The vegetation of the area (see Map 5) is dominated by the genera *Acacia* and *Triodia*. The genera *Eucalyptus* is prominent in association with hummock grasslands, but becomes dominant in association with creek lines. The Hamersley Plateau ranges and hills are generally vegetated with open low *Eucalyptus* spp., predominantly *Eucalyptus brevifolia* (Snappy Gum) and *Acacia* spp. woodland over *Triodia* spp. hummock grassland (Beard 1975). The vegetation of the broad valley plains is characterised by open sparse *Eucalyptus* spp. woodland over open low *Acacia* spp. (predominantly *Acacia aneura*, Mulga) scrub and *Triodia* spp. hummock grassland (Beard 1975). As stated above, the larger creeks are vegetated with *Eucalyptus* spp. woodland, mixed *Acacia* spp. and *Melaleuca* scrub over bunch grassland (Beard 1975).

The plant resources of the Hamersley Plateau provide a rich resource for Aboriginal people, providing food, medicine, shelter and material for the manufacture of hunting, fishing, cultural and food preparation items (Brown 1987: 9).

Brown (1987: 10-11) lists the following animals recorded from zoological surveys in the Hamersley Plateau:

* large mammals - *Macropus rufus* (red kangaroo), *M. robustus* (common wallaroo or euro), *Petrogale rothschildii* (Rothschild’s rock-wallaby);
* medium size mammals - *Macrotis lagotis* (bilby), *Trichosurus arnhemensis* (Northern brushtail possum), *Tachyglossus aculeatus* (short-nosed echidna), *Dasycercus cristicauda* (mulgara), *Dasyurus hallucatus* (Northern quoll);
* small mammals, including seven other *Dasyuridae*, four *Muridae* and twelve bats.
* reptiles and amphibians - six species of frog; one tortoise; 65 lizards, including eight *Varanidae* (goanna); and 20 snakes, including four pythons.
* Birds - 135 bird species are known, including *Dromaius novaehollandiae* (emu) and *Ardeotis australis* (Australian bustard).

Many of these animals are still hunted by the Banyjima people who rely on bush tucker when cash is short. Brown (1987: 10-11) reports observations of Aboriginal people hunting and eating most of the taxa mentioned above.

## Previous research in the region

A great deal of archaeological information exists for the central and eastern Hamersley Plateau, primarily as a result of Aboriginal heritage surveys and investigations associated with impact mitigation studies undertaken prior to mining activity and related infrastructure development. Systematic surveys conducted in the region surrounding the Survey Area include: Lantzke *et al*. 1994; Lantzke 1995; Palmer 1978a, 1979, 1980a, 1980b; Green and Rumley 1991; and Quartermaine 1991a, 1991b. Supplementary to this are several salvage/research projects, which involved detailed site recording, analysis and/or excavation, by Palmer 1979, Warren 1992, Greenfeld 1992 and Di Lello 1998.

Numerous heritage surveys were conducted prior to establishment of the Marandoo Mine and Rail Line (eg. Palmer 1975, 1980a, 1980b, Green and Rumley 1991 and Quartermaine 1991a, 1991b), however, access to these survey reports is largely restricted owing to the sensitive nature of the information they contain. Veth (1989a; 1989b; 1993) too has argued that the nature and permanency of water sources was an influential factor in determining site location and attendant artefact assemblage. Veth (1989a; 1989b; 1993; 1996) developed a settlement/subsistence model following research in the Western Desert, which may be applicable to other arid and semi-arid regions of Australia. He observed that there was a deliberate strategy, among Aboriginal people in the region, of targeting networks of ephemeral water sources, and conserving a few larger and more permanent water sources to last in the later summer months (Veth 1993). This settlement pattern produced an initial period of high residential mobility followed by more **extended periods of reliance on a few permanent water sources** and a corresponding decrease in residential mobility.

Veth (1989a) observed that **sites located adjacent to permanent water sources tended to be larger in size, with a greater number of artefacts and at higher densities** than sites at semi-permanent and ephemeral water sources [my emphasis]. These sites (at permanent water sources) generally had a greater proportion of artefacts than that found at semi-permanent and ephemeral water sites (Veth 1989b).

**Previous heritage surveys**

The results of archaeological and ethnographic surveys are outlined in the following Preliminary Advices:

* **Preliminary Advice of an Aboriginal Archaeological Survey of Proposed Finch and Jabiru Rail Sidings, Associated Water Bores and Proposed Construction Camp Area, Near Tom Price, Western Australia.** R. Fry and G. Jackson (Gavin Jackson P/L) October 2003
* **Preliminary Report on an Ethnographic Survey of the Proposed Finch and Jabiru Rail Sidings, Yandi Expansion**. E. McDonald (Ethno-sciences) March 2004.

