

Division of the central high ground into paddocks is apparent in the 1971 air photo referred to above. The 1971 air photo shows the eastern half was cleared.

At the time of survey for this report almost the entire study area is covered in regrowth vegetation with distinct clear patches in the southwest where the original houses stood (but no longer stand), in the western part of the high ground (referred to hereafter as the "western clearing") and the central/eastern part of the high ground (the "central clearing").

The western clearing and central clearing are heavily disturbed by trail bike and motor vehicle tracks to the extent that the area is heavily rutted and little intact soil remains. Vehicle and motor bike tracks cross the entire area and are the basis for locating almost all archaeological survey transects shown in *figure 4.2*.

A transmission line easement running along the eastern boundary of the study area offers a continuous ground exposure in back dune sands grading to clay loam in the north east corner.

The heavily rutted vehicle tracks offer the only archaeological visibility over all areas west of the transmission line easement. All other areas apart from these tracks and the central and western cleared areas are covered in vegetation and offer no archaeological visibility.

In summary, land use impacts on the property are significant and no part of the study area avoided some form of soil disturbance – whether cattle treadage, cultivation or ripping to improve pasture growth. While these impacts do not negate the presence of Aboriginal archaeological deposit, they do diminish the integrity and potential archaeological significance of any such deposit.

This section reviews Aboriginal heritage studies relevant to the study area, placing it within regional and local contexts. A summary of pertinent studies provides a framework for the present study, demonstrating that Aboriginal sites have been found in a broad range of locations in both coastal and hinterland areas. A detailed table listing relevant reports is given in *Annex A*.

4.1

REGIONAL CONTEXT

Age Of Occupation On The South Coast

Excavations by Lampert (1971 - cited in Kuskie 1997e) of a rock shelter on Burril Lake, south of Ulladulla confirmed occupation on the south coast commencing at least 20,000 years ago. Similar dates were confirmed by Boot (1994 cited in Kuskie 1997e) at Sassafras in the hinterland areas at 18,810±160BP (ANU9375) (Before Present), and also by Flood (1980 cited in Kuskie 1997e) - 17,000BP.

Cane (1988 cited in Kuskie 1997e) indicated that early occupation on the Beecroft Peninsula was sporadic, followed by more intense occupation within the last two thousand years. Phillip Boot's (1994) excavations at Gnatilia Creek 3 rockshelter in Yerrilyong State Forrest showed initial occupation dating to 1740 ±60BP (ANU-8426) with more intensive occupation from five hundred years ago.

Site Patterning And Nature Of Occupation

Sites on the south coast have been recorded in higher frequencies on the coastal zones rather than the hinterland. Bowdler (1970 cited in Kuskie 1997e), Lampert (1971 cited in Kuskie 1997e), Poiner (1976 cited in Kuskie 1997e) and Flood (1980 cited in Kuskie 1997e) indicate that the same Aboriginal groups would have occupied both zones, having a stronger tendency to exploit coastal resources. Bowdler (1970 cited in Kuskie 1997e) and Poiner (1976 cited in Kuskie 1997e) argued that occupation in these areas would have been seasonal, the coastal areas being more popular in the summer when resources in the area would be more abundant.

Attenbrow (1976 cited in Kuskie 1997e) presented a model in which the coast and hinterland were occupied all year round and that movement between the two zones occurred at the family or small group level rather than at the large population level suggested by Poiner.

Byrne (1983 cited in Kuskie 1997e) discussed surveys in the hinterland and found an absence of sites between 13 – 18 km from the coast in the Five Forest study. Walkington (1987 cited in Kuskie 1997e) suggested that these areas were only exploited during daily return journeys. Distances further than 10 km would have required overnight campsites

Kuskie (1997e) indicated that these conclusions were drawn on a bias of information, as the majority of studies at the time had taken place in coastal areas. Boot (1994 cited in Kuskie 1997e) found thousands of sites in his more recent surveys in the hinterland areas north of Batemans Bay (Kuskie 1997e: 10).

Navin & Officer (2001b) found a tendency for sites to occur in the intersection of different environmental zones in all broad topographical zones. More importantly in determining the choice to occupy certain areas were local factors such as proximity to fresh water and locally elevated well-drained ground.

4.2

LOCAL CONTEXT

Three archaeological surveys have been undertaken in the vicinity of the study area.

