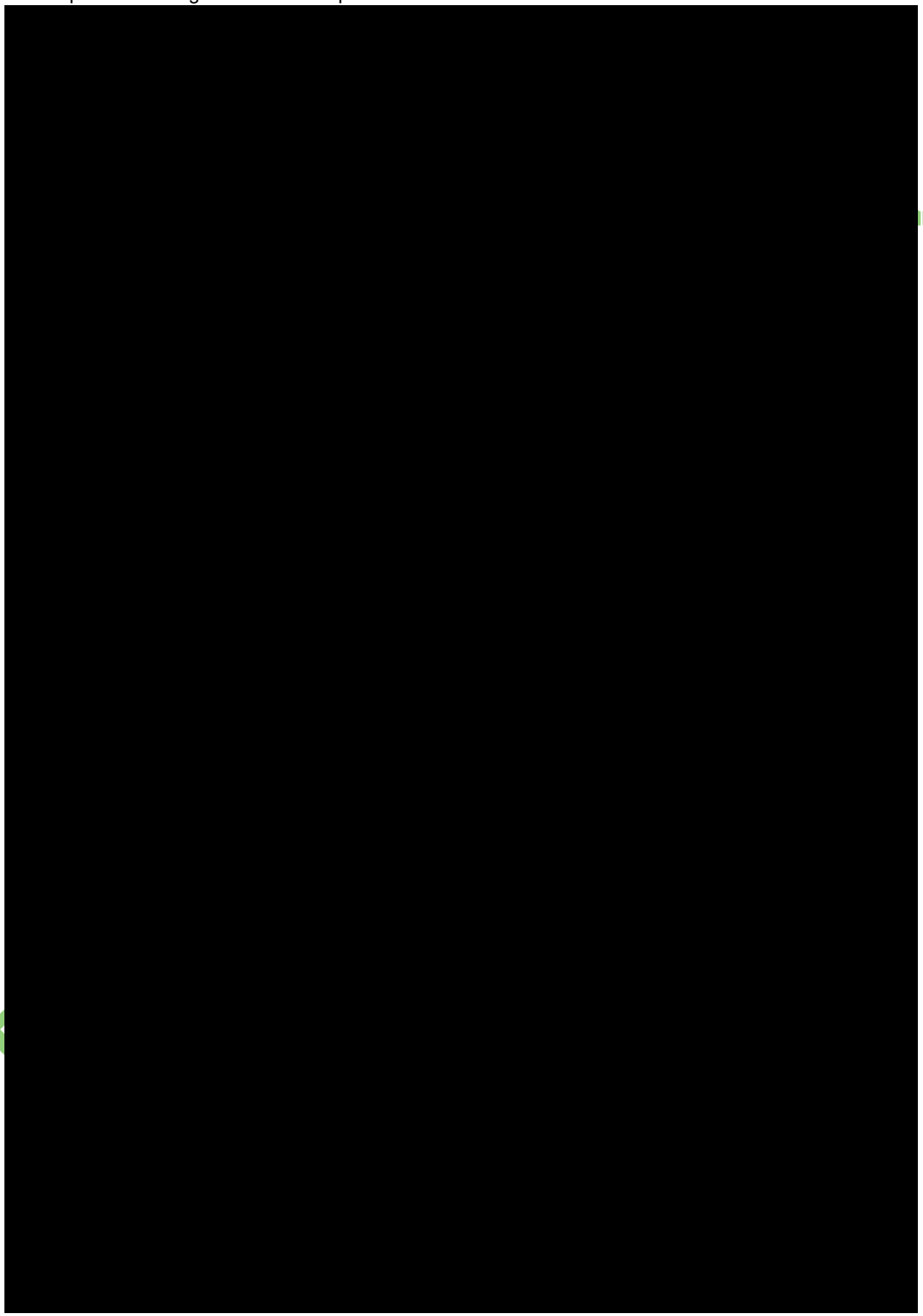

Figure 12: Moderate-High potential Spinifex habitat and proposed ARU recorder locations

