SWCC
south west catchments council

Recommendations for on-ground actions to benefit Red-tailed Phascogale in the 'Toolibin, Dongolocking, Tarin Rock Eco-bridge area'.

Supplement to

Surveys for red-tailed phascogale in the 'Toolibin, Dongolocking, Tarin Rock Eco-bridge' area' Final Report, August 2012.

life Research and Management

ptember 2012

Introduction

These recommendations form a supplement to the final report 'Surveys for red-tailed phascogale in the Toolibin, Dongolocking, Tarin Rock Eco-bridge' area' delivered to South West Catchments Council in August 2012.

Sixteen sites were assessed for the presence of red-tailed phascogale in autumn-winter 2012. Phascogale were detected at ten of these. Sites chosen for trapping all contained some level of woodland habitat. Hence the reasons for the absence of phascogale at six of the 16 sites did not appear to be primarily due to habitat quality. Factors such as the high density of feral cats (typically associated with domestic rubbish tips) and isolation of the site from large blocks of suitable woodland habitat may have been factors.

In the following section, each site trapped is assessed to consider what actions might be taken to improve the prospects of red-tailed phascogale persisting at that particular location. Key actions include:

- Control of feral cats at domestic rubbish tips;
- The construction or enhancement of corridors of native vegetation to facilitate movement of phascogale around the landscape. Phascogale are known to use corridors of oil mallee, hollowed out old fence posts in bare fence lines, mature paddock trees, and farm buildings for shelter when moving around the landscape beyond remnant vegetation;
- The addition of nest boxes to sites where mature old-growth eucalypts are scarce. These provide secure daytime refuges when moving about the landscape, as well as nesting sites for females in spring;
- Fencing of remnants to exclude stock to allow regeneration of the understorey and mid-storey. These vegetation layers are important for phascogale to forage in and to avoid predation from foxes, cats and owls; and
- Planting of highly sandy areas to tagasaste (or oil mallee, sandalwood or similar tree crop). This has the additional benefit of reducing wind erosion and providing forage for stock.

While farming dominates the Eco-bridge landscape, there have been changes over the past decades since the end of the clearing phase that have likely benefited the persistence of red-tailed phascogale. Often these have been associated with landcare actions. Some examples include:

- Many of the blocks within the Dongolocking group of nature reserves (including Hurdle Creek Nature Reserve) have been joined by corridors of native vegetation;
- There have been large plantings of native trees for salinity mitigation, such as around Toolibin and Dulbinning NRs;
- Large areas of farmland have been planted to strips of oil mallee (such as around Tincurrin Road).
- There have been significant areas of commercial tree planting (such as around the junction of One O One and Kukerin Roads).
- Areas of sandy soils, which should never have been cleared because of their poor quality for agriculture, have been planted to tree crops such as tagasaste (for example, small areas east of Dudinin remnant and areas along Wishbone Road adjoining Remnant 7 (NR#19089)).

All these small (and not so small) remedial actions are likely to have a substantial cumulative benefit for the continued persistence of re-tailed phascogale in the landscape and provide a foundation to build upon.

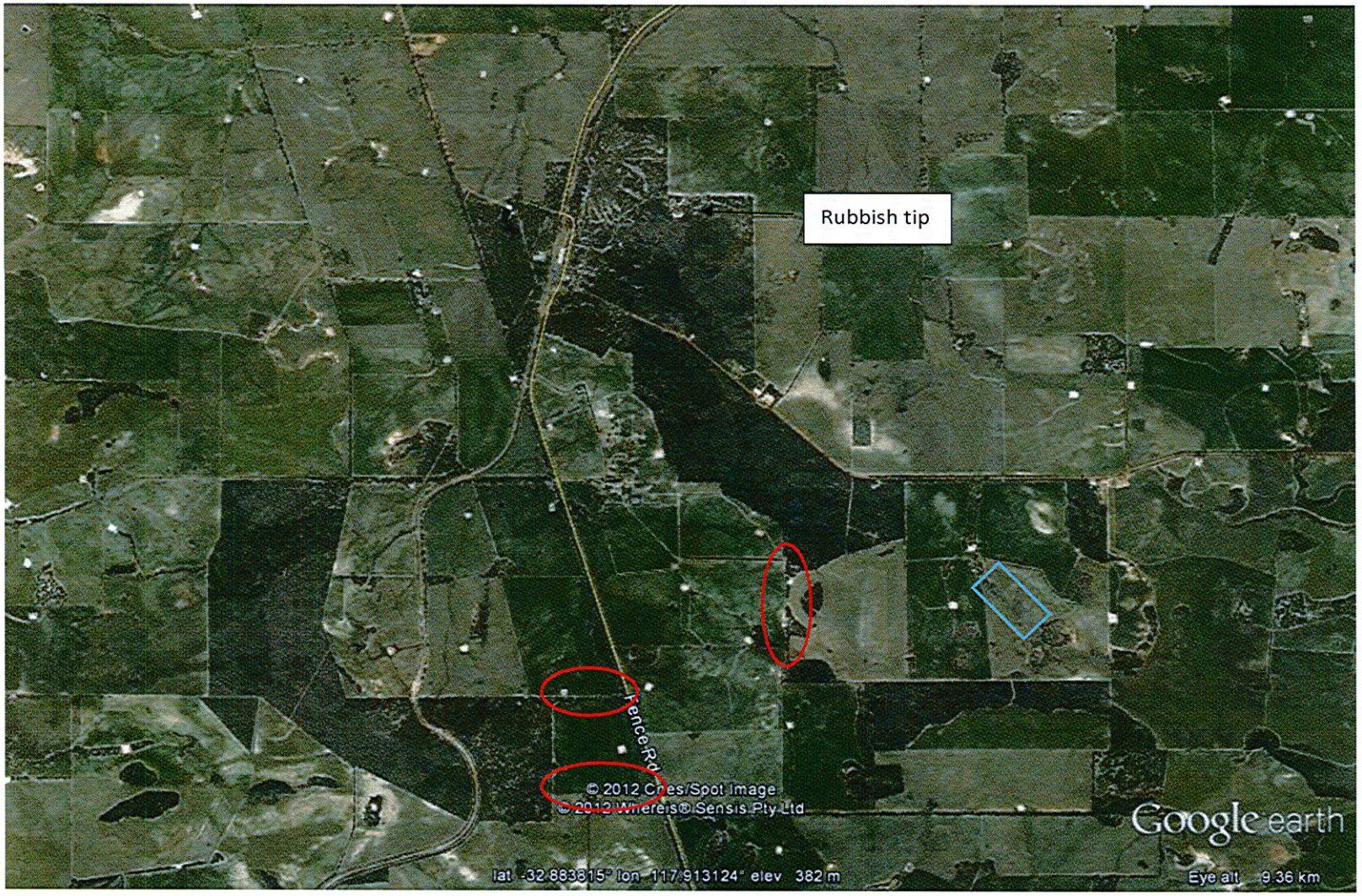
Retention of all remaining areas of native vegetation is of vital importance to the persistence of phascogale. This includes blocks of remnant vegetation, vegetation corridors along road sides, along paddock boundaries, and stream sides.

[redacted]

This is a large area that is a mixture of woodland and heath (Figure 1). It has a collection of houses and a wheatbin embedded within the remnant. The woodland areas appear to be suitable habitat for red-tailed phascogale. There is a rubbish tip in the north of the remnant that probably generates large numbers of feral cats that likely prey on phascogale. The remnant is well connected to the major remnant to the west.

- Implement ongoing cat control at the rubbish tip at the Dudinin townsite;
- Consider improving linkages between remnants. Possible examples of sites where on-ground work could be implemented are shown in red in Figure1.
- An example of possible fencing and revegetation of a creekline is shown in blue.