1. The first survey was undertaken by Attenbrow 1981 of pipeline routes and reservoir sites for the northern Shoalhaven water supply, which included sections of a pipeline between Bendalong and Conjola Lake. The survey investigated the easement to the east of the present study area, and located a midden on the north bank of the lagoon (site 58-22-241).
2. The second by Kuskie in 1997(e) examined the same areas as the current study. The investigation identified further remains associated with Attenbrow's site and a further 5 artefact scatters within the current study area.
3. Thirdly, Navin & Officer carried out an archaeological assessment for the Lake Conjola Sewerage Scheme (2001a). The survey examined the easement examined by Attenbrow in 1981 and also along Inyadda Drive on the western side of the study area. The survey successfully relocated the midden identified by Attenbrow (1981); no remains were found along Inyadda drive.

4.3

ABORIGINAL ARCHAEOLOGICAL SITES

Following an Aboriginal Heritage Information Management System (AHIMS) search for Aboriginal sites, 116 sites were recorded within 10 km of the site. *Table 4.1* lists the number of different site types.

Table 4.1 *Previously recorded Aboriginal sites*

Sites	Total
Artefact (stone, bone, shell, glass, ceramic and metal)	73
Burial	1
Earth Mound, Shell, Artefact (stone, bone, shell, glass, ceramic and metal)	19
Earth Mound, Shell, Artefact (stone, bone, shell, glass, ceramic and metal), Burial	1
Grinding Groove	5
Modified tree (carved or scarred)	7
Potential Archaeological Deposit (PAD)	2
Potential Archaeological Deposit (PAD), Artefact (stone, bone, shell, glass, ceramic and metal)	3
Stone Quarry, Artefact (stone, bone, shell, glass, ceramic and metal)	5
Total	116

Six archaeological sites were found near the site in the aforementioned archaeological surveys. These surveys identified five Aboriginal open stone artefact sites ("open camp sites") and one open midden site. These sites are briefly listed here and are described more fully in *section 6*.

- Manyanna Creek/Beach (58-2-241) Midden & stone artefact scatter on eastern boundary (recorded by Val Attenbrow in 1981);
- Manyana 1 (58-2-337) open artefact scatter site covering north western low spur (recorded by Peter Kuskie in 1997);
- Manyana 2 (58-2-338) small open artefact scatter site in north (recorded by Peter Kuskie in 1997);
- Manyana 3 (58-2-339) small open artefact scatter site in north east (recorded by Peter Kuskie in 1997);
- Manyana 4 (58-2-340) open artefact scatter site in south (recorded by Peter Kuskie in 1997); and
- Manyana 5 (58-2-341) open artefact scatter site in south (recorded by Peter Kuskie in 1997).

