An Investigation into the Aboriginal Significance of Wetlands and Rivers in the Busselton-Walpole Region

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Gary Quartermaine
& Amanda Yates

July 1995

Water
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STREAMLINE ABSTRACT

This report documents the archaeological, ethnographic and Aboriginal historical significance of wetlands and rivers in the Busselton - Walpole Region of the South West of Western Australia according to existing records with relevant agencies, interest groups and knowledgeable individuals. The report is intended to assist in the process of development of a water resource allocation strategy for the Region.

This volume contributes to a series of documents published for the purposes of water allocation planning in the Busselton - Walpole Region. Other publications focus on the following topics.

- Educational and Scientific Use of Wetlands and Rivers in the Busselton - Walpole Region
- Recreational Use of Water Bodies in the Busselton - Walpole Region
- Environmental Significance of Wetlands and Rivers in the Busselton - Walpole Region
- Historical Significance of Wetlands and Rivers in the Busselton - Walpole Region
- Divertible Water Resource Inventory
- Preliminary Allocation Discussion Paper and Review of Public Submissions
- Busselton-Walpole Region Water Resources Allocation Study, Project Outline and Management Plan

Key Words

Aboriginal; wetlands; rivers; historical; archaeological; ethnographic; planning; sites; water resources; allocation; Busselton - Walpole; Western Australia.

FOREWORD

The Water Authority of Western Australia is currently undertaking a series of studies aimed at developing a water resource allocation strategy for each of six regions into which the State has been divided for the purposes of water allocation. Allocation is to be based on the ecological, cultural and water supply values and needs of the community.

This current study relates to the Busselton - Walpole Region of the South West. It is the second region to be covered and follows on from a study of the Perth - Bunbury Region carried out between 1985 and 1991.

As part of the study, Quartermaine Consultants and Rory O'Connor and Associates were commissioned, by the Water Authority, to assess the significance of wetlands and rivers within the Region to Aboriginal people, in terms of both previous activity and current associations. These constitute Part One and Part Two of this report respectively.

This report by the consultants is being published by the Water Authority in order to inform the community and to encourage wide debate on this important aspect of water resources planning. The ethnographic information contained in the report was contributed by Aboriginal people in the knowledge that it would be published. The consultants advised that this was acceptable to all those interviewed.

The Water Authority would welcome comments on this report from any interested person or organisation.

The opinions and recommendations contained in the report are the consultants and are not necessarily all endorsed by the Water Authority.

H.B. VENTRISS

Manager, Water Resources Planning and Allocation
Water Authority of Western Australia

July 1995

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PART ONE

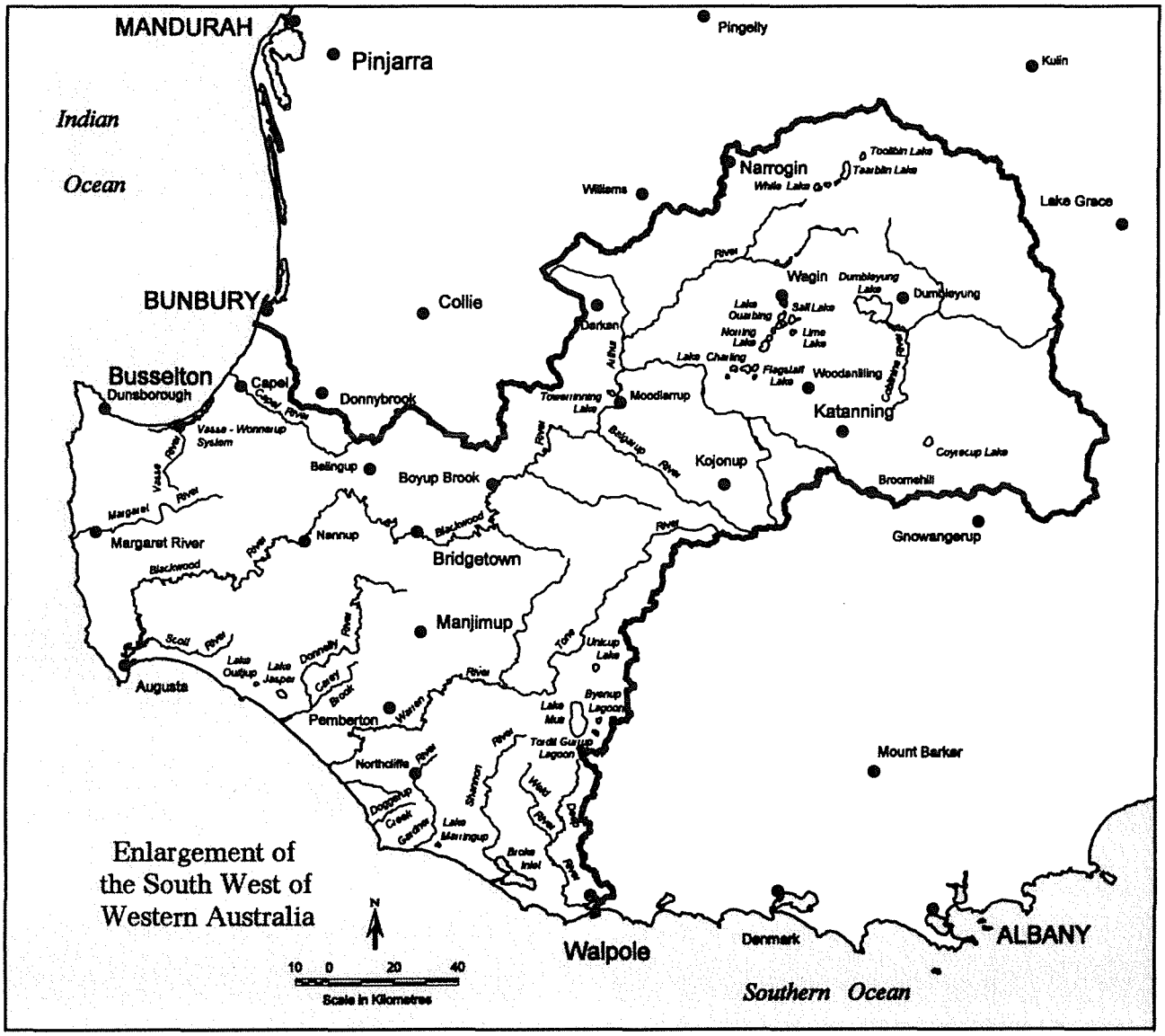
ARCHAEOLOGY

BY

GARY QUARTERMAINE

& AMANDA YATES

FIGURE 1: Busselton - Walpole Region Study Area



1.0 INTRODUCTION

In March 1994 The Water Authority Of Western Australia commissioned consultants to conduct an investigation into Aboriginal significance of wetlands and rivers in the Busselton - Walpole Region.

The consultancy brief required a study of:

"the significance of wetlands and rivers within the Busselton - Walpole region to Aboriginal people in terms of both previous activity and current associations."

The study area comprises the Shannon, Warren, Donnelly and Blackwood River and the Busselton coast drainage basins. This is an area of approximately 35,000 square kilometres bounded roughly by the towns of Capel, Busselton, Dunsborough, Augusta, Walpole, Kojonup, Katanning, Nyabing, Harrismith, Narrogin, Darkan, Boyup Brook, Balingup and back to Capel.

The study area is shown in the figure on page (vi).

This work was undertaken as part of a wider study into environmental and cultural water resource values. It forms part of the process of arriving at a water resource allocations strategy for the Busselton - Walpole Region, and pertains to both surface and groundwater resources.

The study required both desk top and field research. The archaeological component was entirely desktop, utilising and coalescing information available from existing maps, reports, relevant government agencies and other organisations. The ethnographic component utilised similar sources and also involved consultation with relevant Aboriginal groups and individuals. This Part (One) of the report looks at prehistoric Aboriginal sites, or sites with material evidence of previous Aboriginal activity. The work was conducted by Gary Quartermaine and Amanda Yates, assisted by Caroline Heine and Felicia Stewart. Part Two which follows addresses ethnographic sites, or sites of significance to living Aboriginal people.

1.1 Definition Of Archaeological Sites

For the purpose of this project, an archaeological site was defined as any material evidence of prehistoric Aboriginal activity. This is manifested in a number of different site components which may occur singularly or with one or more of the others to form an archaeological site. The most common of these are surface artefact scatter, quarries, art sites, stone arrangements, rockshelters with evidence of occupation, grinding patches, burials, and marked trees (see also Appendix 2).

An artefact scatter is usually recorded as a site if it contains three or more artefacts in association. Solitary artefacts are recorded as Isolated Finds but are not usually registered as sites.

The sites that are within the project area are significant from two perspectives. They are of importance to Aboriginal people and they also have scientific significance. Their significance to Aboriginal people is discussed in the ethnographic section of this report (Part Two).

Archaeological significance, in this report, is based on recognising that a body of archaeological data can answer regional research questions and questions about intra and inter-site attributes as well as those concerning a particular sites attributes. The potential for the site to yield further information, particularly of a stratigraphic nature that may contain datable material, is also important.

The recorded sites within the project area can be classified into four categories. These are:

(i) Important sites that should be preserved;

(ii) Important sites from which more information may be obtained by collection or excavation;

(iii) Sites that require further investigation or monitoring;

(iv) Sites with limited potential to yield further information.

1.2 Format Of Report

The format of Part One of this report is based on the structure that follows.

Section 2.0 gives a brief description of the environment of the study area, with information on climate, geology, geomorphology, vegetation, drainage and palaeo-environment.

Section 3.0 describes the recorded sites in the project are, based on information in W.A. Museum Aboriginal site files and relevant survey reports.

Section 4.0 reviews information on data archaeological sites, area models, and ethnohistorical material.

Section 5.0 discusses the results of this investigation and makes recommendations for future management.

2.0 ENVIRONMENT

2.1 Climate

The climate of the study area is classified as Mediterranean, with mild wet winters and warm dry summers. Temperatures are generally moderate with slight variations between the seasons. Mean annual temperatures range from 20 degrees celsius to 36 degrees celsius.

The southernmost sections of the region experience more rainfall and a shorter summer drought, in the order of three to four months, than the northern sections, which have five to six dry months per annum. The average annual rainfall for the area is variable, from about 1100mm in the northern sections comprising the Swan Coastal Plain, Leeuwin - Naturaliste Ridge and the Blackwood Plateau, about 1200 - 1400mm on the Scott Coastal Plain and southern extreme of the Darling Plateau; and 600 - 900mm in the inland portion of the Darling Plateau.