Figure 1: Remnant 8 Dudinin town site and surrounding area

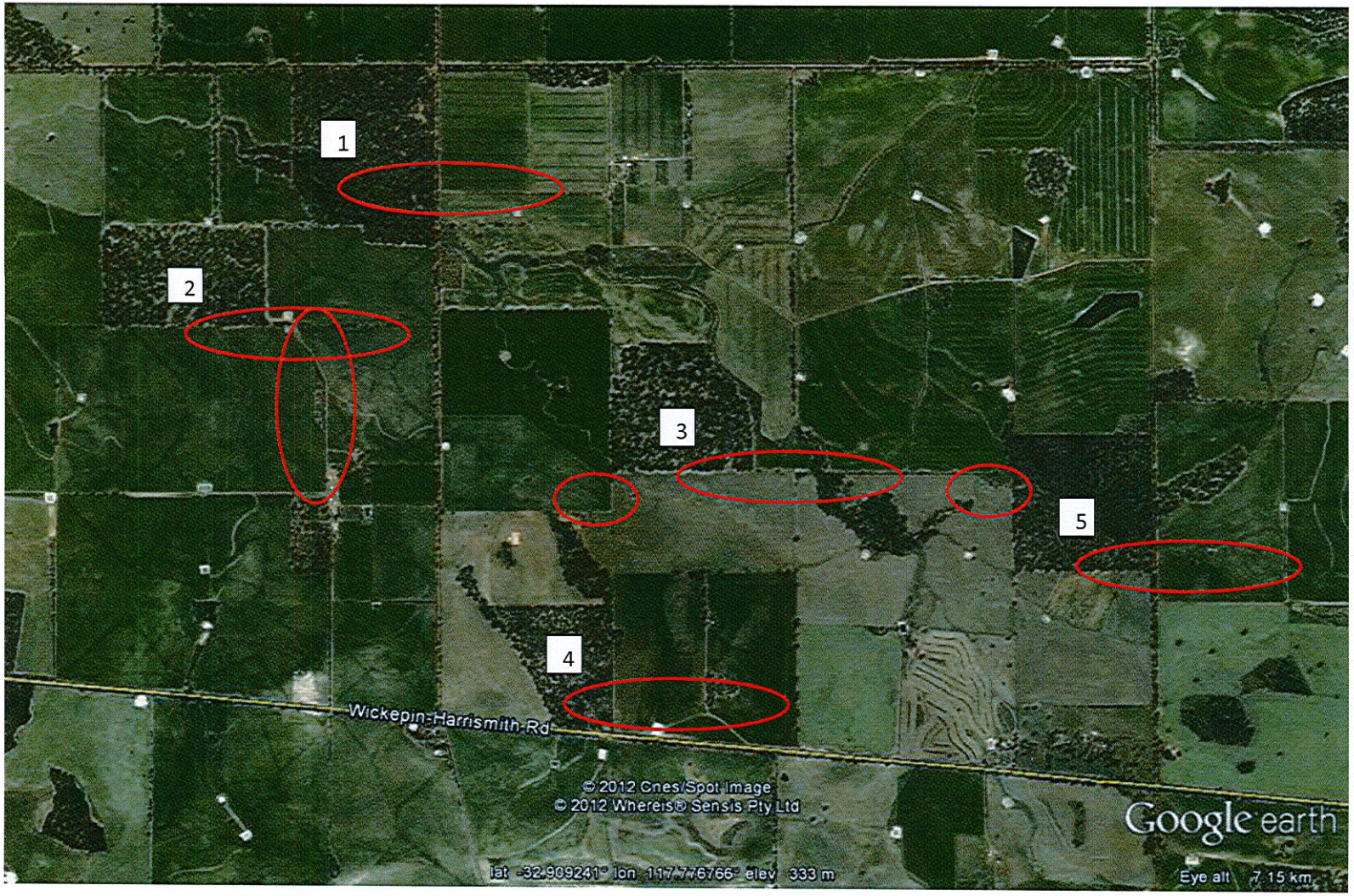


This remnant forms a cluster with four other remnants located between Brown Road and the Wickepin – Harrismith Road (Figure 2). One is immediately to the south-west, and three others to south-east and south south-east. A key aim would be to strengthen existing linkages between this cluster. Existing oil mallee corridors to the east of Tincurrin Road are likely to greatly assist overall connectivity.

Suggestions for on-ground action:

- Ensure all private remnants are fenced to exclude stock.
- Consider strengthening connections between remnants. Examples where such action might usefully take place are shown in red in Figure 2.

Figure 2: Remnant 3 Tincurran Rd and surrounding area



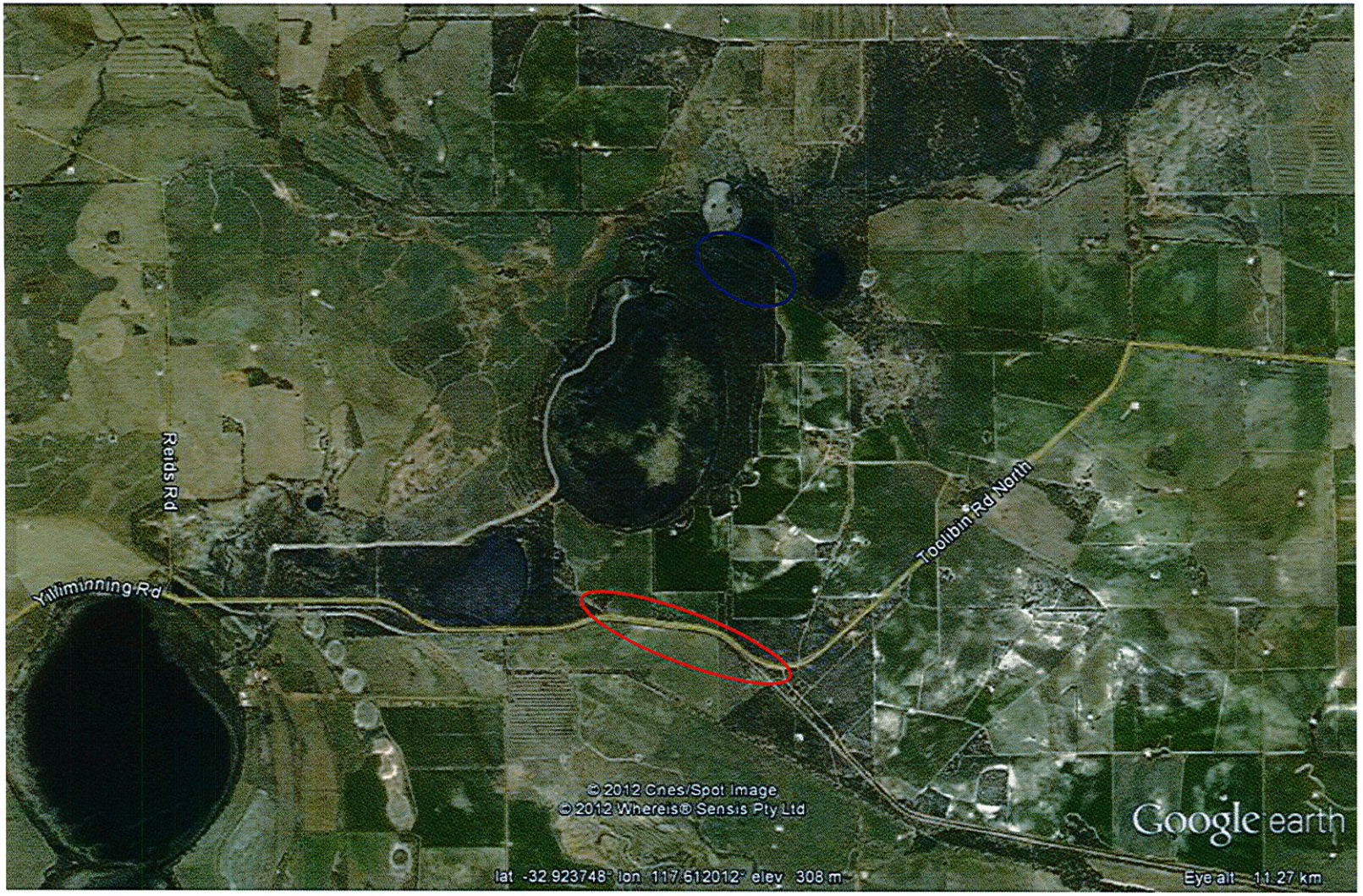
Toolibin Nature Reserve has substantial areas of favourable habitat for red-tailed phascogale. This is likely to be an important regional site for the species and is likely to export phascogale to surrounding farmland and farm remnants. The site appears well connected to Dulbinning NR to the north-west and Walbyring NR and Taarblin Lake NR to the south-west along the course of the Arthur River. Extensive replanting of woodland and mallee trees for salinity mitigation will assist connectivity and may provide some foraging habitat in their own right.

There were areas of extensive rock she-oak with few hollow-bearing eucalypts (for example close to the Wickepin-Harrismith Road).

Suggestions for on-ground action:

- Consider adding nest boxes to areas of dense rock she-oak but few mature eucalypts (shown with blue circle in Figure 3);
- Consider phascogale-friendly species in ongoing salinity mitigation (wandoo, York gum, rock she-oak);
- Consider improving linkages to the Toolibin town site (shown in red in Figure 3).