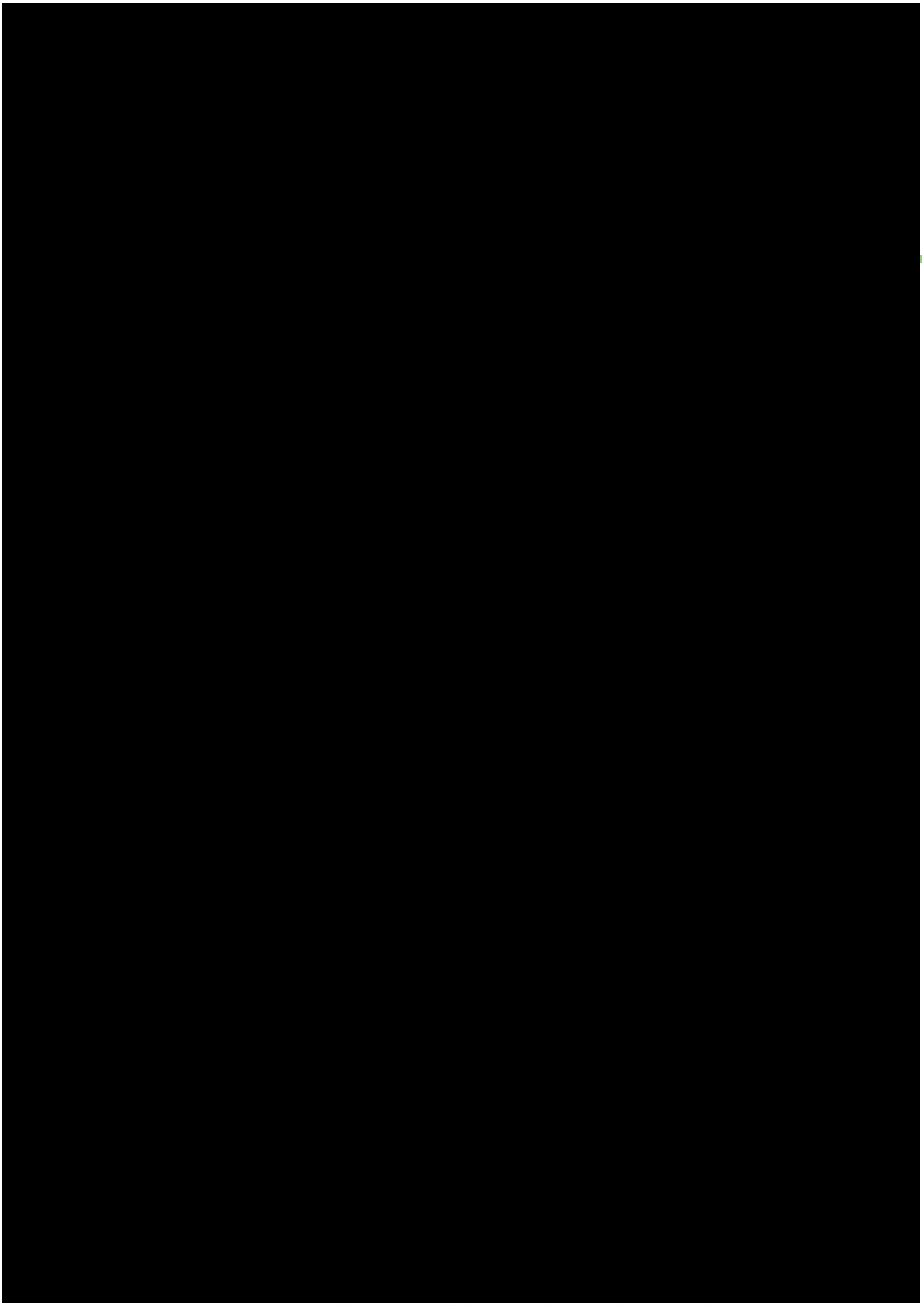

Figure 13: Restricted zones

5.4 Environmental Monitoring

Monitoring programs for Night Parrot activity will be consistent in approach and effort to maintain scientific rigour for analysis of results. Record keeping will be maintained to enable immediate identification of trigger points of species decline for contingency measures to be effective. The monitoring programs proposed are summarised in Table 10. The schedule for reporting of monitoring results is provided in Section 6.