Previous ethnographic surveys conducted within the vicinity of the Survey Areas include:

* ***Ethnographic Survey of the Proposed Marandoo Railway Corridor Exploration Drilling Programme with the Guruma Mali Wartu Aboriginal Corporation.*** E.McDonald, McDonald Hales & Associates, May 2001.
* ***Ethnographic Survey of the Proposed Marandoo Railway Corridor Exploration Drilling Programme with the Gumala Aboriginal Corporation.*** E.McDonald, McDonald Hales & Associates, May 2001.
* ***Ethnographic Survey of the Proposed Tom Price to Yandicoogina 220 kV Powerline Alignment – Tom Price to Minthi Springs.***E.McDonald, McDonald Hales & Associates, February 2001.
* ***Ethnographic Survey of the Proposed Tom Price to Yandicoogina 220 kV Powerline Alignment (Minthi Springs to Great Northern Highway & the West Angelas Spur.*** E.McDonald, McDonald Hales & Associates, February 2003.

Previous archaeological surveys conducted within the vicinity of the Survey Areas, include:

* ***A Report of an Aboriginal Archaeological Assessment of the Proposed Tom Price to Yandi Mine 220 kV Power Line Route, Pilbara Western Australia (Stage 1: Tom Price to Turee Creek and West Angelas Spur Sections), Volume 1 & 2.*** G.Jackson & R.Fry, Gavin Jackson P/L, January 2002.
* ***A Report of an Aboriginal Archaeological Survey of the Proposed Marandoo Railway Corridor Drilling Program Area, Karijini, Hamersley Plateau, Western Australia.*** F.Hook, C.Martin, B.Veitch, Archae-Aus,October 2000.
* ***Report of Aboriginal Archaeological Survey and Monitoring for the Hamersley Iron Yandi (HIY) Project, Western Australia.*** C.Hammond, ATAL, December 1997.
* ***The Report of an Aboriginal Archaeological Survey for the Hamersley Iron Yandicoogina Mine Site and Railway Project, Western Australia.*** E.Bradshaw, B.Veitch, C.Martin, ATAL, December 1996.

Mindayi (Minthi/Mindi) Springs is located just to the south of the Survey Area on the other side of the railway bridge over Turee Creek. The spring is listed as a mythological site on the permanent register of Aboriginal sites (ID 8296/P04348) (see Photo 3). Inquiries to the Department of Indigenous Affairs show that Minthi is a closed file which can only be accessed with permission from the informants. Considering Veth’s (1989a, 1993) observations above, it is not surprising that artefacts have been found in the Finch Siding Bore and access track Survey Area.

Previous ethnographic research in the country encompassing and associated survey areas did not locate any ethnographic sites. This research includes O’Connor’s (1995) original survey of the Marandoo Railway corridor. Amore recent survey covering a portion of the corridor by O’Connor (2000) for the proposed West Angelas rail line also did not record any ethnographic sites. McDonald (2001, 2003) undertook ethnographic surveys in relation to the Marandoo railway Corridor exploration Drilling (1999), the Tom Price to Yandicoogina Powerline (2001) and the Juna Downs Exploration Drilling Program (2002) that overlap with large portions of the present survey areas. Neither O’Connor nor McDonald reported any ethnographic sites in these survey areas (see McDonald 2004:11).

The Karijini National Park, which adjoins the railway corridor to the north and south (see Map 5) is imbued with spiritual significance for Banyjima people. Although there appear to be few known ethnographic sites in the Survey Areas, the ‘sphere of influence’ from powerful ceremonial and mythological sites like Minthayi and Bunaruna/Boonuruna,[[1]](#footnote-2) or Mount Bruce on maps (site ID 540), encompasses the Finch siding area. The late Banyjima Elder, Horace Parker said:

Another one – *ngarmarda* – He can go for miles, thousand miles he can kill a man. Long as he got the name. *Ngarmarda* that one. Right through the ranges *yurlu Karijini bunuru yurlu old fellangali*, old people *jinangu* [dangerous places in Karijini country where the old people walked].

There is a belief that spiritual powers extend their influence underground. According to Brandenstein (1991:102) the power of the human-like *narlu* of the Hamersley Ranges is believed to ‘stretch for miles’ underground, as does the *walu* guardian of permanent waterholes.

Palmer (1978b) used the term ‘sphere of influence’ in his evidence to the Mining Warden in the Noonkanbah case. According to Hawke and Gallagher (1989:119), Professor Ronald Berndt also prepared a discussion paper for the Aboriginal Cultural Materials Committee (ACMC) which addressed the question of spheres of influence, ‘buffer zones’ and ‘complexes’ of sacred sites ‘where the land between neighbouring sites was part of a whole’ (Hawke and Gallagher 1989:119). Bindon’s report to the WA Museum confirmed the concept of a ‘sphere of influence’ around significant sites which includes the substrata of the earth (Bindon 1979).

Ten other previously recorded Aboriginal Sites lie within the Survey Areas. The location of four of these sites is listed as unreliable by DIA.

Fry and Jackson (2003) note that a rock shelter (archaeological site YRL03-02) is unlikely to be directly impacted by the proposed development. They also note that three previously recorded scarred trees (archaeological sites ID 15213, 15155, 15157) could not be relocated, although two had been located and recorded in a 1999 Hamersley audit (see also McDonald 2004:12).

