

Conservation Values of Red Hill and the Impact of the Currently Proposed Centenary Trail Route Comments by the Red Hill Regenerators

Significance of Red Hill's endangered woodland

The woodland on Red Hill is a component of the White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands, which was listed nationally as critically endangered on 17 May 2006. Yellow Box - Red Gum Grassy Woodland has been listed as endangered in the ACT since 19 May 1997.

Large size

Red Hill supports one of the largest remaining remnants of the endangered yellow box – Blakely's red gum grassy woodland in Australia. This woodland type once covered over 25,000 square kilometres, in a belt stretching from Melbourne to South Queensland. Over 90% of this vegetation belt is now cleared¹ leaving this woodland highly fragmented and generally existing as isolated patches smaller than 5ha in area.² “In terms of size, connectivity, diversity and condition, the ACT remnants are exceptional, especially the presence of larger patches (over 100 ha) in good condition.”³ Remnants greater than 200ha are extremely rare. There are only four remnants left in Australia of 1000ha or more and all are in the ACT⁴. There are no Yellow Box - Red Gum remnants greater than 100ha in Victoria or the Murray catchment of NSW⁵, and there are no remnants of 200ha or greater in southern NSW⁶.

Red Hill supports a Yellow Box -Red Gum woodland of about 275ha. It is a vital component of the second largest Yellow Box -Red Gum woodland remnant in Australia that covers about 1,200ha from Red Hill to East O'Malley- Symonston-Mugga Lane and Callum Brae. Although Hindmarsh Drive is a barrier to some species, most woodland plant and animal species are able to disperse across this highway.

¹ listing advice for White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands - 2006, Department of the Environment, Water, Heritage and the Arts p9

² Gibbons P. and Boak M. (2000) *The Importance of Paddock Trees for Conservation in Agricultural Landscapes*. A discussion paper for consideration by the Riverina Highlands Regional Vegetation Committee. NSW National Parks and Wildlife Service.)

³ listing advice for White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands - 2006, Department of the Environment, Water, Heritage and the Arts, p.5

⁴ ACT Government (2004) Woodlands for Wildlife: ACT Lowland Woodland Conservation Strategy. Action Plan No. 27. (Environment ACT, Canberra), Chapter 5.

⁵ Davidon I. (2005) Woodland Management Notes for the Murray Catchment. NSW Department of Environment and Conservation.

⁶ Rainer Rehwinkel, NSW Department of Environment and Conservation, Grassy Ecosystems Research Officer, Personal Communication.

High plant diversity

Because of its relatively large size and the good condition of the understorey, Red Hill supports one of the highest native plant diversities recorded in a Yellow-Box - Red Gum woodland remnant anywhere in Australia. 210 native woodland species have been recorded on Red Hill. The NSW National Parks and Wildlife Service has a database of plant species records from about 1000 grassy ecosystem (grassland + grassy woodland) sites across south-eastern NSW and the ACT. Fewer than 5% of these sites have a recorded plant diversity of over 100 species⁷. It is relevant that remnants of particularly high quality have been targeted in the surveys.

Large number of rare and threatened species

Given the size and diversity of its endangered woodland, it is not surprising that Red Hill supports important populations of many uncommon, rare or threatened species. It contains large populations of the nationally endangered daisy, the button wrinkelwort (*Rutidosia leptorrhynchoides*), and Swainson's silky pea (*Swainsonia sericea*), which is listed as vulnerable in NSW. Fourteen plant species considered rare in the ACT occur on Red Hill. The Hill is a major habitat for several of these species as well as being a habitat of over 50 regionally uncommon plant species. The invertebrate fauna of Red Hill has yet to be systematically surveyed, but given its relatively large size, plant diversity and good condition, it is likely to be of importance for woodland invertebrate conservation. It is an important known habitat of the vulnerable grasshopper, *Perunga ochracea*. Several ACT and/or NSW threatened birds as well as several regionally uncommon birds breed on the Hill.

In summary: Red Hill:

- contains one of the largest remaining remnants of its woodland type anywhere;
- supports one of the highest diversities of woodland plants recorded in South-eastern Australia; and
- is habitat for over 70 threatened, rare or regionally uncommon plant, bird, bat, lizard or grasshopper species.