The strongly seasonal climate influenced Aboriginal Occupation patterns with concentrations of people about wetlands and water courses during the summer drought.

2.2 Geology

The project area comprises three district geological units. These are the Yilgarn Block, Leeuwin Block and the Perth Basin.

The Yilgarn Block is an area of Archaean rocks consisting partly of metamorphosed igneous and sedimentary assemblages known popularly as greenstone belts, and partly of intrusive granite and migmatic terrains (Williams, 1975). The Yilgarn Block is bordered to the west by the Darling Fault.

The Perth Basin geological unit is a deep trough filled with phanerozoic sedimentary rocks with a surface mantle of quaternary deposits (Playford et al, 1975). The total thickness of sedimentary rocks forming this Basin is about 15 000 metres, and it is believed to have derived from the weathering of the adjacent Yilgarn Block.

2.3 Geomorphology

The landscape of the study area is comprised of five distinct physiographic divisions: the Swan Coastal Plain, Darling Plateau, Leeuwin - Naturaliste Ridge, Blackwood Plateau and the Scott Coastal Plain.

The northern sector from Busselton to the Whicher Scarp represents the southernmost portion of the Swan Coastal Plain. The topography of the Swan Coastal Plain is flat with a few relic dunes and occasional swamps in low lying areas. Soils are sandy and there is no occurrence of rock outcrop.

The central sector is located in the Blackwood Plateau, a region of low undulating uplands with sandy soils and exposures of laterite.

The western sector, from Dunsborough to Augusta consists of the Leeuwin - Naturaliste Ridge, a moderately elevated area of proterozoic rocks. The undulating surface contains laterite and gravels on ridges and grey sands in the valleys. The coastal dunes comprise calcareous sands with some limestone and gneissic outcrops.

The southern sector falls on the Scott Coastal Plain, which is a low lying area of remnant dunes and swampy land with leached sandy soils and no rock outcrops. The lack of naturally occurring stone meant that material for artefacts would have to be imported, and that stone artefacts would be highly conspicuous.

The eastern sector which represents the bulk of the study area is located on the Darling Plateau. The plateau is comprised of precambrian crystalline rocks which form a gently undulating surface with an average height of 400 metres above sea level. It is dissected by steep - sided valleys with incised channels and valleys with broad, flat ribbon flood plains and small channels (Semeniuk, 1987). The Darling Plateau is bordered to the west by the Darling Scarp which dominates the landscape of the South West region and defines distinctive changes in landform and vegetation systems.

2.4 Vegetation

The vegetation of the project area is largely determined and shaped by its varied landscape character, particularly soil, topography and water.

The study area has been classified as part of the southwestern Botanical Province (Beard, 1981), which exhibits the greatest floral diversity in the State.

This Province is further broken down into a number of botanical subdistricts (Beard, 1990). The Subdistricts which fall within the specific research area are as follows: the Warren Botanical Subdistrict (Karri Forest Subregion), the Menzies Botanical Subdistrict (Southern Jarrah Forest Subregion),the Dale Botanical Subdistrict (Northern Jarrah Forest Subregion) and the Drummond Botanical Subdistrict (Swan Coastal Plain Subregion).

A range of forest and woodland exists within the South West Province such as Jarrah, Eucalyptus marginata; Karri, Eucalyptus diversicolor; Marri, Eucalyptus calophylla; Blackbutt, Eucalyptus patens; Wandoo, Eucalyptus Wandoo; Tuart, Eucalyptus gomphocephala and Tingle, Eucalyptus jacksonii and Eucalyptus guilfoylii.

The southern Swan Coastal Plain has been subject to intensive agriculture and some sand mining, so very little of the original vegetation remains. Creek and river margins support stands of Eucalyptus. The Scott Coastal Plain consists of low

woodland of Jarrah and Banksia with a thick understory of shrubs and sedges.

On the Blackwood Plateau there is extensive forest of Jarrah and Marri, often with a dense understory of shrubs such as grass trees, blackboys, cycads and sedges in the wetter parts.

2.5 Drainage

The surface water resource of the project area, derives from rivers and streams arising in the southern and western areas of the Darling Plateau and discharge across the coastal plains into the Indian and Southern Oceans.

The ground water resource is restricted to the coastal plains and Blackwood Plateau. Some ground water can also be found in the surface deposits and fractured rock of the Darling Plateau.

The major river systems of the region are the Murray and Blackwood Rivers which originate in the low rainfall inland agricultural areas, and are now brackish or saline due to the clearing of vegetation for agriculture. Intermediate length rivers such as the Collie and Warren Rivers are marginal to brackish in quality, and clearing controls have been initiated to avert any further deterioration.

It is generally considered that the shorter rivers of the forested areas of the South West are the major source of fresh water (South West Development Authority, 1991).

The main river systems of the project area, from north to south are as follows:

a) Busselton Coast Drainage Basin
b) Margaret River
c) Blackwood River
d) Donnelly River
e) Warren River
f) Shannon River

2.6 Palaeoenvironment

When the first Australians colonised the south west corner of Australia about 40,000 years ago, the Pleistocene environment they encountered would have been quite different from that of today. Rainfall, evaporation and temperatures would have been lower during the last ice age, and increased aridity would have caused a coastward migration of arid zone vegetation types. Thus, the open woodland of the continental shelf would have been a suitable human habitat. Faunal assemblages excavated from coastal cave sites of the region suggest that apart from the presence of the now extinct Tasmanian Tiger, and the absence of the Dingo, which was introduced in the mid-Holocene, the fauna represented is similar to that of the present day (Flood, 1983).

The sea levels of the region were approximately 200m lower, and the shore line about 20 km further west than today, owing to the expansion of the polar caps and the reduced rainfall which characterized the Pleistocene epoch. In this region, as in other parts of the world, the sea levels fluctuated with the succession of glacial and interglacial periods which repeatedly exposed and inundated the continental shelf. The last period of sea level rise began about 12,000 years ago and stabilised around 6,000 years ago, and transformed some of the coastal hills and ridges of the South West into off-shore islands. This event marked the end of the Pleistocene and the beginning of the Holocene epoch, and was a period of dramatic change. The loss of land along the coastal plain, rising sea levels and temperatures, created food rich bays and inlets, which led to a change in settlement pattern and staple foods. From this time on the environment of the region appears to have remained relatively unchanged.

3.0 PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES

3.1 Methods

The site files of the Department of Aboriginal Sites, Western Australia, were examined to determine the number and type of archaeological sites within the project area. This information was then used to produce a map showing the location of registered archaeological sites within the Busselton-Walpole Region (Figure 2), and Tables to exhibit the form, function and relative frequencies of the various site types (Tables 1 & 2).

3.2 Archaeological Sites

As a result of previous surveys, independent research and miscellaneous reportings, 181 Aboriginal sites have been recorded and registered with the Western Australian Museum in the immediate vicinity of the research area (see Dortch, 1975, 1979, 1986 & 1990; Dortch and Merrilees, 1973; Dortch and McArthur, 1985; Quartermaine, 1990; Smith, 1989).

These sites are mostly small artefact scatters but also include burials, quarries, scarred trees, stone arrangements, engravings, paintings, grinding patches, fish traps, and middens. The area also has a number of sites of dubious nature for which little information is available. The recorded archaeological sites are listed in Table 1, and graphed according to site type, regional densities and environmental zones in Tables 2, 3 and 4 respectively.

The most common archaeological site type in the project area are surface artefact scatters, which comprise 44% of the overall site types. Artefacts are also present as a component of 21.5% of other sites. The next most frequent site types recorded are burials (12%), scarred trees (7.5%), and stone arrangements (5%). Site types which register 2% or less include fish traps, grinding patches, engravings, paintings and shell middens. The low incidence of engravings in the South West is probably due to the lack of suitable lithic material (Dix, 1973:46). Sites recorded as other (O) constitute 10% of the types, and represent such features as gnamma holes, camp sites, water holes, kangaroo traps, fire places and historic sites. Several sites (2%) contain multiple components (see Table 2).

The relative number of artefacts per site and the assemblage breakdown have not been recorded to the extent required for any meaningful regional statistical analysis. It should be noted that the majority of sites (70%) were recorded prior to 1980, with 65% of these being recorded between 1970-1980. Since this time, archaeological research in Western Australia, and indeed Australia, has moved in new directions, thus the method of site recording has not been consistent.

However, some general trends can be suggested from the available data. Firstly, the majority of sites are small artefact scatters of less than 10 artefacts. Only a very few sites have recorded more than 1,000 artefacts. Secondly, a number of artefact types are present which correspond broadly to stone tool assemblages of the wider Australian context. Flaked stone constitutes the major artefact type, with cores and grindstones occurring less frequently. Recorded implements include adzes, backed blades, axes, burins, horse hoof core and pebble tools.

While surface artefact scatters are the dominant recorded site type, quartz is the most dominant lithic material used in the manufacture of stone tools. The other lithic types which also occur frequently include, quartzite, Eocene chert, chert, dolerite, silcrete and granite. Calcrete, basalt, magnetite and sandstone are utilised infrequently. Artefactual material has also been recorded as being manufactured from shell and bone and historical material such as glass and ceramics. The presence of historical material which has been worked by Aboriginal people, mixed with traditional artefacts, suggests that some sites continued to be occupied for some time after European contact (Hallam, 1973:48).

A number of studies have been conducted on artefacts manufactured from the distinctive Eocene fossiliferous chert which is known in numerous South West sites. According to Glover (1979:188), Eocene chert derives from two distinct sources. One source was restricted to the coastal plain and became submerged during the last marine transgression, the other source, Plantagenet Chert, derives from the south eastern portion of the Western Shield. Artefacts manufactured from the Eocene chert with a coastal derivation area generally assumed to predate 5,000 years old. Glover further argues that Eocene chert tends to dominate flake assemblages from the Perth Basin or Leeuwin Block, while silcrete artefacts are infrequent. The southern Western Shield generally comprises assemblages containing quartzite, silcrete and Eocene chert, and sites from Cockleshell to Esperance predominate in Eocene chert artefacts.

Some artefact assemblages in the central and northern Perth Basin geological area, exhibit a mixture of Eocene chert of different origins, suggesting a movement of people towards the coast (Glover, 1979:189).