Table 10: Night Parrot Monitoring Programs

Project Phase	Objective	Monitoring Procedure	Triggers for Review	Responsible Personnel
Pre-Clearing	Determine presence and potential roosting/ nesting habitat of the Night Parrot within the clearing area	Prior to vegetation clearing, all mature spinifex and chenopod shrubland within the proposed clearing footprint will be surveyed to determine whether it is possible that Night Parrots are nesting under the vegetation. ARUs will be deployed in sufficient density (i.e. ~300m apart) within moderate-high potential spinifex habitat for a minimum period of seven nights, four weeks prior to the scheduled vegetation clearing program determine presence of Night Parrots. All ARU recordings will be examined by a person knowledgeable in the Night Parrot calls. If calls are identified, then a thorough search of the area will be undertaken to determine whether Night Parrot nests are present (within two weeks of completed recordings/ call determinations). If Night Parrot nests are present, then all habitat within 500m of the nest will be quarantined until the chicks have fledged/ breeding season is complete.	Presence within clearing area.	Environmental Officer/ On-site Environmental Staff/ Environmental Consultants
During Operations	Determine presence and potential roosts/nests of the Night Parrot within the clearing area. Monitor and measure the success of the management measures and adapt where actions are ineffective.	Surveillance of Night Parrot activity will be conducted in a series of quarterly campaigns, with a more intensive campaign scheduled following the wet season (nominally between March and April each year). Reward has provisionally allowed for deployment of 20 automatic recording units (ARUs) within moderate-high potential spinifex habitat for three periods of 7 nights in the post-wet season campaign (corresponding to a monitoring intensity of at least 1 ARU per 10 hectares). For other quarterly monitoring campaigns, the programme will include deployment of 20 ARUs within moderate-high potential spinifex habitat for two periods of 7 nights. ARUs will be placed 300m apart and will preferentially target highly prospective habitat in the project disturbance footprint (as shown in Figure 11) or within 2.5 km of the disturbance footprint. ARUs will be powered by a solar panel so they are able to run continuously. Data will be downloaded at the completion of each campaign and data will be analysed for Night Parrot calls within 3 weeks of completion of the field monitoring. There will be no new tracks into the ARUs. People installing and collecting the SD cards will walk from the road into the ARU. This will reduce impact on the vegetation and the likelihood of impacting a Night Parrot nest. A report of all ARU recordings will be prepared within 5 weeks of completion of each monitoring event. This report will be available to the EPA/DWER, DBCA and DAWE. If a night parrot call is identified in proximity to any	Presence within clearing area. Ongoing monitoring outcomes. Sightings, strikes and/or encounters documented. Three years without record of Night Parrot call	Environmental Officer/ On-site Environmental Staff

Project Phase	Objective	Monitoring Procedure	Triggers for Review	Responsible Personnel
		access or haulage routes (not including the Canning Stock Route, which will not be used by project vehicles), a reduced speed zone will be established between sunset and sunrise for a distance of 2.5 km along the road on either side of the nearest ARU. The reduced speed will be 40 km/hr and this will be enforced until after the next quarterly monitoring campaign or one month after no further Night Parrot calls are recorded from that location (if Reward elects to conduct additional monitoring between the planned quarterly campaigns). If no Night Parrots calls are recorded for a period of three years, then all monitoring will cease, and no further action will be taken to mitigate impacts on Night Parrots.		

5.5 Corrective Actions

A list of the potential incidents that may occur despite the management activities proposed in the NPMMP and corrective actions that will be implemented to address these incidents are listed in Table 11. Any incidents arising from unauthorised activities relating to Night Parrots or with the potential to impact Night Parrot habitat shall be considered an incident and reported (see Section 6) and investigated. Causes of incidents will be determined and management procedures will be modified, and measures taken (as required) to prevent re-occurrence of incidents.

Table 11: Incidents and Corrective Actions

Incident/ Trigger for Corrective Action	Corrective Action to be implemented
Night Parrot roosting/ nesting site identified within clearing footprint	**Within 24hrs of event** Report to Environmental Officer/ Project Manager within 24hrs of observation. All habitat within 500m of the nest will be immediately quarantined until the chicks have fledged/ breeding season is complete. **Within 3 working days of event** Environmental Officer to report to EPA/DWER and DAWE within 3 working days of notification. **Within one month of event** Establish camera surveillance of nest site to ensure no authorised access to the site (within one month of nest site identification). **Within three months of event** Revision of NPMMP and development maps/plans to include details on confirmed roosting/ nesting site (within three months of roosting site identification).
Clearing/ development outside of approved footprint	**Within 24hrs of event** Report to Environmental Officer/ Project Manager within 24hrs of environmental incident/non-compliance event. All clearing/ development works to cease until investigation of the incident completed. Environmental Officer to notify DMIRS within 24hrs of environmental incident. **Within 3 working days of event** Environmental Officer to report to DMIRS, EPA/DWER and DAWE within 3 working days of environmental incident/non-compliance notification. **Within three months of event** Revision of NPMMP and clearing procedures to include further controls/ outcomes of investigation.
Night Parrot injury or mortality	**Within 24hrs of event** Report to Environmental Officer/ Project Manager within 24hrs of observation. All road use between sunset and sunrise to cease until investigation of the incident completed. Injured bird to be transferred to Perth Zoo or other competent wildlife carer. Dead bird to be photographed and preserved by freezing, before transfer to appropriate authority. **Within 3 working days of event** Environmental Officer to report to DBCA within 3 working days of notification.