Figure 3: Remnant 1 Toolibin NR and surrounding areas

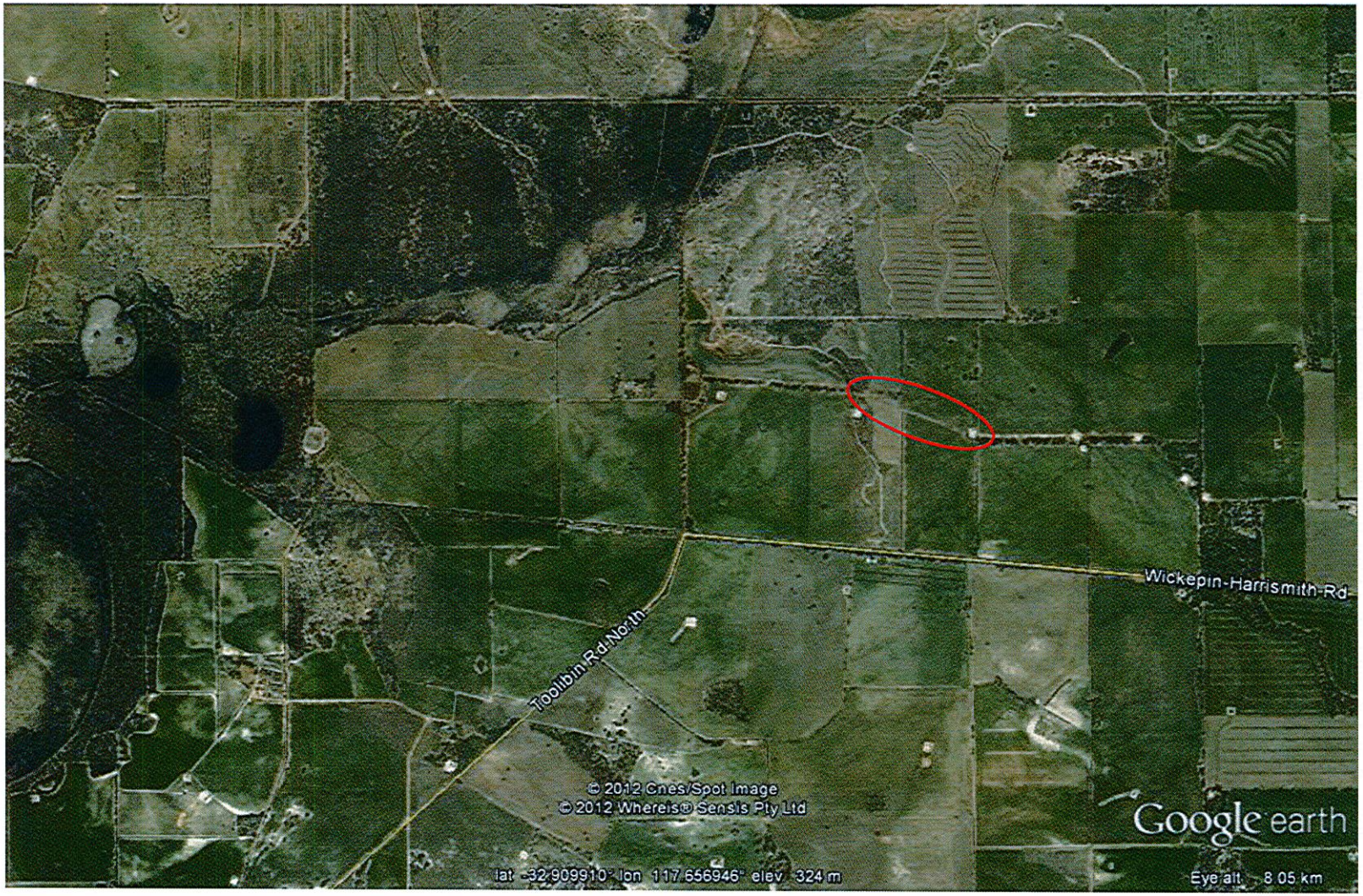


This nature reserve is contiguous with Toolibin NR. The most favourable habitat for phascogale is upland areas away from salt-affected areas. However, some salt-affected areas do have qualities that phascogale may be able to utilize (many stags with hollows and dense low canopy of *Melaleuca).*

Suggestions for on-ground action:

- Continue and expand attempts to mitigate salinity with replanting, favouring phascogale friendly species such as woodland eucalypts, rock she-oak and swamp oak;
- Consider improving linkages (see example shown in red in Figure 4).

Figure 4: Remnant 2 Dulbining NR and surrounding areas

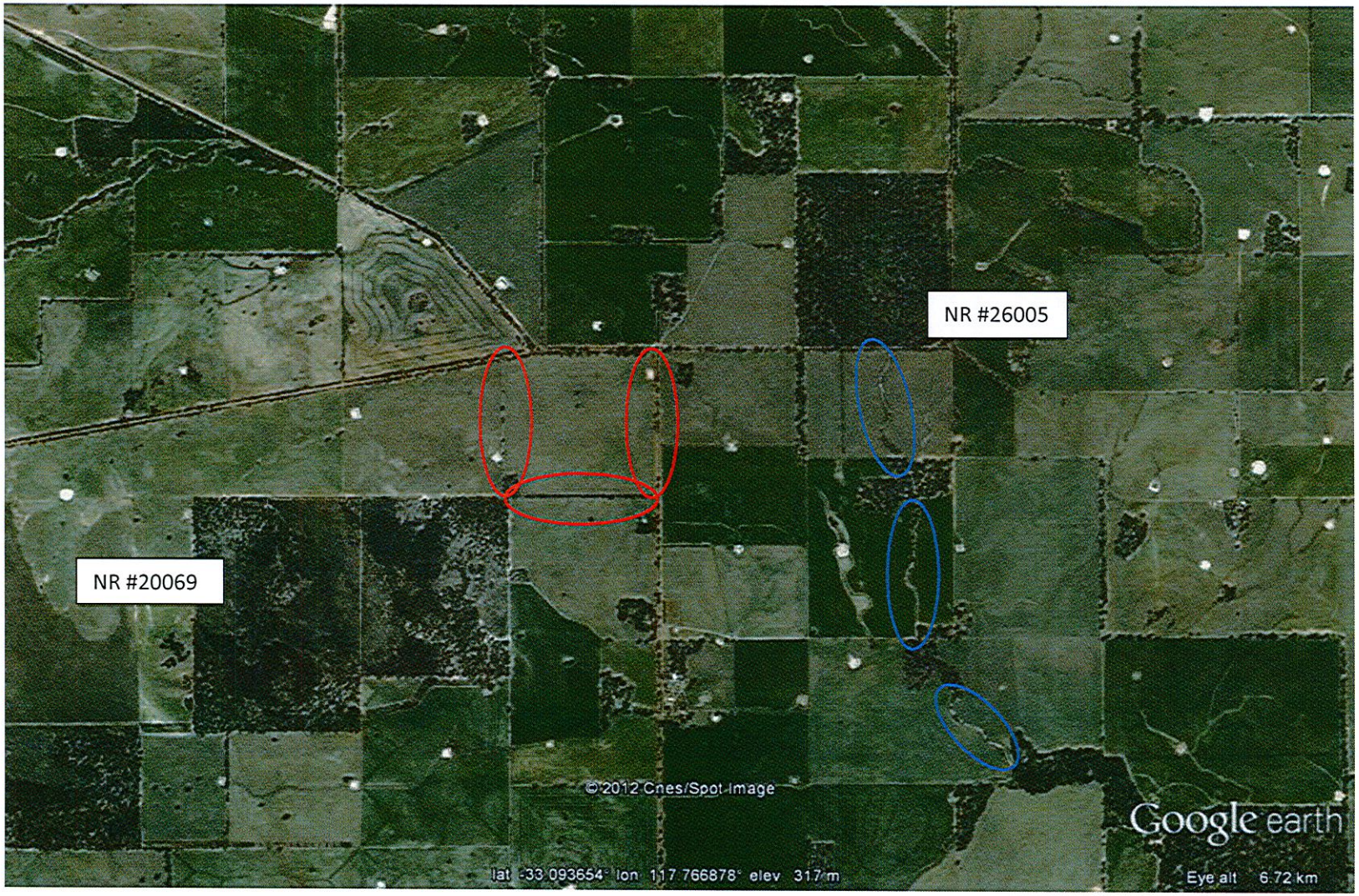


This remnant forms a stepping stone between the main Dongolocking cluster to the west (containing NR # 20069 and Hurdle Creek NR) and outlying remnants to the east (NRs #19089, 19090, 19091), and north (NR# 19087). There is also the potential to link to a remnant to the south.

Suggestions for on-ground action:

- Consider improving linkages to the west by planting corridors along paddock boundaries (shown in red);
- Consider improving linkages to the south by replanting along the creek line through paddocks to the south (shown in blue).