The previously recorded sites in the project area reflect a distribution that indicates where site survey work has been undertaken, as well as the location of numerous sites on the margins of rivers, lakes and swamps. Figure 2 shows the location of recorded archaeological sites in the project area, and Tables 2 & 3 presents the geographical and environmental distribution of the sites.

The majority of the previously recorded archaeological sites are located in the Dumbleyung and Pemberton Regions: both areas register 25%. The next most densest occupation rate of 21% falls in the Busselton region. The most frequent site locations occur around rivers, lakes and wetlands (43%). The next most common site locations are cleared and disturbed

areas where site discovery is much easier. Coastal dune sites comprise 19%, while the forest and woodland areas only exhibit 7% of the overall recorded sites. Rockshelters, caves and underwater sites are the least most frequent site locations at 5% and 6% respectively.

It has been argued that the jarrah forests of the South West were not generally occupied by Aboriginal people (Hallam, 1975). This is based on the low incidence of archaeological sites in the region and ethnohistorical accounts. However, Pearce (1982), conducted a systematic survey of particular forest areas in 1980 which revealed a high frequency of sites in the order of one per square kilometre. The artefact assemblages located comprised small artefact scatters with a predominance of quartz.

From this evidence, Pearce (1982) suggests that the jarrah forest areas were probably occupied intermittently over long periods of time, and that this usage had probably declined or ceased by the time of European colonisation. A recent archaeological research project focused in the jarrah forests of the South West, commissioned by the Australian Heritage Commission as part of the National Estates Grants Programme (NEGP), obtained similar results. The major site types located during the surveys comprised small stone artefact scatters, with quartz as the dominant lithic source (Pers. Comm. Edwards, July 1994)

The relative site density for various parts of the project area, based on the results of archaeological surveys, points to an average site density of one site per 200 sqare kilometers overall, with large variations according to location and environment.

This estimate is based on the total number of recorded archaeological sites being 181 for an area of 35,000 square kilometres. The site density calculated for the Busselton-Walpole Region is much lower than that estimated by Quartermaine for the Perth-Bunbury Region, which exhibited two sites per square kilometre with similar locational and environmental variations (see O'Connor, Quartermaine and Bodney, 1989).

Following is a breakdown of the recorded site density of the various regions of the research area, and specific areas located within these zones.

The Pemberton Region (SI SO-10), has a recorded site density of one site per 224 square kilometres. Within this region the Lake Muir area shows one site per 62 square kilometres, while the D'Entrecasteaux National Park shows one site per 36 square kilometres. The majority of the sites in the D'Entrecasteaux National Park come from Lake Jasper which exhibits one site per 3 square kilometres.

The Augusta Region (SI SO-9), has a recorded site density of one site per 81 square kilometres. Within this region the area immediately surrounding the Augusta township shows one site per 20 square kilometres.

The Dumbleyung Region (SI SO-7), has a recorded site density similar to that of the Pemberton Region of one site per 224 square kilometres. Within this region the East Arthur area shows one site per 22 square kilometres, and Lake Ewlyamartup exhibits a comparable number of one site per 25 square kilometres.

The Collie Region (SI SO-6), has a recorded site density of one site per 256 square kilometres. Within this region the Capel area shows a site density of one site per 20 square kilometres, while the Blackwood River differs greatly at one site every 166 square kilometres.

The Busselton Region (SI SO-5), has a relatively high recorded site density of one site per 58 square kilometres. Within this region Geograph Bay exhibits a site density of one site per 19 square kilometres, and the coastal stretch from Smith Beach to Cow Rock is even denser still with one site per 9 square kilometres.

The Corrigin Region (SI SO-3), shows a very sparse recorded site density of one site per 367 square kilometres.

This recorded site density breakdown clearly demonstrates the immense variability that exists in archaeological site distribution throughout the South West of Australia.

4.0 PREVIOUS ARCHAEOLOGICAL RESEARCH

A considerable amount of research has been conducted in the south west corner of Western Australia, thus the archaeological patterning of the region is quite well developed. Research into occupation patterns of the coastal plain and jarrah forests, although mostly concentrated in the areas close to Perth, is thought to be relevant to the research area owing to environmental similarities. According to O'Connor (et. al., 1989), archaeological and ethnographic surveys on the Swan Coastal Plain have confirmed the concentration of Aboriginal occupations around wetlands, rivers and estuaries.

This pattern was further identified on the coastal plain near Bunbury (Murphy et. al., 1990), and also proposed for the Scott River Coastal Plain. In the case of the Scott River Coastal Plain, which is characterised by low lying sand plains and swamps, extensive surveys have uncovered very little archaeological material, suggesting a very low occupation rate for this area. Recent surveys in the Blackwood Plateau forest have also revealed similar results (Macintyre et. al., 1992a & 1992b).

4.1 Dated Evidence

The earliest evidence for the Aboriginal occupation of the South West comes from outside the research area, but provides reasonably reliable inferences for a long history of occupation. The oldest site in the region was discovered on alluvial terraces at Upper Swan, near Perth, and has been radio carbon dated to about 38,000 years BP (Pearce and Barbetti, 1981). Registered as S0999 - Upper Swan, this site consists of a sparse artefact assemblage manufactured from quartz (71%), quartzite, chert, dolerite, bryozoan chert and granite, which was covered by a layer of sediment about 30,000 years ago. Extensive downcutting has resulted in the river bed being presently 10m below the level at the time of Aboriginal occupation. Changes in sea level after this period would have resulted in possible adverse environmental conditions in this area, with an increasing distance to the coast-line during the period from 20,000-15,000 years ago (Pearce and Barbetti 1981; Pearce, 1983).

The oldest site in the research area is Devil's Lair (S00363), a limestone cave, near Margaret River in the Leeuwin-Naturaliste Block. Devil's Lair reveals a considerable length of occupation, ranging from 33,000-6,500 years ago (Dortch, 1979a).

A date of 31,400 +/- 1,500 years ago has been obtained for a sample taken from above two occupation features and artefact assemblages. The uppermost level that is believed to contain in situ archaeological material, has a date of 6,490 +/- 145 years ago. Excavations revealed over 3 metres of deposit, which comprised a variety of mammal, bird and reptile species, mussel and emu shell, a number of stone artefacts and a diverse range of bone tools (Dortch, 1977; Dortch and Merrilees, 1973).

The stone tool assemblage at Devil's Lair corresponds broadly to the "Australian Core Tool and Scraper Tradition", which is characteristic of Pleistocene sites throughout Australia. However, the artefacts at Devil's Lair appear to be much smaller than most other ice age assemblages, and comprise small adze flakes and numerous retouched tools. The bone tools discovered at this site are significant, for the preservation of bone tools in Pleistocene sites in Australia is quite rare. The earliest example at Devil's Lair dates to about 30,000 years old, and represents the oldest bone tool in Australia. The most common bone artefact types were split pointed bones, and bone points. A few very small bone points have been discovered, and it has been suggested that they were used to sew animal skins together (Dortch and Merrilees, 1973).

Another significant discovery at Devil's Lair were a small number of bone beads, which are unique in Aboriginal culture, as well as being the oldest examples of ornamentation in Australian prehistory. The beads were manufactured from long bones, and have been dated to between 12,000 and 15,000 years ago (Dortch, 1979b).

A further example of the artistic tradition of the early occupants of Devil's Lair, are the limestone pieces uncovered which exhibit signs of engraving (Dortch, 1976).

Devils Lair represents one of the very few cave sites in the South West, for the majority of recorded archaeological sites are open air occupation episodes. A number of open air sites have been discovered in the Leeuwin Naturaliste Region such as, Arumvale, Dunsborough, Quininup Brook and Ellen Brook (see Dortch and McArthur, 1985, for synthesis). Arumvale (S00366) is located approximately 3 kilometres south of Devils Lair, and exhibits a long occupation sequence which has been radiocarbon dated to about 11,000 BP (Dortch, 1986).

The site revealed a rich quartz and Eocene chert artefact assemblage, comprising flakes, cores, chips, geometric microliths and retouched pieces (Dortch and McArthur, 1985). The Arumvale assemblages are similar to the other open sites in the Leeuwin Naturaliste Region, as well as those found in the Perth area, and thus can be seen as indicative of late-Holocene sites in the South West (Dortch and McArthur, 1985).

Further inland at Northcliffe, an Aboriginal site located on the Darling Plateau, archaeological excavations revealed a silcrete quarry and stone tool manufacturing site, which showed an extensive usage dating beyond 6,000 years ago (Dortch, 1975). The most notable feature of this site is the presence of geometric microliths, small abruptly retouched stone tools, which date from about 6,000 years through to 3,000 years ago. This evidence was used to enter the academic debate regarding the chronology of the transition from early to late phase stone industries in Australia. According to Dortch (1975), the

Northcliffe evidence suggests that this transition occurred much earlier than previously believed.

More recently, underwater archaeo-logical investigations have been conducted at Lake Jasper, in the D'Entrecasteaux National Park, which have revealed a number of prehistoric Aboriginal sites (Dortch and Godfrey, 1990). Lake Jasper is the largest fresh water lake in the South West, and was formed during the mid-Holocene as a result of flooding caused by environmental changes consequent to mid-Holocene sea level stabilisation. The site was discovered in 1988, during a period of severe drought, when the lowered lake levels exposed stone artefact scatters and tree stumps in the growth position. The Lake Jasper site is particularly significant, for it offers well preserved, primarily deposited artefacts, which provides the temporal control necessary for determining the chronological sequence of events. Lake Jasper also represents the first successful application of maritime archaeology to prehistory in Australia (Dortch and Godfrey, 1990).

4.2 Area Models

Three models for archaeological material and site distribution, that are relevant to the project area, have been proposed by Dortch (1977), Anderson (1984) and Ferguson. These are discussed below.

4.2.1 Stone Tool Industries

Prehistoric stone tool industries in the South West have been classified into earlier and later phases (Dortch, 1977). The early phase industries of the South West have only been documented from a few well dated sites, such as Devil's Lair (Dortch and Merrilees, 1973), Puntutjarpa (Gould, 1977) and Koonalda (Wright, 1971). Artefacts from these sites comprise small thick flake scrapers, bipolar cores, notched denticulated pieces, flakes and discoidal cores, and single multi-platform cores, which have been manufactured from a range of lithic materials including a distinctive Eocene fossiliferous chert. It is believed that the usage of this chert ceased after the last marine transgression when the outcrops were drowned out by the rising sea levels (Dortch, 1977; Glover, 1975). The early phase industry of the South West corresponds broadly to Mulvaney's (1975:14) "Australia Core Tool and Scraper Tradition" which describes Aboriginal stone artefact assemblages found throughout much of Australia.