Alan Dench (1991:126) noted, ‘…two named dialects of Panyjima were originally spoken on the Hamersley Range. The Pantikura dialect was spoken on the higher plateaus of the Hamersley Range, while the Mijaranypa dialect was spoken in lower areas.’ Dench adds that his informants spoke the ‘Pantikura dialect’ of the Banyjima language.[[2]](#footnote-3)

Unpublished field notes collected by O’Grady in 1958 comment:

Bailko-Pandjima / palYku / and / panYtYima /, numbered 490 and 491 respectively, are dialects of a single language, sharing 79 percent of their basic vocabulary. Bailko is located at 22S and 120E, and Pandjima borders it on the west. Padjima itself occurs in two sub dialects, Dugur / tukur /, the northeastern, and Milyaranba / milYaranpa/, the southwestern. (O’Grady et al 1966:84)

McDonald (2001:10) notes that ‘the precise boundary [between Banyjima and Gurama] continues to be contested.’ Olive (1997:75) and Brehaut and Vitenbergs (2001:9) suggest Minthayi (Minthi/Mindi) is on the boundary between Banyjima and Gurama country. A Gurama elder, Peter Stevens, says: ‘Minthayi, they reckon that’s been a big Law ground, too - that’s the centre for the Yinawangka, Panyjima, Guruma and all. They all met there’ (Brehaut and Vitenbergs 2001:9). However, a Banyjima woman, Alice Smith (2002:211), describes Banyjima territory extending further west over the old Mount Bruce station: ‘My grandmother, Kujibangu, she had two sons and one daughter with her first husband. He was a Banyjima man from Mount Bruce. It’s an old station: Birdibirdi, they called it, and whitefella name used to be Dignam.’

Tindale (1954, 1974) and Dench (1991) appear to confirm a more westerly boundary.[[3]](#footnote-4) McDonald (2001:9) rather flippantly comments ‘…apart from a quick sightseeing trip to Wittenoom and some interviews at Mt Florance Station, [Tindale’s] research seems to have focused on coastal communities…’ However, Tindale refers to an interview at Mount Florance with a Banyjima (Pandjima) man who described the Banyjima territory:

The gorge leading to Hamersley station from the lower end of Coolawanyah station divides the Pandjima (page 628) from the Kurama, their western neighbours. The southern boundary is the top edge of the northern scarp face of the Hamersley Ranges; they did not go down into the gorges except when they were driven by shortage of water in droughts. There were refuge pools on the south branch of the Fortescue River, at Dale Gorge and at Mandjima (or Munjina Creek of maps). To the north east their boundary extended along the Hamersley scarp to the range across the Fortescue River (South Branch) from Kudaidari (Goodiadarrie) Hills. Mandjina (Munjina of maps) Pool was a Pandjima water. They went east to the headwaters of Janikudjina (Yandicoogina of maps) creek. On the south they visited Juno (Juna) Downs Station, Perry’s Camp. Their S.W. boundary fell just east of Mt Samson. Milimili (Milli Milli Spring) was a Pandjima water, ‘very permanent’. At Juna Downs and along the Turee Creek, they met the Inawongga, also said as Inawonga. East of them he knew of the Ngarla or Ngarlawongga… (Tindale 1953).

Norman Tindale (1974:255) later described the Banyjima territory as:

Upper plateau of the Hamersley Range south of the Fortescue River; east to Weediwolli [sic] Creek near Marillana; south to Rocklea, on the upper branches of Turee Creek east to the Kunderong Range. In the later years under pressure form the Kurama, they moved eastward to Yandicoogina and the Ophthalmia Range forcing the Niabali eastward. They also shifted south to Turee and Prairie Downs driving out the Mandara tribe, now virtually extinct [‘Punduwana], a native place not yet located, was their main refuge water in very dry times; other refuges were in Dales Gorge and at [‘Mandjima] (Mungina Creek on maps).

 According to Brown (1987:14):

At the eastern end on the plateau were the Niabali and the central plateau was Pandjima territory. The boundary between the two groups lay west of Weeli Wolli Creek. Brandenstein (1967:2) notes that this was also a linguistic boundary, as Niabali is the westernmost member of the large Western desert group of languages, and Pandjima belongs to the Plibara Tablelands linguistic group. Recent information indicates that this boundary area was transitional rather than clearly demarcated, and that both bordering groups recognised a joint ownership of the [Weeli Wolli] area and its resources.

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1. For a discussion of this site see Palmer 1980; McDonald 2001; Lantzke, Prince and Campbell-Smith 1994. [↑](#footnote-ref-2)
2. Dench (1980-2:119) notes: ‘I am indebted to Percy Tucker and Herbert Parker…’ [↑](#footnote-ref-3)
3. Dench (1991) includes a sketch map showing the town of Tom Price within Banyjima boundaries. [↑](#footnote-ref-4)