Figure 5: Remnant 6 Dongolocking NR #26005

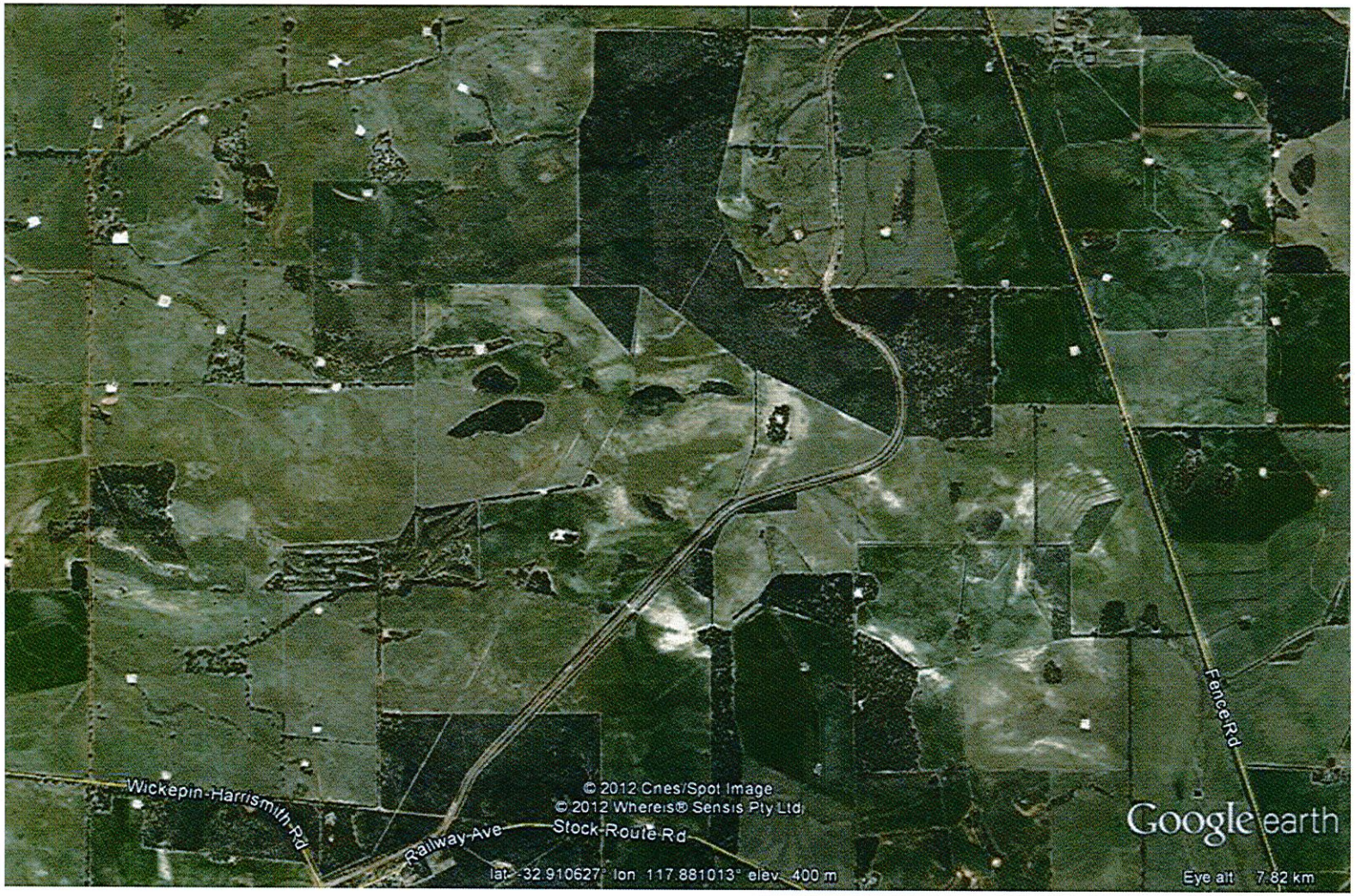


This remnant appears well connected to the south to the main Harrismith remnant by a corridor of remnant vegetation along the railway, and by a linear-shaped north-south remnant that connects the railway to Stockroute Road. There is also a strong connection to the west to the Dudinin town remnant via an east-west corridor of native vegetation approximately 1.5 km long and vegetation on Fence Road. No additional actions are required other than that recommended for nearby Dudinin remnant.

Suggestions for on-ground action:

- Control feral cats at the Dudinin rubbish tip.

Figure 6: Remnant 21 west of Dudinin (NRs #46128 and 19412)

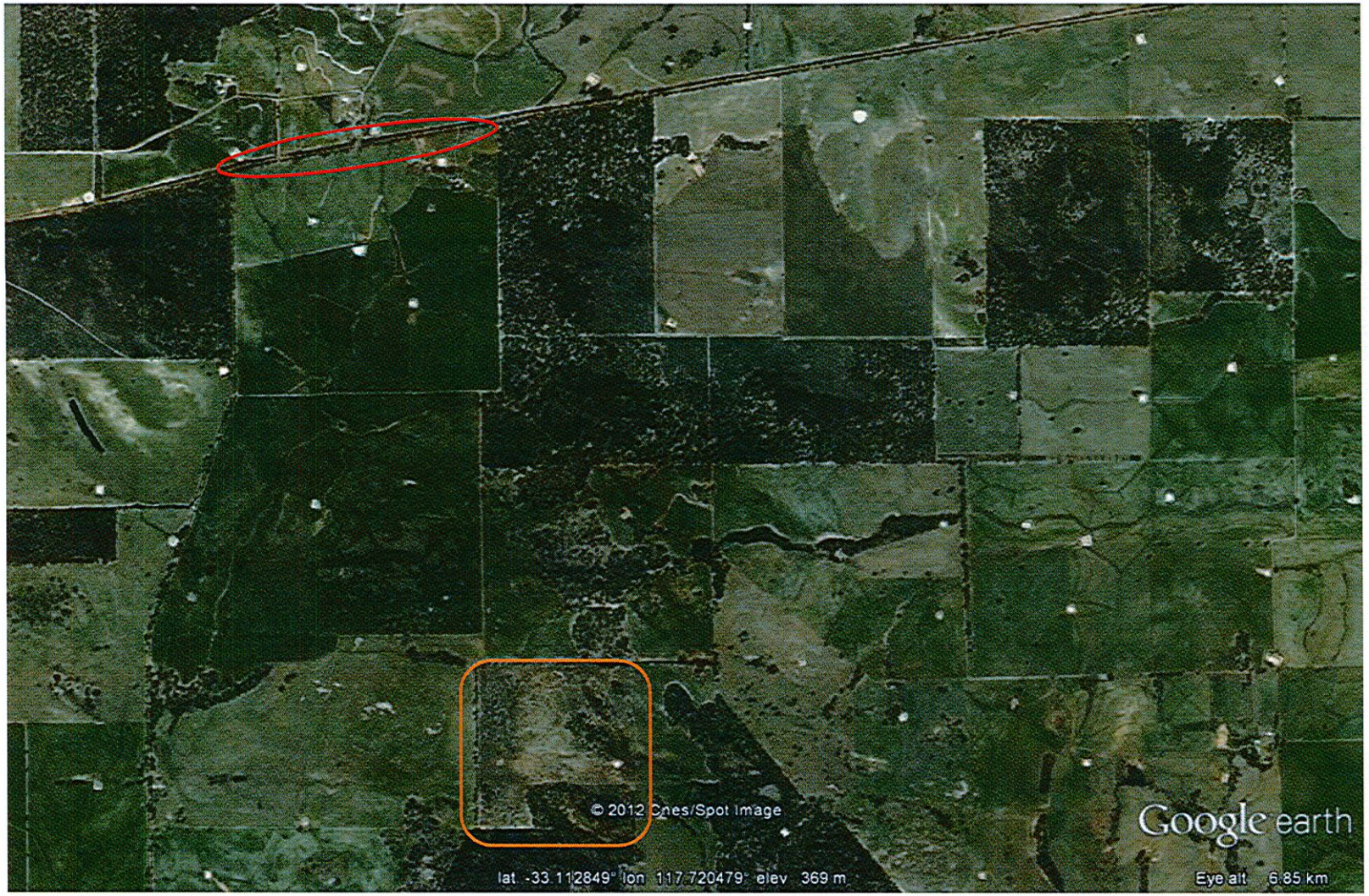


Hurdle Creek NR is well connected to surrounding blocks of the Dongolocking Nature Reserve, due to past landcare action.

Actions that should be considered include:

- Consider strengthening the roadside corridor along Dongolocking Road connecting Hurdle Creek NR to the block to the immediate west (shown in red in Figure 7).
- Ensure the regrowth paddock (shown in orange in Figure 7) on Robert Temby's property is not cleared. This provides important habitat and connection between Hurdle Creek NR to the north and large private blocks to the south. Perhaps consider rate relief or purchasing to add to nature conservation system. Remaining remnant vegetation in rocky areas of the paddock to the immediate south of Hurdle Creek NR and north of Temby paddock have been protected by past land care action.

Figure 7: Remnant 5 Hurdle Creek NR #20070 and surrounding areas



[illegible]

This remnant is two adjoining nature reserves making up an area of about 614 hectares. It is in close proximity to a nature reserve to the south (Remnant 7b described below). This remnant appears reasonable well connected to surrounding patches of remnant vegetation.

Possible actions include:

- Consider strengthening linkages to neighbouring patches of remnant vegetation as shown in Figure 8a in red.

[illegible]

This is a DEC nature reserve of 139 hectares, with a mixture of Dryandra heath and medium woodland. It is separated from the nearby nature reserves (Dongolocking NRs #19089 and # 19090) to the north on Wishbone Road by about 700 m. There are a number of other smaller remnants in the immediate area that could well be linked back to the nature reserves.