The later phase stone industries are generally found in archaeological contexts dating from 4,000 years ago, and are characterised by the addition of geometric microliths, backed blades, and a variety of adze flakes.

The later phase industry of the South West is classified as being part of the Australia wide "Small Tool Tradition" (Dortch, 1977; Mulvaney, 1975:210).

4.2.2 Between Plateau and Plain

Anderson (1984) has proposed a land-use model for prehistoric exploitation of the Swan Coastal Plain, and its hinterland, based on regional research into the relative proportions of variously sized surface artefact scatters and their associated artefact densities. This model suggests that, due to the variation in resources available in the three different environmental zones investigated, there was more intensive use of the coastal plain then either the adjacent forest or open woodland plateau.

This model also suggests a concentration of large numbers of people near the various bodies of water (coast, estuaries, lakes, swamps and rivers) of the coastal plain. In winter and early spring, there was some movement into the jarrah forest in the Darling Ranges. The small size of archaeological sites in this zone points to exploitation by small, mobile groups in an area of less concentrated resources and water sources. By late spring, there was movement back onto the coastal plain.

Different groups inhabited the area from 30 kilometres east of the escarpment and exploited the eastern jarrah zone which graded into wandoo woodland. There appears to have been trade and ritual exchange between these plateau groups and those on the coastal plain

4.2.3 Site Location Model

Ferguson (1985) has produced a model of occupation of the South West which predicts the extensive use of the uplands during earlier times of cooler drier climate and less dense forest. With increased rainfall and denser forest during the early Holocene, there is expected to have been sparser occupation and increased occupation of the coastal plain or interior woodlands. Stabilisation and/or hotter conditions in the late Holocene may have coincided with reoccupation of the forest zone.

From this research a predictive model for site location can be proposed for the project area. The types of sites and their location attributes are as follows:

i) large artefact scatters indicating base camps may be situated near wetlands or rivers on the coastal plains;

ii) small artefact scatters representing task-specific activities may occur at some distance from base camps throughout the coastal plain;

iii) very small artefact scatters indicating ephemeral camping may occur throughout the forest, particularly on flat ground;

iv) moderately large artefact scatters representing longer term camp sites may occur beside wetlands or rivers within the forest zone;

v) burials or skeletal material may occur in sand dunes or river banks on the coastal plain.

However, it is necessary to take into account in the model the high levels of surface disturbance caused by agricultural

use of the coastal plains which can be expected to have largely obliterated artefact scatter.

4.3 Ethnohistory

A number of ethnohistorical sources, such as the writings, letters and diaries of early European settlers to Western Australia, have described the lifestyle of the Aboriginal people at the time of initial settlement. This documentation is very generalised and is tempered by the major effect that European settlement had on traditional Aboriginal society. The major source of early documentation relevant to the research area is Daisy Bates who worked extensively throughout the south-west when researching her history of the Aborigines of Western Australia during the early twentieth century. Other early sources include Stirling (1827), Armstrong (1836) and Hammond (1933). A more recent analysis of these early records is presented in Berndt (1973), Hallam (1979), Green (1979, 1984), Tilbrook (1983) and White (1985). It is possible to draw some conclusions about Aboriginal life from the ethnohistorical sources. However, much of this data relates to ethnographic information, and is discussed in Part Two of this report. Nevertheless, certain aspects of these writings are relevant to, and have implications for, the archaeological record: such as Aboriginal population, seasonal movement of people, camping areas, economic patterns and trading practices. These aspects of Aboriginal life are all closely related to each other and to mythological, ceremonial and social traditions.

Prior to European contact the Aborigines of the South West Region formed a distinctive socio-cultural group, collectively known as Nyungar. According to Berndt (1973:50), the boundary which distinguished the Nyungar from other Aboriginal groups extended from Mullewa to Esperance. Therefore, ethnohistorical accounts of the Aboriginal communities of the South West refer to a vast area north and south of the Swan River.

Moreover, much of the early data; and subsequent interpretations relate primarily to the metropolitan area and outlying districts. Nevertheless, such accounts are thought to be relevant to the research area because of the environmental and cultural similarities.

The Aboriginal population of the South West region has been estimated in several sources. According to Bates (in White, 1985:54), the population of the Nyungar could not have been less than 40,000 before white settlement took place. This figure is based on the estimate made by Governor Stirling that between 1,000-1,500 Aborigines inhabited Perth and the Swan River Districts during the 1830's.

Bates assumed that all other districts in the South West would have been similarly populated. Bates also observes that European colonisation in the region resulted in "the almost total extinction of the pure-blooded natives". Census statistics of 1901 rates the number of full blooded Aborigines in the South West as low as 876.

However, modern scholars place the population rates much lower than that of Bates. While they acknowledge that it is impossible to accurately pinpoint the Aboriginal population of the Southwest, from the extant archival record, they estimate that the Nyungar population probably totalled around 6,000 (Berndt, 1973; Green, 1984; Tilbrook, 1983). It is further suggested that the Aboriginal population was focussed on the coastal plain, with a sparser occupation in the less favourable forest at woodland environments (Anderson, 1984; Tilbrook, 1983). Hallam (1977, 26-27) estimated that a population density of 25 people to 100 square miles can be assumed for the Swan Coastal Plain.

The seasonal movement of Aboriginal groups relates to the exploitation of various resource available in the different environmental situations. The early writers noted that Aboriginals tended to congregate around waterways during the summer, and move inland during the winter months. Stirling (1827:560) recorded that the Aboriginal groups frequented the coast during the summer to fish, and migrated to higher grounds during the winter to hunt kangaroo and other game and gather roots. According to Armstrong (1836), larger gatherings dispersed into family groups during the winter months, and built temporary shelters that acted as month-long camps at locations where food was available. However, Hammond (1933:20), observed that "...a month would be a long stay for a group of natives to make at any one place. Often they stopped for only a night or two".

The research notes compiled by Daisy Bates (in White, 1985:47) suggests a distinction between the inland and coastal tribes.

"All Coastal Bibbulmun were Waddarn-di-sea people,and called themselves, and were called by their inland neighbours, Waddarn-di Bibbulmun. The inland tribes were distinguished by the character of the country they occupied. They were either Bilgur (river people, beel or bil-river), Darbalung (estuary people), or Buyun-gur (hill people-buya-rock, stone, hill), but all were Bibbulmun [Nyungar]".

Archaeologists and anthropologists generally agree that prehistoric land use patterns were based on the seasonal migrations between the coastal plain and its hinterland to exploit the various food and water resources (Anderson, 1984; Green, 1984; Hallam, 1979; Tilbrook, 1983). The lake chains along the coastal plain were an important source of food in the summer, while kangaroo, emu and root crops were plentiful in the drier inland country during winter. At the change of season, whole camps moved from one area to another, and meetings with other tribes were sometimes organised at the same time as the shift (Green, 1984; Tilbrook ,1983).

According to Tilbrook (1983:3), the women were responsible for most of the tasks associated with moving camp such as transporting domestic implements and constructing the beehive shaped huts at the new site.

The seasonal availability of food was an important factor in Aboriginal life. Many of the fish and water fowl, that are found in the coastal waterways in summer, migrate further afield in winter. While the Yam or Warryn can be found in the hills during the winter months (Hammond, 1933:28-29). Large areas of the coastal plain would have been flooded during winter, rendering travel and camping difficult and unpleasant.

The favourable environment of the South West yielded such plentiful resources that the local tradition gives no indication of a scarcity of food (Armstrong, 1836). In the words of Daisy Bates (in White 1985:46);

"The many rivers, hills, estuaries, timbered areas and rich loam flats within its boundaries, in the abundance and variety of the animal and vegetable foods which they afforded, made the Bibbulmun [Nyungar] people the most fortunate of all the western tribes, for there was no time of the year which had not its seasonal product for the sustenance of its inhabitants".

In the research area, where the topography is characterised by low undulating hills, the kangaroo roamed in herds of at least 500, the cockatoos, parakeets and pigeons darkened the evening sky and the rivers teemed with fish (Green, 1984:3).

The food resources exploited by the Aboriginal people in their traditional society, and the methods of procurement have been described in detail by Bates (in White, 1985) and Meagher (1974). Various observations were also made by a number of early settlers. A range of animal, reptile and bird species were hunted and trapped.

Mammals which were widely exploited include kangaroo, wallaby, possum, bandicoot, native cat, Tasmanian devil and native rat and mouse. A number of snakes and lizards were hunted such as dugite, tiger snake, goanna and kink skink. The exploitation of frogs was widespread. Emus and pigeons were the major bird types hunted (Meagher, 1974).

Fish were a major source of food along the coastal plain, but fishing was restricted to the lakes and rivers, for the South West Aborigines were not a seafaring people (Meagher, 1974). Vegetable foods such as roots, bulbs, tubers, nuts, fruit and fungus were also exploited. According to Meagher (1974:27), roots, bulbs and tubers were the staple vegetable foods. The species commonly eaten were Caesia Dioscorea, Yam; Haemodorum, Mutta and Prasophyllum, wild potato.

The three general methods for hunting kangaroo were, driving the animal into swampy soil whereupon it was easy to spear, stalking or running down, and digging pits for catchment. Fish were generally caught by method of spearing in the larger rivers of the Southwest. The freshwater turtle which is abundant in the summer months is caught by hand. Reptiles are tracked to their holes and then seized by the tail. Birds were exploited by first spearing the nest from underneath, and then using a club to strike the prey as it flies out of the nest (Bates, in White, 1985:244-259).

Evidence of the use of low intensity controlled firing of the vegetation by Aboriginal people of the South West has been documented by Hallam (1979). This burning was widespread and enabled the Aboriginal people to modify their environment and maximise economic resource exploitation. Burning was used to encourage (by growth of low grass) and trap game, to encourage vegetable species and to provide ease of access by removing vegetation growth.

Ceremony and trade were also important factors in traditional Aboriginal society. Daisy Bates (N.D.) noted that the South West Aborigines were part of a wide spread continental trade route.

The Nyungar traded wilgi (ochre) in return for such items as ground axes, pearl shell ornaments, meteorites and carved initiation boards. Some of these trade items came from as far afield as the northern Australian coastline and central regions. Early documentation describes how the Nyungar traded artefacts to the European sailors during South West voyages of discovery.