Appendix G

Cultural Heritage Assessment, ERM 2004

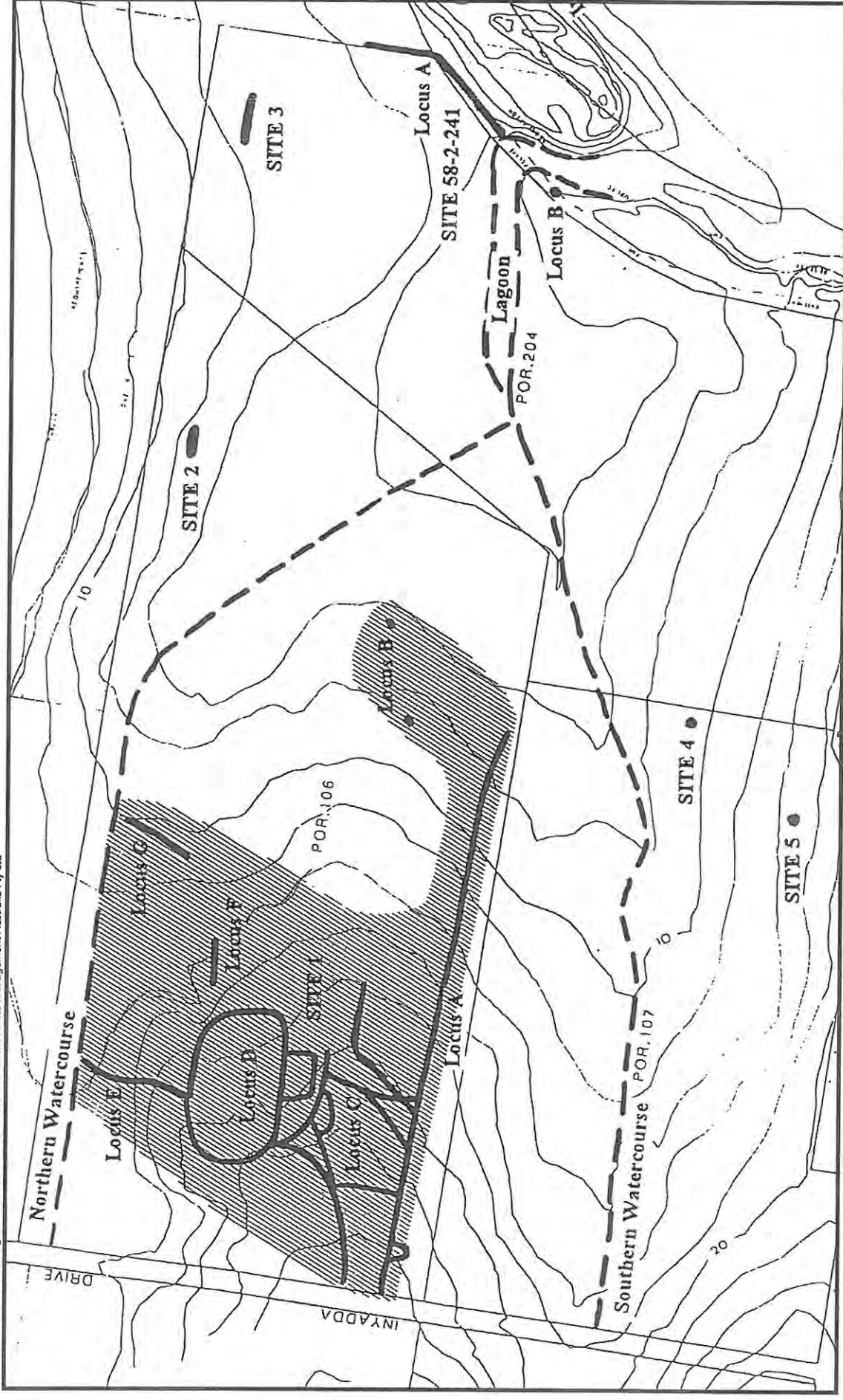


Figure 4.1

Location of Aboriginal Sites Recorded by Kuskie (from Kuskie 1997)