Possible actions include:

- Consider strengthening the 700 m linkage along Wishbone Road between the two nature reserves so it forms a continuous corridor of vegetation (shown in red in Figure 8b);
- Consider creating linkages to other surrounding remnants to the south-east and south-west. Examples are shown in red in Figure 8b;

Figure 8a: The southern part of Remnant 7 (Dongolocking NRs #19089 and 19090) on Wishbone Rd and surrounding areas

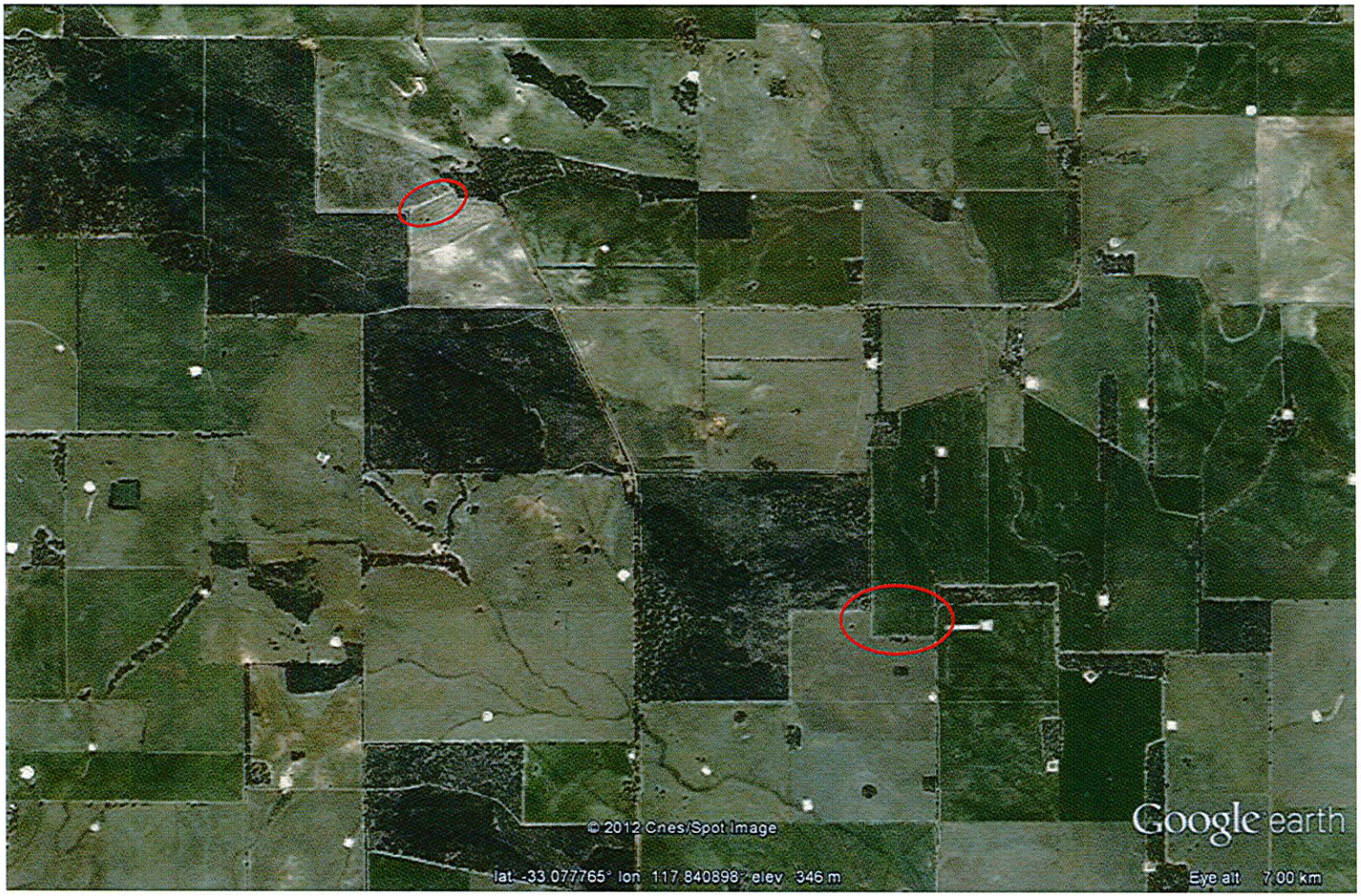
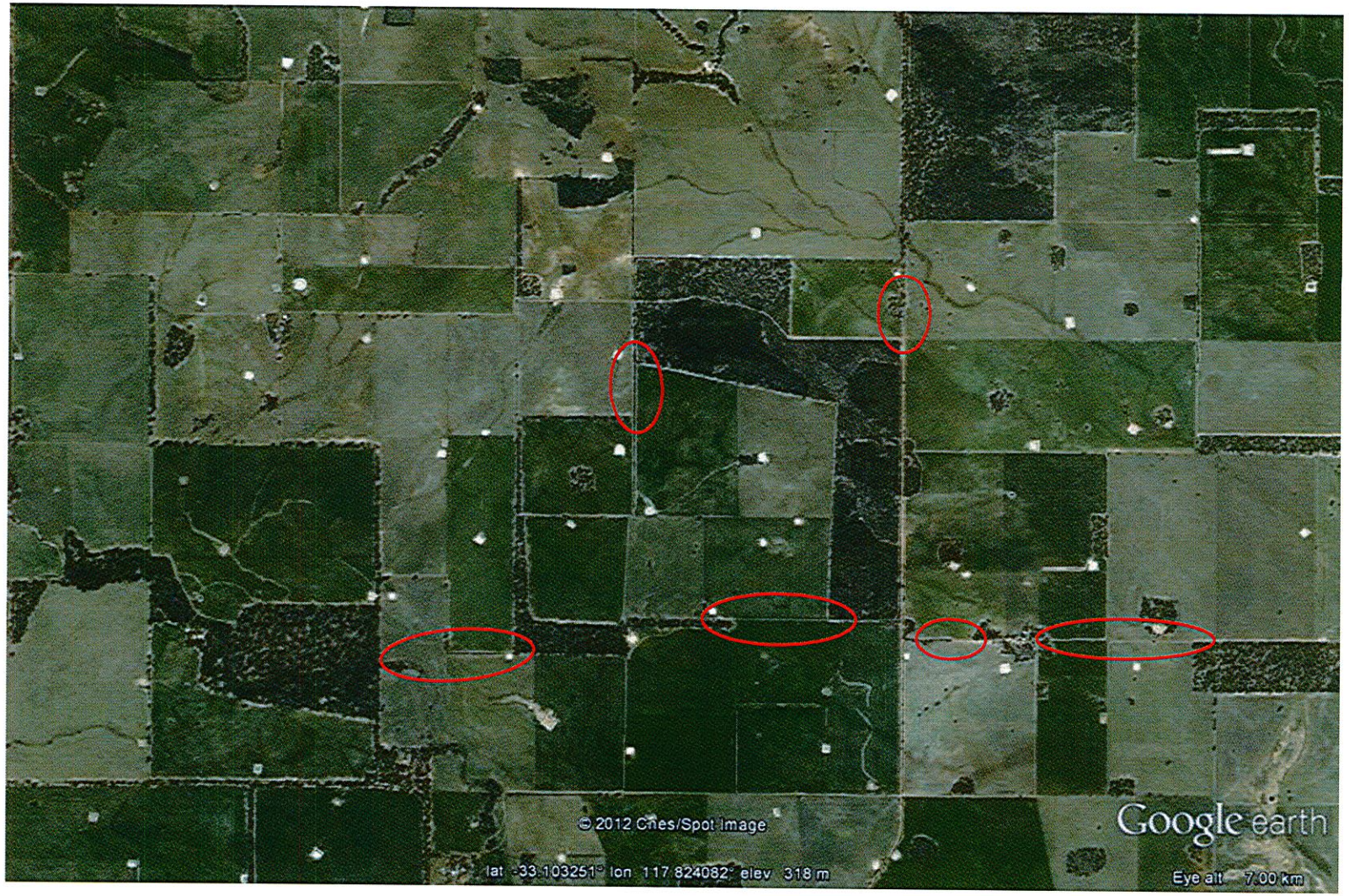


Figure 8b: Remnant 7b (Dongolocking NR #19091) on Wishbone Rd and surrounding area.



These remnants are mostly on the property of Nev Mycock and are near the T-junction formed by Tarin Rock Road and Bladendale Road. The main remnant is about 230 hectares with a vegetation of mallee scrub and woodland. There are a number of smaller remnants nearby. These remnants collectively yielded high numbers of phascogale. They appear well connected to each other in a network of remnant vegetation.

Possible actions include:

- Strengthening linkages between existing remnants as shown in red in Figure 9;
- Fence the drainage line shown in blue in Figure 9 and ensure remnant to its immediate east is fenced to exclude stock.

Figure 9: Remnant 16 and nearby remnant vegetation on the property of Nev Mycock and neighbours.