One of the most relevant aspects of Aboriginal ceremony to the archaeological record is funerary rites. Armstrong (1836), gives the following account of traditional Aboriginal burial practice in the Southwest:

"Their funeral ceremonies were few and simple. They scrape out a shallow grave by means of pointed sticks; and, judging from the length of such graves as have come under observation, there is reason to suppose that they bury the corpse in a sitting or doubled posture. After strewing some leaves over the body, they also place logs of wood over it, to prevent the native dogs getting at it. They do not, any provision in the grave; but they always bury, along with the deceased, his knives, hammer, and kangaroo-skin wallet. Some portion of the excavated earth is thrown back into the grave; but they appear to leave a little hillock of it at each end of the grave, for some time after the burial".

Aboriginal material culture is based, to a large extent, on non-durable materials, such as wood, bark, fibre and skins, that have a limited life in the archaeological record. Stone tools, conversely, remain as often the only evidence of prehistoric activity. Bone, either as a tool, as refuse, or as a burial, falls somewhere between these extremes. Lofgren (1975:7) describes spears, spear throwers and clubs for men, and digging sticks, wooden carrying dishes and grindstones for women, as the basic implements of Aboriginal life.

Therefore, stone artefact sites reflect only one aspect of Aboriginal material culture which utilised a wide range of materials from the natural environment.

4.4 Historical Background

The initial settlement of the South West regions began shortly after the establishment, of the Swan River Colony in 1829, and was dictated by the search for arable land. This

settlement was periodically boosted by various government settlement and development programs, such as: the Estates Settlement Scheme in the 1820's and 30's; the construction of a road and railway network between 1889 and 1918; the Group Settlement and Returned Soldiers' Settlement Schemes in the 1920's and 30's in conjunction with the development of irrigation and drainage facilities under Government Works Programs. In general, the South West comprised a sparse rural population supported by pastoral industry during much of the second half of the nineteenth century, and only a few townships were declared during this period.

Those towns which were gazetted in the nineteenth century, with a long established heritage, and are situated within the project area include: Busselton (1837); Augusta (1830); Bridgetown (1868); Dunsborough (1879); Greenbushes (1889); Nannup (1890) and Boyup Brook (1899) (South West Development Authority, 1991).

The timber industry played a very important role in the early development of the Region, and road, rail and communication links were established to support the industry. This activity opened up new lands, however, the relative importance of the timber industry in certain areas declined with the subsequent growth of the dairy industry. In the early years, many areas were completely worked out, and the industry was forced to transfer to new locations leaving ghost towns in its wake. This cleared land soon became an attractive prospect for pastoralists, while reafforestation programs and long term planning helped to change the nature of the timber industry toward a perpetual yield system (South West Development Authority, 1991).

New work practices and an improved transportations system encouraged the establishment of Mill sites throughout the Region between 1889 - 1918. Many of the Mill towns, which sprang up in the forest areas, represented temporary creations of the timber companies, and thus not officially declared. Around the turn of the century, the agriculture settlements tended to occur close to railways, but this gradually changed with improved motor transport and roads. Today, people from diverse cultural backgrounds including Aboriginal groups, descendants of European settlers and ethnic migrants, comprise the citizens of the Region, and contribute to its vitality and heritage (South West Development Authority, 1991).

5.0 CONCLUSIONS

5.1 Discussion

This investigation addresses archaeological aspects of the significance of wetlands and rivers to Aboriginal people, in terms of both previous activity and current associations, for an area between the Busselton Coast Drainage Basin and the Shannon River.

The investigation involved a review of archaeological sites registered with the Department of Aboriginal Sites, Western Australian Museum, survey reports and other relevant literature, and historical sources concerning Aboriginal traditional life at the time of early European settlement of Western Australia.

As a result of previous surveys, independent research and miscellaneous reportings, 181 Aboriginal sites have been recorded in the immediate vicinity of the research area. The most common archaeological site type are surface artefact scatters, which comprise 44% of the overall site types. Stone artefacts are also present as a component of 21.5% of other sites. It should be noted that stone tools are the most durable material that remains in the archaeological record. Traditional Aboriginal culture was based, to a large extent, on organic products, such as wood. bark, fibre and skins, that are under-represented at archaeological sites. Stone tools were used partially as maintenance tools for the various wooden implements as well as for various cutting and chopping tasks.

The next most frequent site types recorded are burials (12%), scarred trees (7.5%), and stone arrangements (5%). Site types which register 2% or less include fish traps, grinding patches, engravings, paintings and shell middens. Sites recorded as other (O) constitute 10% of the types and represent such features as gnamma holes, camp sites, waterholes, kangaroo traps, fire places and historic sites. Several sites (2%) contain multiple components.

There is archaeological evidence that gives a time depth of at least 40,000 years ago for Aboriginal occupation of the South West of Australia. This comes from a site discovered on alluvial terraces at Upper Swan, and from a cave deposit in the Leeuwin-Naturaliste Block, Devil's Lair. More recent dates show Aboriginal occupation of many areas of the South West in various environmental situations, particularly in the last 5,000 years.

The archaeological evidence is supported to some degree, by early historical writings that suggest a pattern of land usage in traditional Aboriginal society based on seasonal and environmental factors. Scholars generally agree that prehistoric land use patterns were based on the seasonal migrations between the coastal plain and its hinterland to exploit various food and water resources.

The various bodies of water on the coastal plain were an important source of food in the summer, for fish, waterfowl, turtle, frog and vegetable foods were abundant. Kangaroo, emu and root crops were plentiful in the drier inland country during the winter months. Winter activities were conducted in small family units that amalgamated with others in late spring to move back onto the coastal plain for summer.

The existing archaeological evidence shows that the majority of recorded sites are located on the Leeuwin-Naturaliste ridge and the coastal plain, while the Blackwood and Darling Plateau's tend to exhibit a lower density of sites. Moreover, most of the dated evidence for the research area comes from coastal Aboriginal sites in the Leeuwin-Naturaliste Ridge, such as Arumvale, Devil's Lair and Lake Jasper.

The relative recorded site density for the research area is estimated to be one site per 200 square kilometres. This estimate is much lower than that reported by Quartermaine for a similar study in the Perth-Bunbury region, which exhibits two recorded sites per square kilometre. Therefore, Aboriginal occupation of the Busselton-Walpole Region was much sparser in antiquity than that of the areas further north, particularly the Swan Coastal Plain. Furthermore, recorded site densities within the research area varied greatly according to location and environment. For example, Geographe Bay shows one site per 19 square kilometres, while the Upper Blackwood River exhibits one site per 166 square kilometres. It must be noted that these site densities may reflect the focus of academic research rather than an accurate picture of prehistoric activity.

There is a tendency, in all parts of the project area, for sites to be located near the various water sources, such as rivers, creeks, lakes, swamps and estuaries. Based on the existing information, the most important river systems in the project area are the Busselton Drainage Basins, Margaret River and the Lower Blackwood River. The construction of dams on the rivers of the project area have the most potential to disturb archaeological sites compared to the development of bores to tap groundwater sources. However, the latter has implications for ethnographic sites because of the potential alteration to the water table.

The following conclusions are based on the preceding information:

(i) Small, low density, surface stone artefact scatters are the most numerous archaeological site type.

(ii) Larger sites are most likely to occur near bodies of permanent water.

(iii) Quartz is the dominant lithic material use for the manufacture of artefacts.

(iv) Flakes form the major class of artefact types in the recorded artefact assemblages.

(v) River, lake and swamp margins, and areas of devegetated sand are the main areas where sites have been recorded.

5.2 Recommendations

(i) Aboriginal surveys should be conducted in the areas of future dam sites and associated works.

(ii) Aboriginal site surveys should be conducted at ground-water bore sites and associated pipelines.

(iii) Follow up work should be conducted, where necessary, based on preliminary results, in consultations with relevant Aboriginal people.

(iv) Some provision should be made in the event of the discovery of subsurface archaeological material during excavation and earthworks for any project in this region. This may occur where no surface archaeological material is present, particularly on alluvial terraces of the various rivers. It is recommended that the developers and contractors be made aware of the type of the material likely to be located (see Section Three) and any discoveries should be reported immediately to the W.A. Museum.

(v) Should any of the registered archaeological sites be affected by future development, permission for site disturbance, under Section 18 of the W.A. Aboriginal Act, 1972-1980, must be obtained before any disturbance occurs. This can be done by written application to the Trustees of the W.A.Museum for permission to use the land containing the sites under the above section.

(vi) It is pointed out that human interference to Aboriginal sites is an offence, unless authorised under the Act, as outlined in Section 17 of the W.A. Aboriginal Heritage Act, 1972-1980. Therefore, it is recommended that the Developers take adequate measures to inform any project personnel of this requirement.

6.0 REFERENCES

Anderson, J. 1984. Between Plateau and Plain. Occasional Papers in Prehistory, No. 4 A.N.U., Canberra.

Armstrong, F. 1836. Manners and Habits of the Aborigines of Western Australia in Green, N. (ed). pp. 181-206.

Bates, D.M. n.d. "Native Trade Routes". Commerce of Australian Aborigines. Battye Library Reference PR 2573/24.

Beard, J.S. 1981. The Vegetation of the Swan Area. Vegetation Survey of W.A., U.W.A. press, Perth.

Beard, J.S. 1990. Plant Life of Western Australia. Kangaroo Press: Kenthurst.

Berndt, R. M. 1973. Aborigines of Southwestern Australia: the Past and Present. In D. Merrilees, W.C. Dix, S.J. Hallam, W.H. Douglas and R.M. Berndt. Aboriginal Man in Southwestern Australia, Journal of the Royal Society of Western Australia, Vol. 56 Parts 1&2.

Dix, W.C. 1973. Aboriginal Art: Ceremonial - other sites in Southwestern Australia Journal of the Royal Society of Western Australia. Vol 56 (1&2) 46.

Dortch, C.E. and Merrilees, D. 1973. "Human Occupation of Devil's Lair, Western Australia, during the Pleistocene". Archaeology and Physical Anthropology in Oceania, 8, 89-115.

Dortch, C.E. 1975. Geometric Microliths from a Dated Archaeological Deposit near North Cliff, Western Australia. Journal of the Royal Society of Western Australia 58 (2), 59:63.