Details of the Impacts of Centenary Trail

The proposed Trail includes a new 1.6 kilometre section through a section of Red Hill's woodland that is particularly diverse and intact. This would further fragment and cause major disturbance in one of Australia's key box – gum woodland remnants. It will directly destroy many important plants and animals, disrupt breeding of woodland birds, be a significant conduit of weed invasion, disrupt local hydrology and cause erosion.

Weed invasion

As is evidenced by weed maps which are maintained by the ACT Government, the existing tracks and trails across Red Hill are the points of entry and spread for significant environmental weeds, including African lovegrass and Chilean needle grass. Both Red Hill Regenerators and the ACT Government spend much time and resources controlling new infestations along the trails. Adding another 1.6 km will exacerbate this problem and lead to invasion of significant environmental weeds into core woodland in which they are

⁷ Ibid.

currently absent. Not only will the proposed Trail provide a new conduit for weeds, but the earthworks and disturbance created by the tracks construction will create conditions in which weeds already present in the nearby woodland will flourish. The increased presence of weeds along the route of the Trail is likely to lead to increased spread into the surrounding woodland.

Disruption to local hydrology

No matter how carefully constructed, the proposed new section of the Trail will result in a reduced flow of water to some areas and increased flows or pooling in others. This is likely to disrupt and change the local species composition and lead to further opportunities for weed invasion.

Soil erosion

The soils of the main Red Hill ridge are derived from Hornsfels, which produce red sticky clays, which are highly erodible and when wet stick to feet and clog mudguards and other bike parts. Thus when wet neither walkers or riders will want to remain on an unsealed bare earth track, but will prefer to travel over adjoining grassed/native herb areas, leading to a widening of any track and compromising erosion control measures that may have been put in place, such as roll-overs. The nature of the soils also means that erosion control is problematic, costly and a significant ongoing maintenance issue. Severe erosion on relatively well constructed fire trails occurred on Red Hill after this year's heavy rainfalls at the beginning of 2011 and is an ongoing issue. The single track path which leads from the lookout down towards Mugga Way is a good example of the impacts of erosion on this soil type.

Loss of significant plants

The zigzag section of the proposed new section of Trail lies directly over and will significantly destroy a population of 72 plants of the nationally endangered button wrinklewort (*Rutidosia leptorhynchoides*). This is the 4th largest of only 8 occurrences of this plant on Red Hill. The yellow burr-daisy (*Calotis lappulacea*) and smooth flax lily (*Dianella longifolia* var. *longifolia*), are considered rare in the ACT and are so locally numerous along the proposed route that hundreds of plants would be destroyed. Other ACT rare plants occurring along the proposed route or its near vicinity include bristle fern (*Cheilanthes distans*), berry saltbush (*Einadia hastata*), native tick bush (*Indigofera adesmiifolia*), Australian trefoil (*Lotus australis* var. *australis*), a fireweed (*Senecio hispidulus*), notched swansons pea (*Swainsona monticola*) and silky swansons pea (*Swainsona sericea*). This last plant is listed as vulnerable in NSW.

The route would also destroy literally thousands of plants from tens of species that are either:

- considered to be important species of the Commonwealth's White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands community;

- considered to be highly significant in a regional context⁸; or
- are protected species, such as orchids or blue devil (*Eryngium rostratum*), under the *Nature Conservation Act 1980*.

Disruption to woodland bird breeding

The proposed Trail will be a significant intrusion into a part of Red Hill's woodland that is currently little visited and in which several uncommon woodland birds have been recorded as breeding. A university research study in Sydney woodland found that areas in which dogs were walked had a 35% reduction in bird diversity and a 41% reduction in bird abundance, compared to control areas from where dogs were excluded. Disturbance by people alone resulted in about half the loss of that associated with people walking with dogs⁹. The area in the vicinity of the proposed Trail is a key habitat on Red Hill for at least the Scarlet Robin and Speckled Warbler. The Trail is likely to sterilize this area as breeding woodland habitat and displace important birds from this part of the Hill.

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⁸ Rehwinkel, R (2007). *A method to assess grassy ecosystem sites: Using floristic information to assess a site's quality*. NSW Department of Environment and Climate Change.

⁹ Banks & Bryant (2007). Four-legged friend or foe? Dog walking displaces native birds from natural areas *Biology Letters* 3, 611-613, 2007