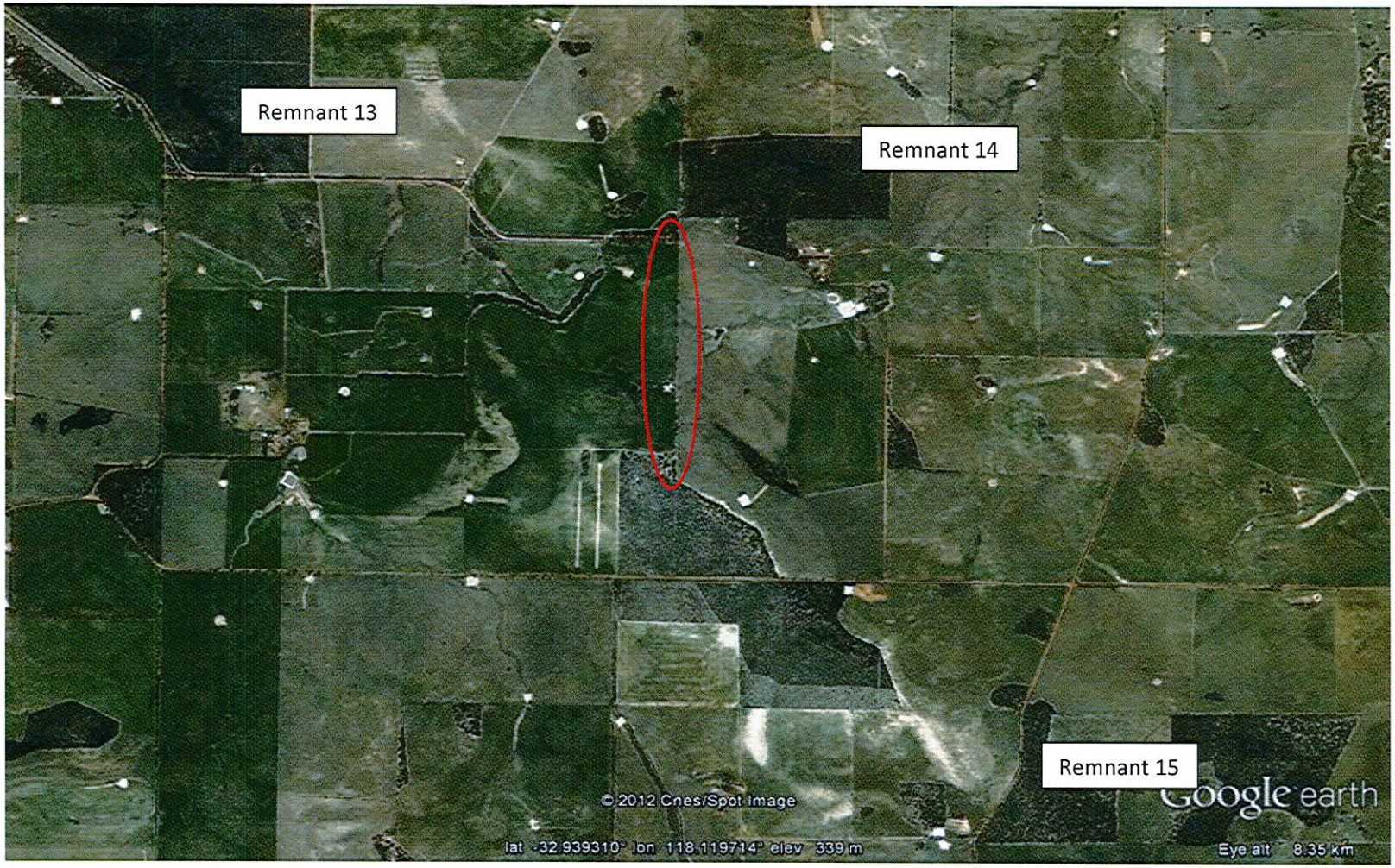
The private remnant on Dearlove House road is 97 hectares and is well connected via roadside vegetation to the large Nature Reserve 2 .5 km to the west (Remnant 13 NR#46566). This nature reserve is nearly 300 hectares, but much of it appears to be marginal habitat for phascogale. Linkages to the north, east and south are extremely poor. There is a large remnant about 1.7 km to the south of Remnant 14, but it appears to have little or no woodland habitat. There are no apparent corridors linking these two remnants. However, it does appear to have a narrow linear fringe of woodland along its north-eastern boundary. This may provide habitat and a movement corridor south to the quality wandoo woodland habitat in Remnant 15.

To the north (3.9 km) is Plain Hills NR. This appears to have some woodland habitat likely to be suitable for phascogale. However, vegetation linkages to it are poor or non-existent.

Possible actions include:

- Create a north-south corridor of about 1.7 km in length along the fence line to link Remnant 14 to the large remnant to the south (shown in red in Figure 10).

Figure 10: Remnant 14 Dearlove House Rd

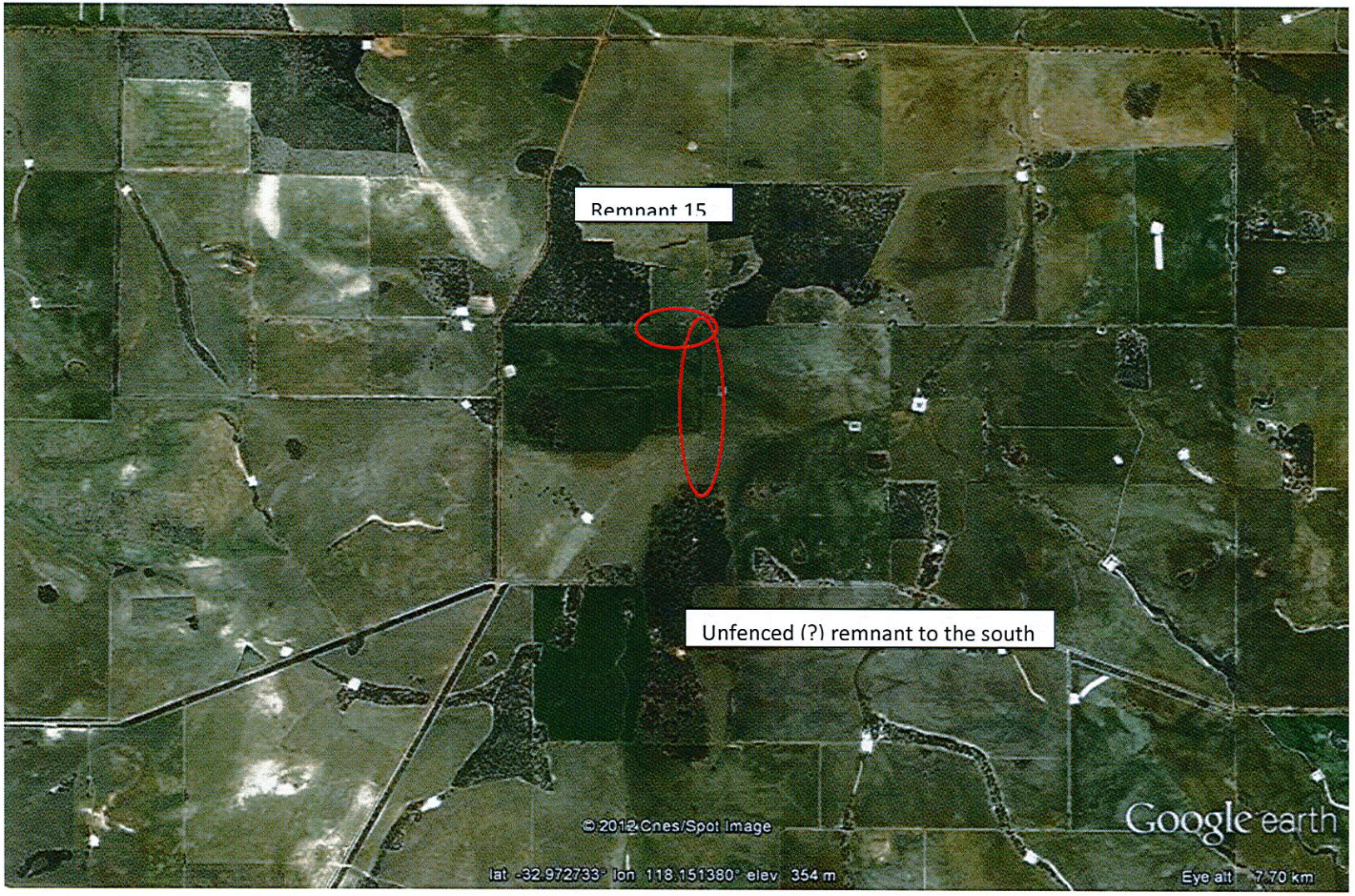


Remnant 15 consists of two remnants separated by about 400 m of paddock. The remnants are south of One O One Gate Road and east of Kukerin Road. They are on a property owned by Les Pearce. Les's main farm is further east. The sandy paddock to the immediate west of Kukerin Road is now utilized for tree farming. This should improve connectivity to the west. To the south is a substantial sized remnant that appears to be unfenced. There is no corridor connection to this remnant.

Possible actions include:

- Les Pearce was keen on rate relief for areas of his property not cleared for cropping;
- Improve connection between the two remnants by constructing a 400 m corridor along fence line joining the two remnants (shown in red in Figure 11).
- Some grazing occurs in remnants. Consider reduce grazing pressure in these remnants if possible. This might require some additional fencing;
- Fence and exclude stock from remnant to the south;
- Construct a north-south corridor (about 1.0 km) to connect remnants and facilitate movement of phascogale (shown in red in Figure 11).