Dortch, C. E. 1976. Two Engraved Stone Plaques of Late Pleistocene Age from Devils Lair, Western Australia. Archaeology and Physical Anthropology in Oceania. 11 (1):32-44.

Dortch, C.E. 1977. " Early and Late Stone Industrial Phases in Western Australia" in Wright, R.V.S. (ed.) Stone Tools as Cultural Markers. A.I.A.S. Canberra:104-132.

Dortch, C.E. 1979a. Devil's Lair; an example of prolonged cave use in South Western Australia. World Archaeology 10: 258-279.

Dortch, C.E. 1979b. Australia's Oldest Known Ornaments Antiquity 53:39-43.

Dortch, C.E. 1986. An 11,000 B.P. Radio carbon date from the Arumvale site, Southwestern Australia. Australian Archaeology 23: 70-72.

Dortch, C.E., and McArthur, W.M. 1985. Apparent Association of Bryozoan Chert Artefacts and Quartz Geometric Microliths at an open-air site, Arumvale, South western Australia. Australian Archaeology 21: 74-88.

Dortch, C.E. and Godfrey, I.M. 1990. Aboriginal sites in a submerged landscape at Lake Jasper, Southwestern Australia. Australian Archaeology 31:28-33.

Ferguson, W. 1985. A Mid-Holocene depopulation of the Australian South-West. Unpublished PhD, thesis, A.N.U., Canberra.

Flood, J. 1983. Archaeology of the Dreamtime. Collins, Sydney.

Glover, J.E. 1975. "The petrology and probable stratigraphic significance of Aboriginal artefacts from part of South-West Australia". Journal of the Royal Society of Western Australia. 58:75-85.

Glover, J.E. 1979. The provenance and archaeological significance of Aboriginal artefacts of Eocene Chert in South western Australia. Search 10:188-190.

Gould, R.A. 1977. "Puntutjarpa Rockshelter and Desert Culture". Anthropological Papers of the Museum of Natural History, 54(1).

Green, N. (ed) 1979. Nyungar - The People; Aboriginal Customs in the South-West of Australia. Creative Research, Perth.

Green, N. 1984. Broken Spears. Perth: Focus Education Services.

Hallam, S.J. 1973. "Ecology and demography in South-Western Australia". Journal of the Royal Society of Western Australia. 56:46-48.

Hallam, S. 1975. Fire and Health: a study of Aboriginal Useage and European usurpation in south-western Australia. A.I.A.S., Canberra.

Hammond, J. 1933. Winjans People. Perth: Imperial Printing.

Lofgren, M.E. 1975. Patterns of Life. Western Australian Museum Information Series No. 6.

Macintyre, K. Dobson, B. and Mattner, C,J. 1992. Report on a survey for Aboriginal sites along the proposed Mineral Sands Haulage route, Beenup Mine site to Capel Section: Prepared for Main Roads Department.

Macintyre, K. Dobson, B. Quartermaine, G. and Yates A. 1992. Report on an ethnographic and archaeological survey of the proposed 132 kv transmission line, Picton to Beenup via Great North Road. Prepared for SECWA.

Meagher, S.J. 1974. "The Food Resources of the Aborigines of the South-West of Western Australia". Records of the Western Australian Museum, 3(1), 14-43.

Mulvaney, D.J. 1975. The Prehistory of Australia. Penguin Melbourne.

Murphy, A., McDonald, E. & Locke, R. 1990. Report on an archaeological and ethnographic survey for Aboriginal Sites, Bussel Highway, Bunbury. Prepared for Main Roads Department.

O'Connor, R., Quartermaine, G. and Bodney, C. 1989. Report on an investigation into Aboriginal significance of wetlands and rivers in the Perth - Bunbury region. Published by the Western Australian Water Resources Council.

Pearce, R.H. 1982. "Archaeological sites in jarrah forest, South-West Australia". Australian Archaeology 14, 18-24.

Pearce, R.H. and M. Barbetti. 1981. "A 38,000 year old archaeological site at Upper Swan, Western Australia". Archaeology in Oceania. 16:173-178.

Playford, P.E., Cope, R.N. and Cockbain, A.E. 1975. "Phanerozoic, in the Geology of Western Australia". Geological Survey of Western Australia, Memoir 2:451-460.

Quartermaine, G. 1990. Report on the archaeological component of the Aboriginal site survey of the Perth to Adelaide optic fibre cable route - Ceduna to Eastern Goldfields, Eastern Goldfields to South Coastal and South Coastal to South West sections. Prepared for Telecom Australia.

Semeniuk, C.A. 1987. "Wetlands of the Darling System - a geomorphic approach to habit classification". Journal of the Royal Society of Western Australia, 69, 95-112.

Smith, M. 1989. An archaeological and ethnographic survey of the Ten Mile Damsite, Rosa Brook Road, Margaret River, W.A. Prepared for W.A.W.A.

South West Development Authority 1991. South West Strategy.

Stirling, J. 1827. "Letter to Governor Darling, From H.M.S. Success, 1827: with enclosures - No. 1 Narrative of operations; No. 2 Observations on the soil, etc". (by Fraser, C).Series 3, vol. 6, 551-584.

Tilbrook, L. 1983. Nyungar Tradition Glimpses of Aborigines of South western Australia 1829-1914. University of Western Australia. Press, Perth.

White, I. (eds) 1985. Daisy Bates - The Native Tribes of Western Australia.National Library of Australia, Canberra.

Williams, I.R. 1975. "South-West Province, in Geology of Western Australia". West Australian Geological Survey, Memoir 2, pp. 65-70.

Wright, R.V.S. 1971. Archaeology of the Gallus Site, Koonalda Cave, Canberra. Australian Institute of Aboriginal Studie

TABLE 1: PREVIOUSLY RECORDED ABORIGINAL SITES IN THE RESEARCH AREA

W.A. Museum Site No.	R	Metric Grid	Pos	Category	Site Type	Name	Status
		SI5003					
S00226*	O	508.353		Arc	B	Geeralying, Narrogin	R.A.E
S00804*	O	576.371	r	Arc	O	Orchards Gnamma Hole	G.F.
S00802*	O	577.370	r	Arc	A	Kelly's Rock	R.A.E.
		SI5005					
S00239	O	312.250	r	Arc	AM	Cowaramup Point	Col.Ex.
S00482	O	312.269	r	Arc	A	Cape Clairault	R.A.E.
S02542	O	313.239	r	Arc	A	Cape Mentelle	Col.
S00768	O	314.246	r	Arc	A	Ellen Brook	Col.
S01005	O	314.246	r	Arc	MAMO	Ellen Brook Complex	Col.
S02249	O	314.246	r	Arc	A	Ellen Brook	Col.
S00481	O	314.259	r	Arc	A	Willyabrup Brook	R.A.E.
S00663	O	313.263	r	Arc	A	Quininup Brook 1	R.A.E.
S00664	O	314.263	r	Arc	A	Quininup Brook 2	R.A.E.
S00665	O	313.264	r	Arc	A	Quininup Brook 3	R.A.E.
S01006	O	314.238	r	Arc	A.M	Gnarabup Swamp	R.A.E.
S00240	O	314.239	r	Arc	A.O	Cliffs at Wallcliffe	R.A.E.
S00241	O	314.240	r	Arc	A	Margaret River	R.A.E.
S02541	O	314.243	d	Arc	A	Kilcarnup	Col.
S01346	O	315.244	r	Arc	A	Gnoocardup	Col.
S00242	O	314.247	r	Arc	A.O	Ellen Brook	Col.
S00238	O	314.252	r	Arc	B	Gracetown, Cowaramup	R.A.E.
S00243	O	314.263	r	Arc	B	Moses Cave	R.A.E.
S00666	O	314.261	r	Arc	A.O	Moses Rocks	R.A.E.
S02543	O	314.271	r	Arc	A	Wyadup Brook	Col.
S01007	O	315.286	r	Arc	A.M	Willanup Spring	R.A.E.
S00244	O	316.246	r	Arc	A	Ellen Brook	Col.
S00937	U	317 242	r	Arc	B	Burnside	R.A.E.
S00559	O	317 252	r	Arc	N	Cowaramup	Dis.
S00245	O	317 285	r	Arc	A	Cape Naturaliste	R.A.E.
S01008	O	317.276	a	Arc	A	Yallingup	R.A.E.
S00246	O	320.281	r	Arc	A	Cape Naturaliste	R.A.E.
S00767	O	323.279	r	Arc	A	Dunsborough Beach	Ex.
S00657	O	323.279	r	Arc	A	Dunsborough	Col.
S02540	O	322.283	a	Arc	A	Castle Bay	Col.
S02579	O	326.240	a	Arc	A	Margaret Rvr Damsite 1	R.A.E.
S02580	O	326.240	a	Arc	A	Margaret Rvr Damsite 2	R.A.E.
S00940	O	337.273	r	Arc	B	Vasse Drain	R.A.E.
S00560	O	346.267	r	?	O	Busselton	R.A.E.
S00260	O	35-.27-	d	Arc	A	Ludlow River	Col.
S01700	O	352.278	r	Arc	B	Korilya Stud	R.A.E.
S02553	O	352.278	r	Eth.Arc	B	Cable Sands Skull	Col.
S00259	O	354.280	r	Arc	B	Wonnerup, Busselton	R.A.E.
S00615	O	356.283	r	Arc	B	Forrest Beach, Busselton	Col.