Manyana Local Environment Study
Heritage Survey

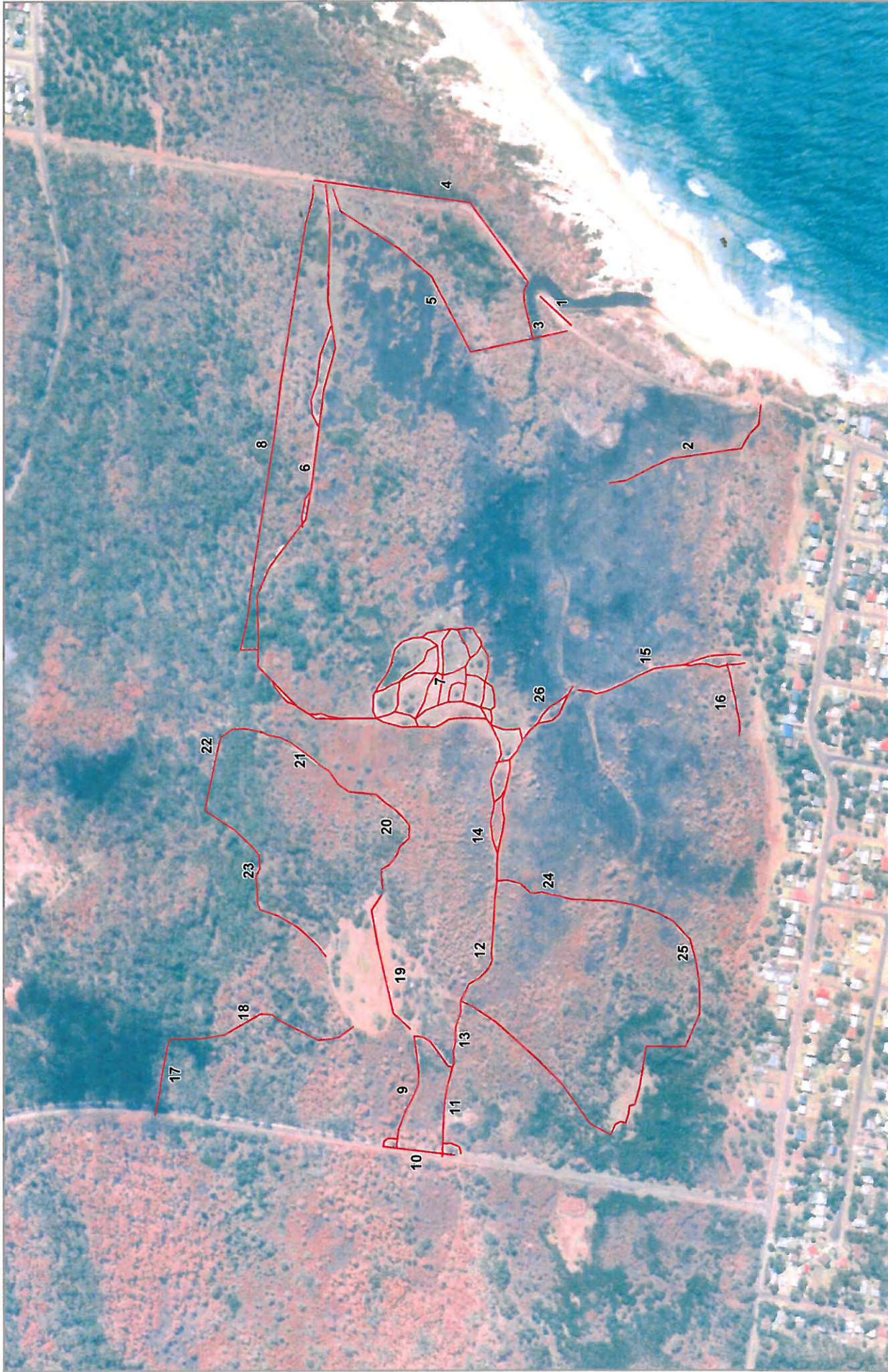


Figure 4.2
Aerial Photograph of the Study Area Showing
Numbered Heritage Survey Transects
Maryana Local Environment Study

The present survey reviewed areas covered by Kuskie to examine the changing nature of the evidence since 1997, examined the boundaries of the sites indicated by Kuskie and attempted to cover areas which had not been previously surveyed.

Before going into the field, aerial photographs were used to define additional tracks that had not been covered in previous surveys. These additional tracks were examined in the field. However, since 1997, vegetation regrowth in the area (encouraged by bushfires) limited the surveying of all areas previously covered. *Figure 4.2* shows the location of transects examined on foot in the survey.

Transect records focussed on recording the following:

- GPS points for the start and end points of transects for calculating transect lengths;
- Transect widths;
- The landform element of the Transect;
- The percentage of bare ground visible for detecting artefacts;
- The percentage of the deposit exposed from the visible ground available for detection of artefacts; and
- Disturbances noted in the transect.

All new sites found in the study area were recorded as follows:

- Their GPS location;
- The landform on which they were found;
- Directions on how to relocate the site;
- The number, size and type of artefact(s) found; and
- Disturbances present in the immediate vicinity of the site

Photographs were taken of the site, its aspect and the artefacts found at the location.

Records of sites previously identified aimed to identify site boundaries. Tallies were made of artefacts within transects along with GPS readings of artefact locations. Photographs of sites and their aspects were taken, as well as a selection of the artefacts found.

Aboriginal and historic sites were identified during the survey and are described below.

6.1

ABORIGINAL SITES

This section outlines the evidence for Aboriginal activity as discovered by the survey and discusses site patterning. For further detail concerning site records refer to *Annex B*, *Annex C* for transect records and *Annex D* for full photographic records.