Figure 11: Remnant 15 Pearce (east of Kukerin Rd)

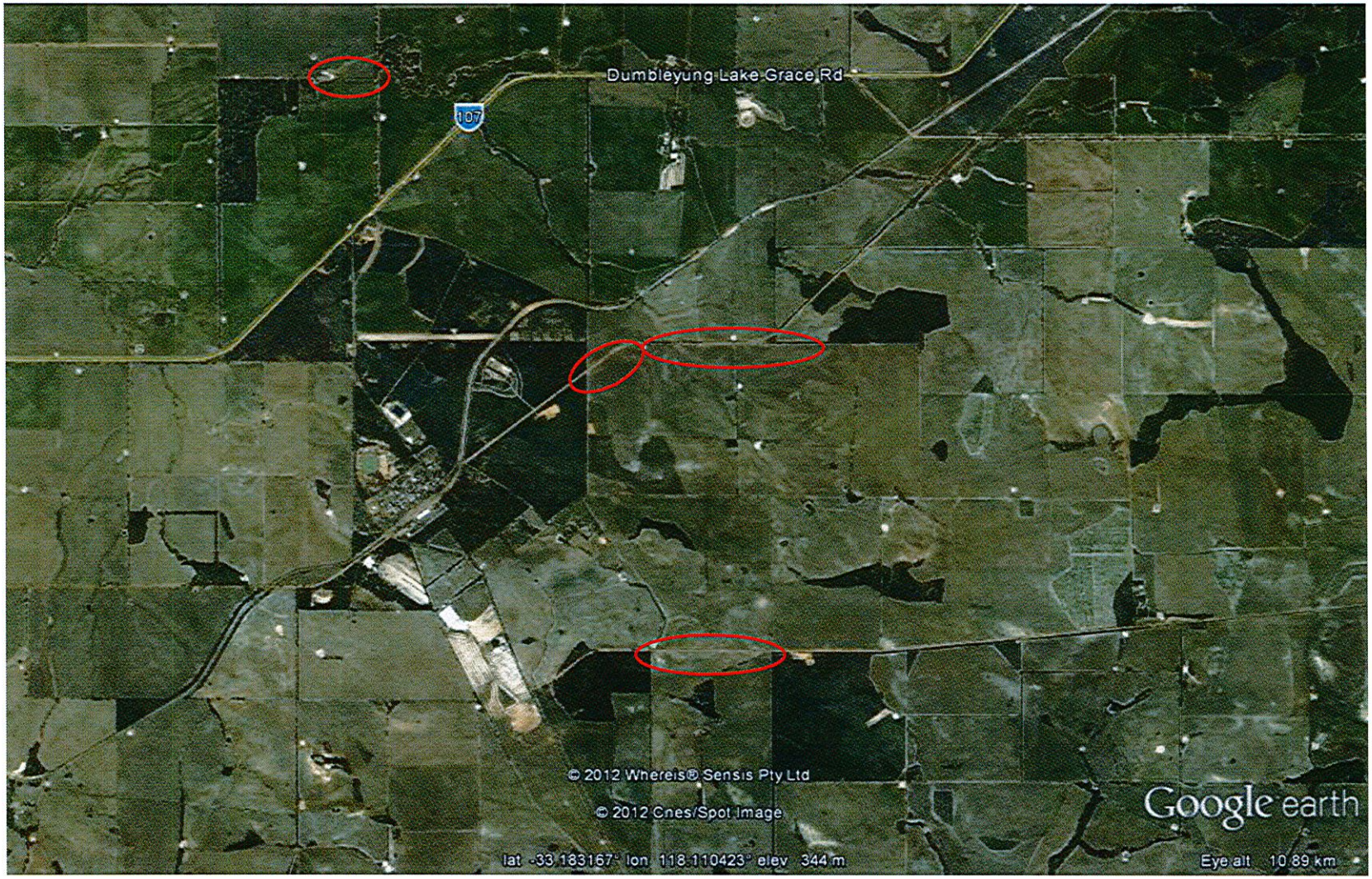


The Kukerin town site is a large 450 hectare remnant made up largely of mallee scrub but with some areas of woodland. The mallee scrub is likely to be largely devoid of suitable nesting trees. Tarin Rock NR and contiguous remnant vegetation is about 4 km to the north-east. There are smaller remnants to the north-west and south-east in relatively close proximity. Connectivity to these remnants could be improved by the addition of some planted corridors.

Possible actions include:

- This is a site to consider future cat management programs, as food sources around town site (bins, refuse site etc) are likely to be a focal point for these animals. The presence of female phascogale may indicate an established breeding population.
- The addition of nest boxes may make an important contribution given the lack of obvious nesting habitat throughout the area.
- There is scope to establish corridors of native vegetation to link the Kukerin remnant with surrounding remnants. The most important connection to be re-established is that to Tarin Rock NR. Some suggested sites for corridors are shown in red in Figure 12.
- Cara Badger from Dumbleyung Landcare is keen to undertake further work relating to phascogale. There is an opportunity for community engagement through targeted conservation projects such as nest box installation and monitoring, and camera trapping, and tree planting.

Figure 12: Remnant 19 Kukerin and surrounding area

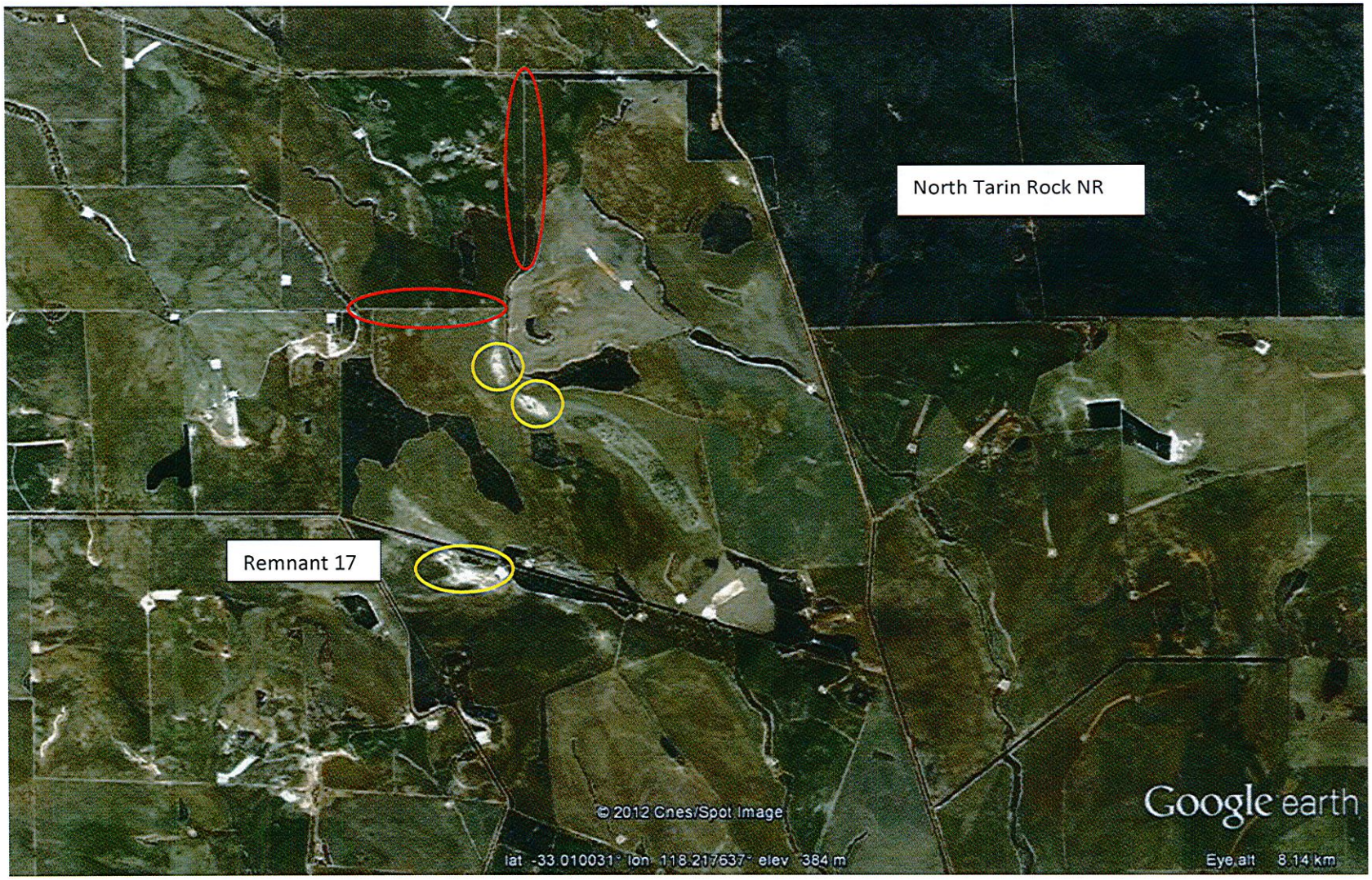


This is a collection of remnants along Holden Road, near the junction with Hills Road. This site is close to North Tarin Rock NR (2 km north-east). Phascogale have not been detected in Remnant 17 but have been detected in the remnant to the south (about 3.5 km) and there is good habitat in the small remnant on Hills Road, 1.2 km south of the junction with Holden Road. There are generally poor connections between North Tarin Rock NR and Tarin Rock NR. Any work in and around Remnant 17 will go a small way to improve the connections between these two large nature reserves.