Incident/ Trigger for Corrective Action	Corrective Action to be implemented
	Within three months of event Revision of NPMMP to include further controls/ outcomes of investigation
Unauthorised access to potential roosting/ nesting sites	**Within 24hrs of event** Report to Environmental Officer/ Project Manager within 24hrs of observation. Review camera surveillance and conduct investigation. **Within 3 working days of event** Environmental Officer to report to EPA/DWER and DAWE within 3 working days of notification. **Within three months of event** Revision of NPMMP to include further controls/ outcomes of investigation
Unplanned project-related fires	**Within 24hrs of event** Trained Emergency staff to implement fire response Report to Environmental Officer/ Project Manager within 24hrs of observation. Environmental Officer to notify DMIRS and Fire Management Authorities (DFES) within 24hrs of notification. **Within one month of event** Identify likely cause of incident Review fire prevention and control strategies and revise if required Retrain personnel and contractors **Within three months of event** Revision of NPMMP to include further controls/ outcomes of investigation
Increase in feral animal activity within the Project area	**Monthly** Review of feral animal database to determine if there has been an increase in feral animal activity **If apparent increase in feral animals is indicated by monitoring records:** Review waste management protocols Retrain personnel in relevant management practices Environmental Officer/ Project Manager to notify Traditional Owners and Department of Primary Industries and Regional Development to implement culling program/ baiting program Increased surveillance of any identified roosting/ nesting sites **If apparent increase persists for more than nine months:** Revision of NPMMP to include further controls/ outcomes of culling/ baiting activities

6 Reporting

A summary of the reporting requirements for the NPMMP and a schedule for internal and external reporting is provided in Table 12 below.

An Annual Environmental Report will be prepared throughout the life of the project in accordance with Ministerial Conditions (pending approval of the Project).

All sightings, injuries and mortalities that involve Night Parrot within the LDP Project area will be reported to an Environmental Officer/ Project Manager within 24 hours. Coordinates of sightings/strikes will be entered into a significant species database and reported to relevant government agencies within 3 working days. Summaries of the significant species database will be included in the Annual Environmental Report.

Internal monitoring and compliance assessment reports will be prepared monthly throughout the construction and operational phase of mining by the Environmental Officer and reported to the Project Manager on a monthly basis.

Table 12: Reporting Requirement and Schedule

Reporting	Internal Reporting Schedule/ Timeframe (Reward)	External Reporting Schedule/ Timeframe (Government)
Night Parrot sightings, injuries and mortalities	Report to Environmental Officer/ Project Manager within 24hrs of observation.	Environmental Officer to report to DBCA within 3 working days of notification. Annual summary of Night Parrot sightings/injuries/mortalities in Annual Environmental Report to EPA/ DWER and DAWE.
Environmental Incident/ Non-compliance with NPMMP Procedures	Report to Environmental Officer/ Project Manager within 24hrs of environmental incident/non-compliance event.	Environmental Officer to report to EPA/ DWER and DAWE within 3 working days of reportable environmental incident/non-compliance notification. Annual summary of environmental incident/ non-compliance in Annual Environmental Report to EPA/ DWER and DAWE.
Night Parrot Monitoring	Monthly reporting of monitoring results from Environmental Officer to Project Manager	Annual reporting of monitoring results in Annual Environmental Report to EPA/ DWER and DAWE.
NPMMP Compliance review	Monthly reporting of compliance review from Environmental Officer to Project Manager	Annual reporting of compliance review in Annual Environmental Report to EPA/ DWER and DAWE.

7 Communication

7.1 Environmental training

All personnel, contractors and visitors to site will be required to complete an induction before commencing work. As part of the induction, all personnel will be made aware of the potential presence of the Night Parrot in the vicinity of the Project. Project personnel (including haulage contractors) will receive specific training in the identification of Night Parrots and potential habitat (foraging, roosting and nesting habitat) and reporting of sightings. This will allow all sightings of Night Parrots to be appropriately recorded, reported and considered during all stages of the project (construction to closure).