Of the six sites previously recorded or described by Kuskie (Manyanna Creek/Beach & Manyana 1 – 5), three were relocated and one additional site (*Manyana 6*) was found in the course of the survey (sites 58-2-241, *Manyana 1* and 4 were relocated successfully). Attempts to relocate sites *Manyana 2*, 3 and 5 were unsuccessful, although the estimated site extent for *Manyana 4* shown on *Figure 6.1* incorporates the previously recorded *Manyana 5* location.

Each of the Aboriginal sites is described in detail here, comparing the previously described contents with the present survey.

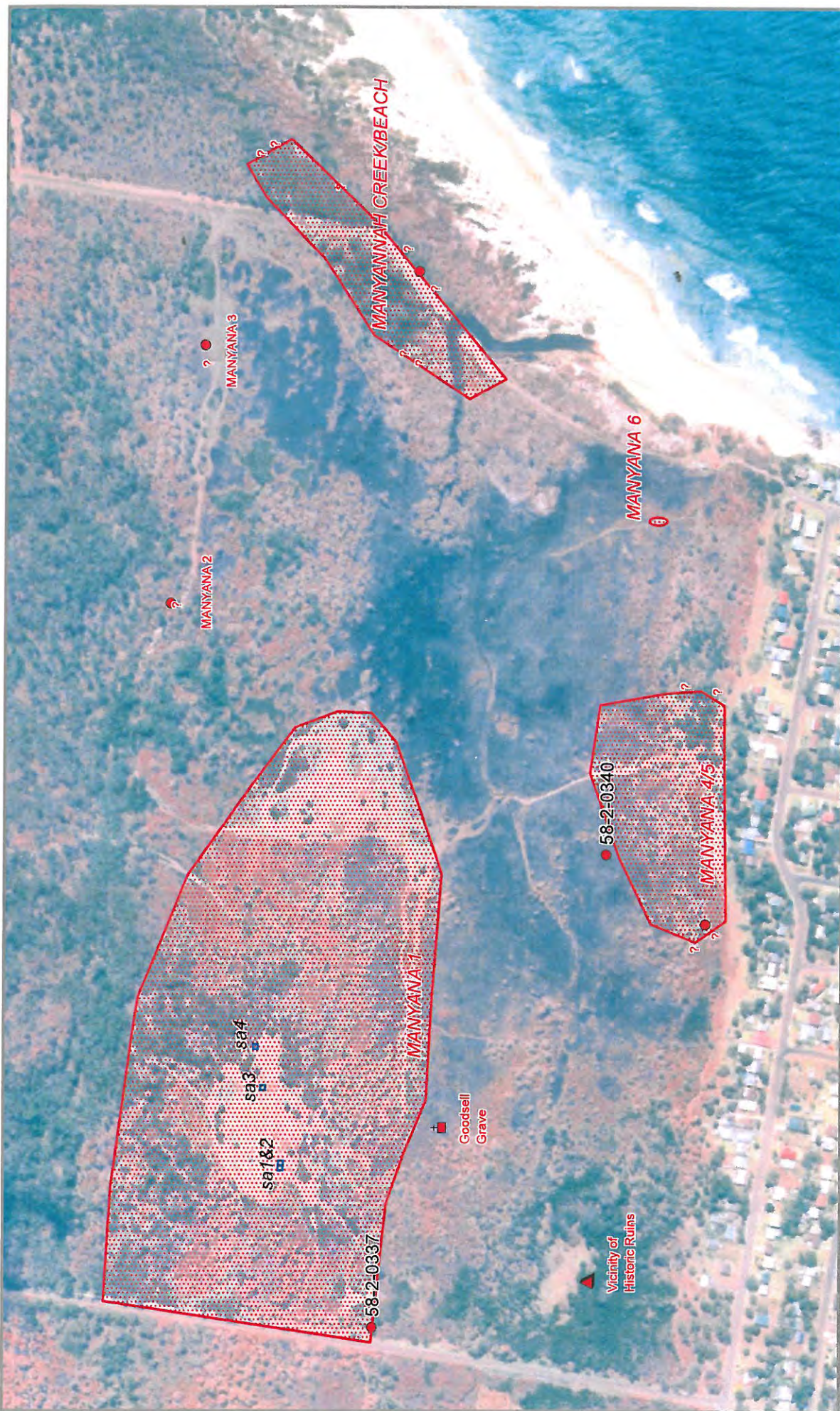


Figure 6.1

Heritage Items With Estimated Boundaries