Possible actions include:

- Vegetation corridors linking existing remnant vegetation. Examples are shown in red in Figure 13.
- Encourage the planting of tagasaste or similar on sandy soils (shown in yellow). This may facilitate some movement of phascogale across the farming landscape.

Figure 13: Remnant 17 Pearce (jcn Holden and Hills Rd) and surrounding area

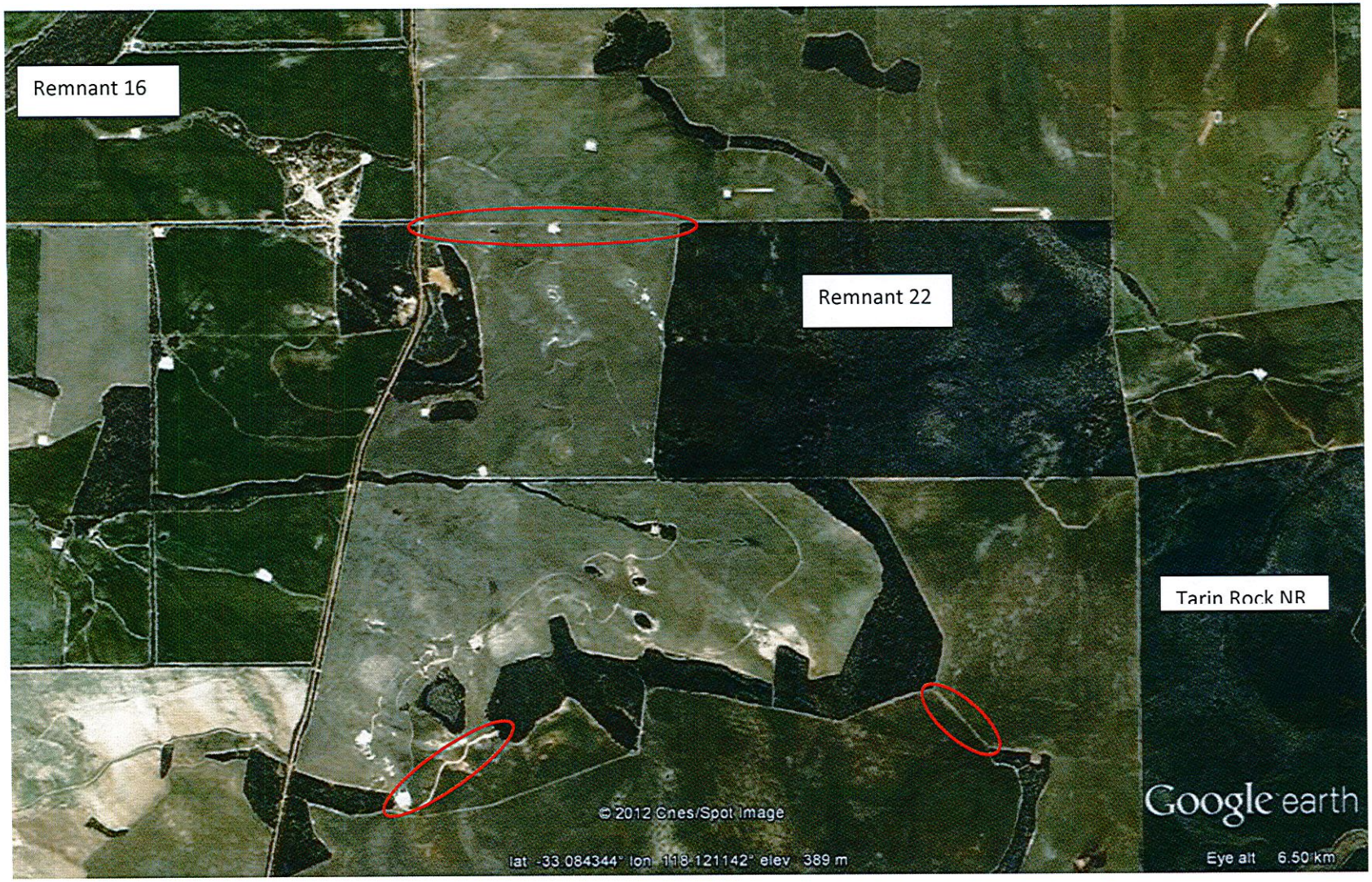


Remnant 22 is a large remnant that is connected at its south-east corner to Tarin Rock NR. It has linear connections to Bladendale Road to the south-west and along a vegetated fence line to the east. No phascogale were caught at this site but it is close to Remnant 16 (Nev Mycock's) where large numbers of phascogale were caught. Connection to this area could be improved by creating corridors along an east-west fenceline as shown.

Possible actions include:

- Creation of corridors of native vegetation connecting with remnants to the east and south as shown (in red) in Figure 14.

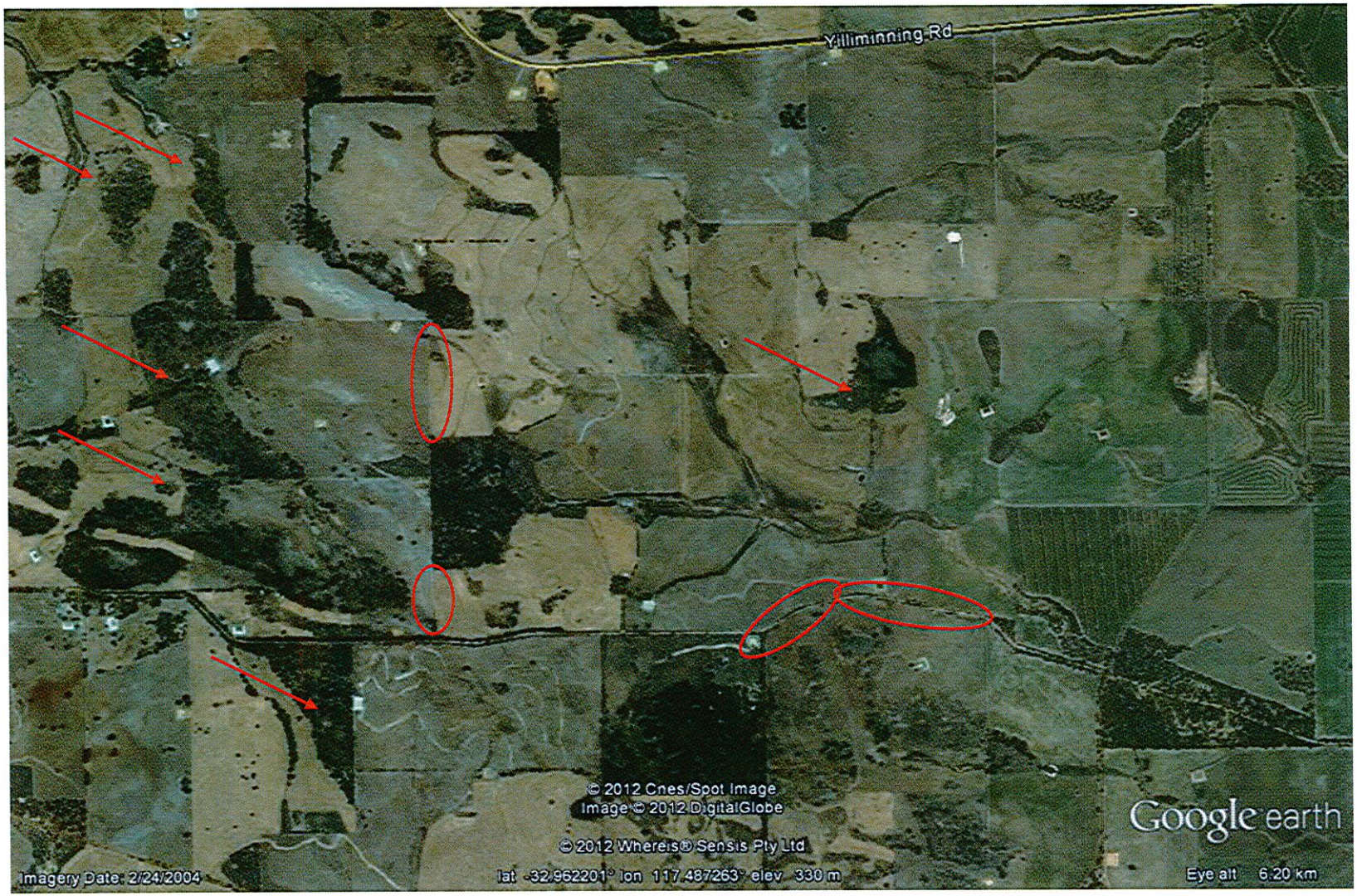
Figure 14: Remnant 22 Bladendale Road and surrounding areas



Possible actions include:

- Consider fencing line 2 and 5 remnants, reduce grazing and trampling, to promote regeneration of she-oak, wandoo and other important habitat species.
- Consider twice yearly fox control;
- Consider strengthening connections between remnants (as shown in red circles);
- Consider fencing remnant vegetation (shown arrowed).

Figure 15: Area immediately west of Lake Taarblin between Yiliminning Road and Kilpatrick Road.



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