The induction will include specific requirements relevant to Night Parrot management specified in the NPMMP including:

- Pre-clearing Night Parrot assessments
- Travel/ driving procedures and restrictions related to [redacted] etween sunset and sunrise.
- Recording/reporting requirements for Night Parrot sightings/ strikes and prohibited activities near roosting/ nesting habitats
- Fire prevention/ management procedures and prohibited activities
- Feral animal control measures recording/ reporting and prohibited activities

Records of inductions/ training will be maintained by Reward management to main a record of:

- Personnel who have completed induction/ training
- Dates of inductions/ training and schedule for renewal
- Personnel administering the induction/ training
- Summary of training completed

7.2 Emergency contacts

Contact details for personnel who are responsible for managing environmental incidents are provided in Table 13. It is a requirement that all environmental incidents involving Night Parrots are reported to the Environmental Officer and Project Manager (as detailed in Section 6).

Table 13: Environmental Emergency Contacts

Point of Contact	Environmental Emergency Contact	Role	Contact Details
1st	Environmental Officer	• On-site environmental management • Checking compliance / reporting implementation and completion of monitoring programs	TBA
2nd	Project Manager	Notification of government authorities	TBA

Point of Contact	Environmental Emergency Contact	Role	Contact Details
3rd	CEO	Allocation of additional resources, if required.	TBA
4th	Environmental Consultant	• Assist with environmental monitoring/ compliance • Provide technical advice	Botanica Consulting Jim Williams (Director) 0419 916 034/ (08) 9093 0024 jim@botanicaconsulting.com.au Lauren Pick (Senior Consultant) 0435 249 583 lauren@botanicaconsulting.com.au Bamford Consulting Ecologists Mike Bamford (Fauna specialist) bamford.consulting@iinet.net.au
5th	DBCA	• Management of the environment under the *Biodiversity Conservation Act 2016* • Point of contact for any Night Parrot sightings/injuries/ mortalities	DBCA Wildcare Helpline: (08) 9474 9055 (for sick, or injured Night Parrot) DBCA Species and Communities Branch fauna@dbca.wa.gov.au State Operation Headquarters KENSINGTON Western Australia 6151 Phone: (08) 9219 9000
5th	DAWE	• Management of Matters of National Environmental Significance under the EPBC Act.	TBA

8 Audit and review

Reward will review all processes and procedures relevant to Night Parrot Management and Monitoring upon completing its Annual Environmental Report for the Lake Disappointment operation. The annual report will consider achievements against specified targets, and implementation of agreed actions. The outcomes of monitoring will be reported as part of the annual report.

Management actions, mitigation measures and monitoring to meet specified targets and objectives will be reviewed on an on-going basis and more formally at the time of the annual performance and compliance review to assess what has been learned and how improvements can be made and implemented, from:

- evaluation of monitoring data;
- reviewing of assumptions and uncertainties;
- review new information about species and their ecology;
- re-evaluation of risks;
- review all events that tripped a trigger; and
- changes to the proposed operations.

It is envisaged that Night Parrot monitoring sites should remain, unless no Night Parrots calls are captured for a period of three consecutive years. During the monitoring, any monitoring sites that are affected by wildfires will need to be replaced in suitable similar habitat. In the event that no calls are recorded and no other evidence is observed for three consecutive years, the NPMMP will be reviewed and modified to a level of management effort commensurate with risk.

It is probable that monitoring results and observations by Reward staff and specialist contractors will provide new insights so that changes and improvements will be made to this plan.

If targets are not being achieved or are easily achieved, then the reasons for this will be investigated, and management actions reviewed. Targets may be amended, in consultation with regulators. Similarly, if new information becomes available on the ecology of species or procedures for surveying, identifying or managing species, then these will be reviewed and where appropriate incorporated into this plan.

8.1 Environmental Auditing

Internal compliance assessments will be prepared throughout the construction and operational phase of mining by the Environmental Officer and reported to the Project Manager on a monthly basis. The results of the compliance reviews / reporting will be summarised in the Annual Environmental Report.