TABLE 1: PREVIOUSLY RECORDED ABORIGINAL SITES IN THE RESEARCH AREA

W.A. Museum Site No.	Metric Site R	Grid	Pos	Category	Type	Name	Status
			SI5006				
S00261	O	363.284	r	Arc	A	Capel	Col.
S00262	O	363.291	r	Arc	B	Capel: Minninup	R.A.E.
S00667	O	363.292	r	Arc	B.A	Doungup Burial	R.A.E.
S00421	O	365.295	r	Arc	B	Stirling Beach Minninup	Ex.
S00263	O	368.293	r	Arc	A.O	Capel Bussell Highway	Col.
S00454*	O	370.301	r	Arc	B	Stirling Beach Dalyellup	Ex.
S01484	O	378.290	u -	Arc	A	Grindstone Sitel	F.
S00267	O	385.241	r	Arc	A.O	Nannup	R.A.E.
S00268	O	386.241	r	Arc	B	Nannup	R.A.E.
S00269	O	39-.27-	u	Arc	A.O	Kirup	R.A.E.
S00270*	O	39-.28-	u	Arc	A	Donnybrook	R.A.E.
S00271*	O	399.266	u	Arc	A	Kirup	R.A.E.
S00272	O	399.254	r	Arc	A	Blackwood River	Col.
S01344	O	42-.24-	u	Arc	B.N	Mrs Kimbers Site	Dis.
S00467	O	441.264	d	Arc	S	Sunny Valley	R.A.E.
S00274	O	44-.26-	r	Arc	A	Boyup Brook	R.A.E.
S00935	O	452.247	r	Arc	A	MarakhebPar	Col.
S02447*	O	461 327	a	Eth?	B?	Koolakin Burials	R.A.E.
S02480	O	461.274	r	Arc	T	Haddleton Tree	R.A.E.
S02628	O	469.301	a	Arc	A	Black Wattle	Col.
S02360	O	473.272	r	Arc	A.O	Upper Blackwood	R.A.E.
S02361	O	473.273	re	Arc	A	Wild Horse Swamp	R.A.E.
S02604	O	481.290	r	Arc	A	Duranillin 1	R.A.E.
S02605	O	481.290	r	Arc	A	Duranillin 2	R.A.E.
S02606	O	481.290	r	Arc	A	Duranillin 3	R.A.E.
S00562	O	482.256	r	Arc	E.N	Qualeup	Dis.
S00275*	O	489.338	r	Arc	S	Coralling Springs	R.A.E.
S00427	O	498.299	r	Arc	T	Kylie Siding	R.A.E.
S00428	O	49-.29-	u	Arc	O	East Arthur	G.F.
		SI5007					
S00276*	O	500.347	r	Arc	T.O	Manaring Road	R.A.E.
S00456	O	500.310	r	Arc	T	Arthur River	R.A.E.
S00277	O	501.300	r	Arc	O	Old Homestead, Arthur Rvr	R.A.E.
S00278	O	501.311	r	Arc	O	Arthur Rvr:Watkins Farm	Col.
S00279	O	502.300	r	Arc	O	Old Homestead, E Arthur	R.A.E.
S02461	O	503.310	r	Arc	A	Arthur River Inn	R.A.E.
S00470	O	503.300	r	Arc	T	Woagin 1	R.A.E.
S00471	O	503.300	r	Arc	T	Woagin 2	R.A.E.
S02464	O	504.280	a	?	A	Neymyrup Road	R.A.E.
S00280	O	504.300	r	Arc	O	Arthur River: Hogans Hsd	R.A.E.
S00281	O	504.301	r	Arc	O	Arthur R. N	R.A.E.
S00282	O	506.253	r	Arc	QAO	Kojonup	R.A.E.
S00460	O	508.302	r	Arc	T	Dellyanine Siding	R.A.E.

TABLE 1: PREVIOUSLY RECORDED ABORIGINAL SITES IN THE RESEARCH AREA

W.A. Museum Site No.	Metric R	Site Grid	Pos	Category	Type	Name	Status
S00458	O	511.304	r	Arc	O	Dead Mns Gnamma Hole	G.F.
S00457	O	512.302	r	Arc	O	Dellyanine Siding	G.F.
S02273	S	522.275	r	Eth.Arc	B	Marribank Cemetery 2	R.A.E.
S02271	S	522.276	re	Eth?	O	Marribank Settlement	R.A.E.
S00422	O	523.270	r	Arc	T	Cherry Tree Pl, Kojonup	R.A.E.
S02272	S	523.277	r	Eth.Arc	B	Marribank Cemetery 1	R.A.E.
S00283	O	526.335	r	Arc	A	Wolwolling Pool	R.A.E.
S00284	O	532.308	r	Arc	A.O	Lake Parkeyerring	Col.
S02713	O	532.312	r	Arc	A.O	Lake Wagin	R.A.E.
S00563	O	534.283	r	Arc	S.N	Woodanilling	Dis.
S00285	O	550.274	r	Arc	A	Katanning	R.A.E.
S00288	O	56-.31-	u	Arc	B	Dumbleyung	R.A.E.
S00286	O	562.312	r	Arc	A	Lake Dumbleyung	R.A.E.
S02607	O	565.272	r	Arc	A	Lake Ewlyamartup	R.A.E.
S00737	O	567.267	r	Arc	Q	Ewlyamartup Silcrete Qry	R.A.E.
S00424	O	568.272	r	Arc	B.A	Lake Ewlyamartup	R.A.E.
S00287	O	569.273	r	Arc	A	Katanning	R.A.E.
S00459	O	580.276	r	Arc	A	Beecks Farm	R.A.E.
S02124	O	581 276	a	Arc	A	Beecks Farm	R.A.E.
S00461	O	581.276	r	Arc	T	Cleggs Frm Scarred Tree 1	R.A.E.
S00462	O	581.276	r	Arc	T	Cleggs Frm Scarred Tree 2	R.A.E.
S00463	O	581.27	r	Arc	T	Cleggs Frm Scarred Tree 3	R.A.E.
S00957	O	584.287	r	Arc	S	Jinker/Jinka Hill	R.A.E.
S00449*	O	594.247	r	Arc	G	Kiddys Well Farm	Col.
S00736	O	599.285	r	Arc	A	Moornaming	R.A.E.
S01676	O	608.313	r	Arc	A	Merilup SoakPar	Col.
S00290*	O	614.336	r	Arc	T	Tarin Rock	Des.
S01593*	O	625.287	r	Arc	A	Chinocup 2	R.A.E.
S00293*	O	626.287	r	Arc	S.A	Chinocup	R.A.E.
S01592*	O	627.287	r	Arc	A	Chinocup 1	Col.
S01696*	O	628.247	r	Arc	A.O	Ongerup Rock	R.A.E.
S01697*	O	629.258	r	Arc	TAO	Komal Kharp	R.A.E.
S01522*	O	631.281	r	Arc	A	Willoughby Soak	R.A.E.
S01595*	O	638.273	r	Arc	A	Nyanda Downs 2	I.F.
S01654*	O	638.273 SI5009	r	Arc	A	Nyanda Downs 1	Col.
S00365	O	323.215	?	Arc	A.O	Hardy Inlet	Col.
S02100	O	315.225	r	Arc	A	Freycinet Spring	Col.
S00295	O	315.232	r	Arc	A	Mouth of Calgardup Brk	Col.
S00992	O	318.228	r	?	?	Mammoth Cave	Col.
S00296	O	319.231	r	Arc	A.O	Ruddock's Cave	R.A.E.
S00297	O	320.206	r	Arc	A.O	Deepdene Cliffs	Col.
S00298	O	320.207	r	Arc	A	Turner Brook	Col.
S01942	O	324.205	r	Arc	P.A	Old Kudardup Cave	Col.

TABLE 1: PREVIOUSLY RECORDED ABORIGINAL SITES IN THE RESEARCH AREA

W.A. Museum Site No.	Metric Site R	Grid	Pos	Category	Type	Name	Status
S00299	O	321.207	r	Arc	A.O	Caves Road	Col.
S00363	O	321.221	r	Arc	A	Devil's Lair	Ex.
S00364	O	321.221	r	Arc	A	Nannup Cave	Col.
S00415	O	322.216	r	Arc	A	Boranup Sand, Augusta	R.A.E.
S00366	O	323.216	r	Arc	O	Arumvale	Col.
S01345	O	329.195	r	Arc	A	Skippy Rocks	Col.
S00367	O	328.205	r	Arc	A.O	West Bay Creek, Augusta	Col.
S00368	O	329.221	r	Arc	O	McLeod Crk/Blackwood	Col.
S00369	O	330.218	r	Arc	A	Rushy Crk/McLeod Crk	R.A.E.
S00370	O	332 230	r	Arc	A	Upper Chapman Brook	Col.
S00371	O	334 203	r	Arc	A.O	Scott River Trench 1	Ex.
S00372	O	340 207	r	Arc	A.O	Brennan Ford/Scott Rvr	Col.
S01786	O	352 204 SI5010	r	Arc	E	Dunnet's Farm	G.F.
S00373	O	?	u	Arc	A.O.	Manijimup	Col.
S02626	O	366.190	r	Arc	A.O.	Black Point	R.A.E.
S02660	O	37-.18-	a	Arc	A.	Lake Jasper 10	Ex.
S02450	O	377.191	r	Arc	A.O.	Lake Jasper 03	Ex.
S02659	O	377.191	a	Arc	A.O.	Lake Jasper 07	R.A.E.
S02595	O	378.191	r	Arc	A.	Lake Jasper 05	R.A.E.
S02714	O	378.190	r	Arc	A.	Lake Jasper 06	R.A.E.
S02448	O	379.190	r	Arc	A.O.	Lake Jasper 01	R.A.E.
S02596	O	379.190	r	Arc	A.	Lake Jasper 08	R.A.E.
S02597	O	379.190	r	Arc	A.	Lake Jasper 09	R.A.E.
S02449	O	380.191	r	Arc	Q.A.O.	Lake Jasper 02	Ex.
S02658	O	379.191	r	Arc	Q.A.	Lake Jasper 04	R.A.E.
S00478	O	380.206	r	Arc	O.	Barlee Brook	R.A.E.
S01000	O	38-.17-	u	Arc	B.A.	Donelly River	R.A.E.
S02544	O	381.205	r	Arc	A.	Barlee Brook	Col.
S02529	O	402.159	r	Arc	A.	Warren Beach	R.A.E.
S00374	O	405.153	r	Arc	A.O.	Malimup, Black Head	Par Col.
S00375	O	406.172	r	Arc	A.	Pemberton	Col.
S02575	O	41-.17-	ue	Arc	F.	Lefroy Fish Traps	R.A.E.
S00376	O	409.144	r	Arc	A.	Windy Harbour	Col.
S00431	O	410.191	r	Arc	S.	Lefroy Brook	R.A.E.
S00432	O	411.214	r	Arc	A.O.	Yan Mah, Manjimup	R.A.E.
S01710	O	413.199	r	Arc	A.	Old Mill 1	Col.
S00251	O	415.148	r	Arc	A.O.	Blackwater, Northcliffe	R.A.E.
S00377	O	415.168	r	Arc	A.	Kerison, Northcliffe	Col.
S00381	O	42-.21-	u	Arc	O.	Manjimup	R.A.E.
S00378	O	419.167	r	Arc	A.	Northcliffe	Col.
S00379	O	420.237	r	Arc	O.	Glenlynn	R.A.E.
S00380	O	422.210	r	Arc	A.	Manjimup	Col.
S00273	O	422.232	a	Arc	O.	Bridgetown	Des.