The monthly audit will assess compliance of the following:

Compliance Audit Tasks	Compliant (Y/N)	Corrective Action undertaken	Internal and External Reporting Date
All personnel on site have completed induction			
All personnel on site have completed Night Parrot training including reporting requirements and protocols			
All personnel on site have completed feral animal awareness training			

Compliance Audit Tasks	Compliant (Y/N)	Corrective Action undertaken	Internal and External Reporting Date
including reporting requirements and protocols			
All personnel on site have completed travel management training including reporting requirements and protocols			
All personnel on site have completed fire management training including reporting requirements and protocols			
Pre-Clearance surveys/ monitoring has been conducted in accordance with the NPMMP			
Cleared areas have been recorded and included on site plans			
Fauna database has been updated to include any Night Parrot sightings/ mortalities			
Fauna database has been updated to include any feral animal sightings/ mortalities			
Night Parrot records (sightings and mortalities) have been reported to DBCA and DAWE.			
Night time speed restrictions are in place within 2.5km of any ARU record of Night Parrot activity			
Exclusion zones and camera surveillance in place at any Night Parrot roosting/ nesting sites			
All environmental incidents (related to Night Parrot) have been reported to EPA/DWER and DAWE and investigations have commenced/ been completed			
All site maps have been updated to include any Night Parrot locations/ exclusion zones			

The monthly compliance report presented by the Environmental Officer to the Project Manager will include the following:

Compliance Report
Outcome of monthly compliance review including any corrective actions required/ implemented
Summary of incidents/ reporting to relevant government agencies
Summary of Night Parrot records for the month/ project life to date
Summary of feral animal records for the month/ project life to date
Summary of monitoring results for the month/ project life to date
Updated maps showing Night Parrot sightings/ roosting nesting sites and exclusion zones/ speed restriction zones
Corrective Actions implemented and/or required

8.2 Environmental Management Plan Review

This NPMMP will be reviewed (and updated if required) under the following circumstances:

- if the presence of any Night Parrot or roosting/ nesting habitat is detected in pre-clearing surveys
- in the event of three or more monitoring events revealing significant increase in Night Parrot activity within the Project area.
- in the event of three or more monitoring events revealing significant increase in feral animal abundance.
- Any incidents arising from unauthorised activities relating to Night Parrots (as specified in Section 5.5)
- Annually for the first two years of operations and on a three-yearly interval after this period (provided no incidents, new or increased Night Parrot and feral animal activity identified during this period)
- Prior to any major changes to the Project (pending additional approvals).

Where appropriate, changes to this plan or the monitoring program will be discussed with DBCA, DAWE and/or EPA/ DWER. If this NPMMP is a requirement of a condition, it is acknowledged that Reward will need to seek approval from the DAWE before significantly modifying the plan.

The outcome of all reviews of this plan will be documented in the Annual Environmental Report for review by EPA/DWER and DAWE.

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10 Glossary

Acronym	Description
ANCA	Australian Nature Conservation Agency (now DAWE)
BA	Birdlife Australia (Formerly RAOU, Birds Australia).
BC Act	*Biodiversity Conservation Act 2016,* WA Government.
Botanica	Botanica Consulting.
BoM	Bureau of Meteorology.
CAMBA	China Australia Migratory Bird Agreement 1998.
DAFWA	Department of Agriculture and Food (now DPIRD), WA Government.
DBCA	Department of Biodiversity, Conservation and Attractions (formerly DPaW), WA Government.
DMIRS	Department of Mines, Industry Regulation and Safety (formerly DMP), WA Government
DAWE	Department of Agriculture Water and the Environment (formerly Department of the Environment and Energy, DotEE).
DPaW	Department of Parks and Wildlife (now DBCA), WA Government.
DPIRD	Department of Primary Industries and Regional Development, WA Government
DWER	Department of Water and Environmental Regulation (formerly EPA, DER and DoW), WA Government
EP Act	*Environmental Protection Act 1986*, WA Government.
EP Regulations	Environmental Protection (Clearing of Native Vegetation) Regulations 2004, WA Government.
EPA	Environmental Protection Authority, WA Government.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*, Australian Government.
ESA	Environmentally Sensitive Area.
Ha	Hectare (10,000 square metres).
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union.
JAMBA	Japan Australia Migratory Bird Agreement 1981.
km	Kilometre (1,000 metres).
LDP	Lake Disappointment Potash Project.
NPMMP	Night Parrot Monitoring and Management Plan.
NVIS	National Vegetation Information System.
OEPA	Office of the Environmental Protection Authority (now DWER), WA Government.
RAOU	Royal Australasian Ornithologists Union.

Acronym	Description
Reportable Incidents	Includes the following: • Clearing conducted outside of approved footprint • Access outside of designated areas/ within restricted zones • Speeding within speed restricted zone • Night Parrot mortality/ injury • Fire-natural or caused by Project activities • Failure to conduct required monitoring
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement 2007.
SSC	Species Survival Commission, International.
WA	Western Australia.
WAHERB	Western Australian Herbarium.
WAM	Western Australian Museum, WA Government.
WC Act	*Wildlife Conservation Act 1950*, WA Government.