TABLE 1: PREVIOUSLY RECORDED ABORIGINAL SITES IN THE RESEARCH AREA

W.A. Museum Site No.	Metric Site R	Grid	Pos	Category	Type	Name	Status
S00382	O	426.209	r	Arc	S.	Dingup	R.A.E.
S00383	O	430.165	r	Arc	S.	Murillup Rock	R.A.E.
S00484	O	434.139	r	Arc	A.	Fish Creek	R.A.E.
S00483	O	435.139	r	Arc	A.	West Cliff Point Embay	Col.
S00384	O	452.135	r	Arc	F.	Broke Inlet	R.A.E.
S02594	O	456.134	r	Arc	A.	Broke Inlet	Col.
S00417	O	467.185	r	Arc	E.N.	Lake Muir, Manjimup	R.A.E.
S00385	O	467.190	r	Arc	A.	Cowerup Swamp	R.A.E.
S00386	O	468.190	r	Arc	A.	Cowerup Swamp, Lk Muir	R.A.E.
S00387	O	468.190	r	Arc	A.	Red Lake/Lake Muir	R.A.E.
S00388	O	470.187	r	Arc	Q.A.	Lake Muir	R.A.E.
S00389	O	474.183	d	Arc	B.	Lake Muir	R.A.E.
S02720	O	475.127	re	Arc	A.	Coalmine Beach	Ex.
S01900	O	477.179	r	Arc	S.O.	Glenerin	R.A.E.
S00390*	O	484.128	r	Arc	S.	Nornalup	R.A.E.
S00391*	O	489.190	r	Arc	O.	Rocky Gully	R.A.E.
S00416*	O	492.198	r	Arc	O.	Lake Muir, Manjimup	Dis.
S01683*	O	498.212	r	Arc	B.	Yeriminup Burial 1	R.A.E.

KEY

* : Sites located up to 5km from the boundary of the research area.

R (Site Access Code): S = significant; U = uncertain; O = open

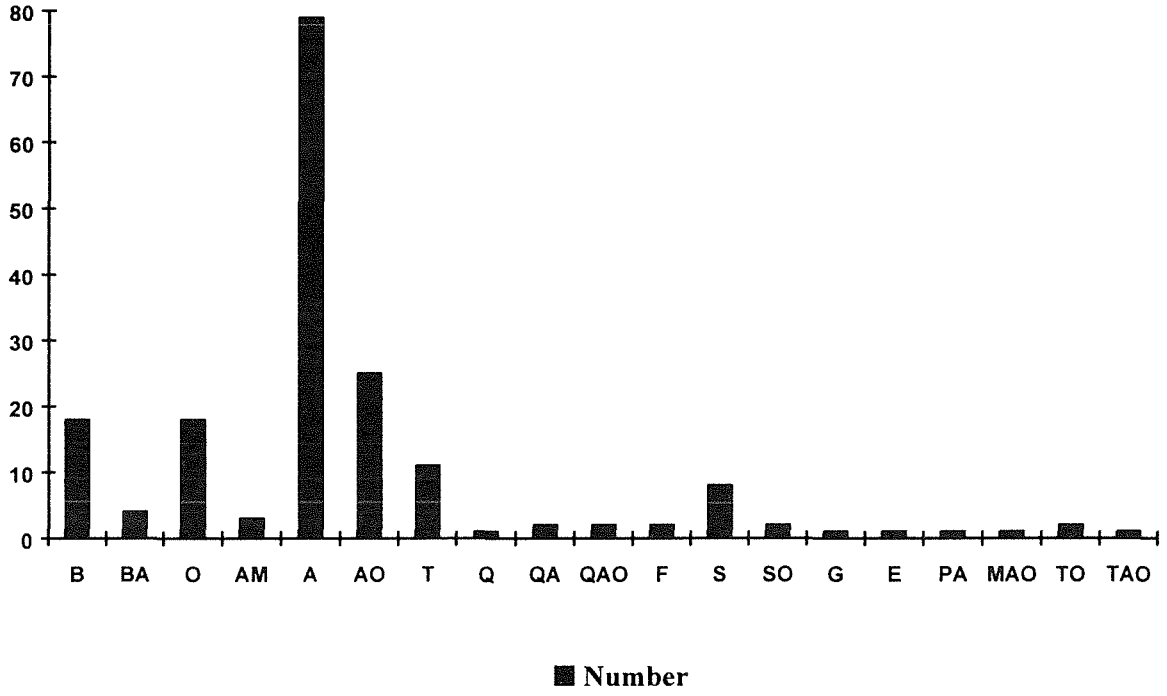
Pos = Position : r = reliable, u = uncertain, a = approximate, d = doubtful.

Category: Eth = Ethnographic; Arc = Archaeological

Site Type: A = Artefacts; B = Burial; O = Other;
T = Modified Tree; S = Stone Arrangement;
E = Engraving; Q = Quarry; P = Painting;
F = Fish Trap; M = Mythological;
N = Not a Site; G = Grinding Patches.

Status: Ex = Excavated; Col = Collected;
Dis = Discounted; Par Col = Partially Collected;
Des = Destroyed; I.F. = Isolated Find;
G.F. = Geographic Feature;
R.A.E. = Recorded as Extant.

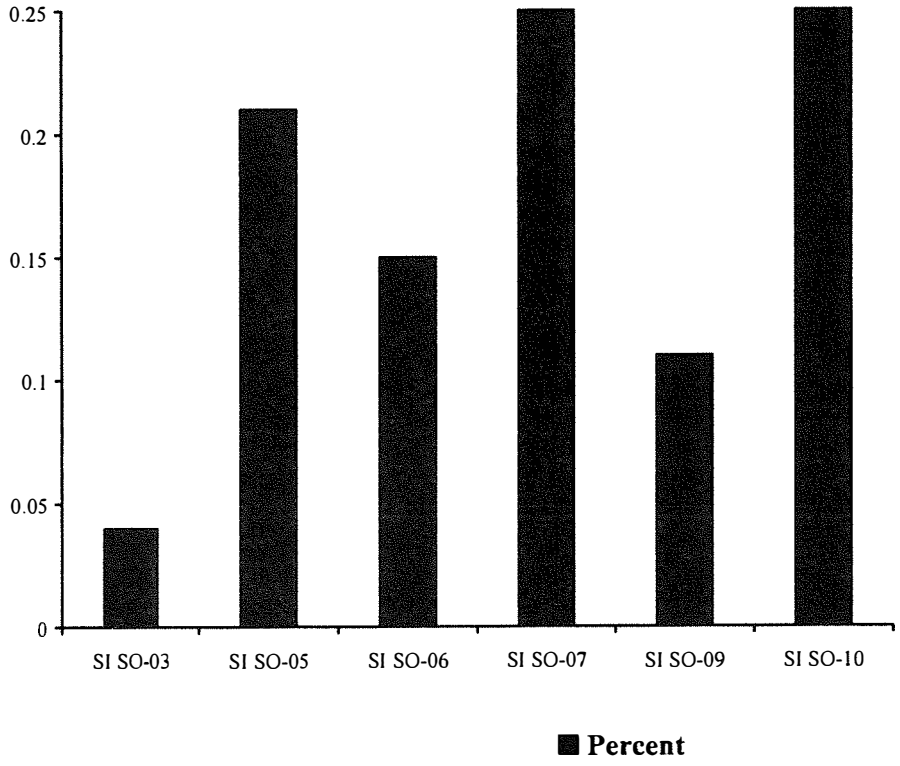
TABLE 2: ARCHAEOLOGICAL SITE TYPES IN THE PROJECT AREA



KEY:

Site Type: A = Artefacts; B = Burial; O = Other;
T = Scarred Tree; S = Stone Arrangement;
E = Engraving; Q = Quarry; P = Painting;
F = Fish Trap; M = Midden; G= Grinding Patches.

TABLE 3: PERCENTAGE OF ARCHAEOLOGICAL SITES PER REGION



KEY:

Regions:

SI SO-10 = Pemberton Region

SI SO-9 = Augusta Region

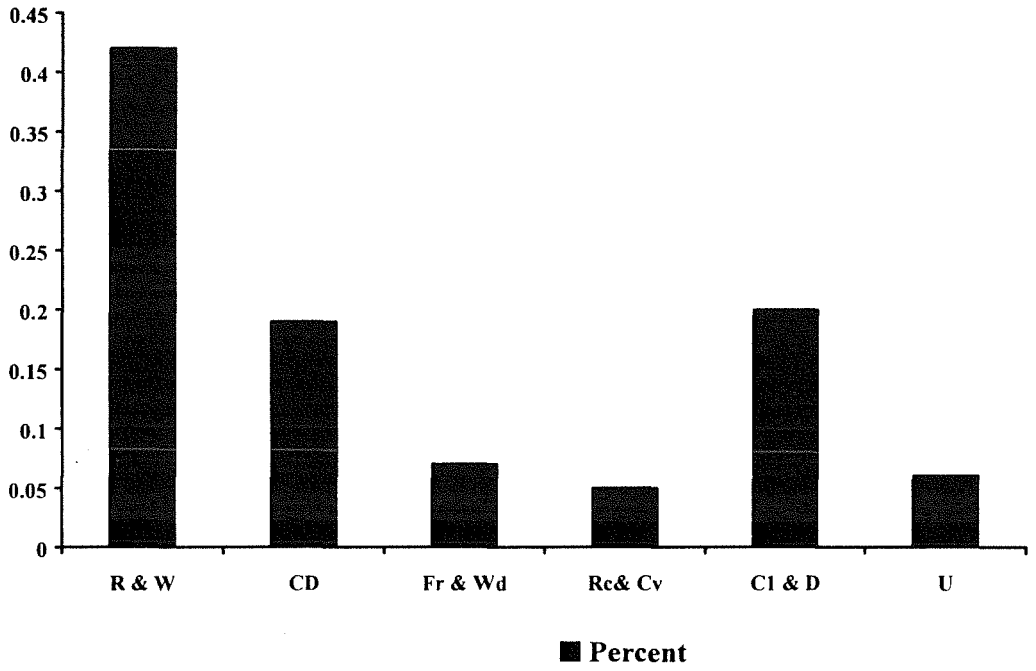
SI SO-7 = Dumbleyung Region

SI SO-6 = Collie Region

SI SO-5 = Augusta Region

SI SO-3 = Corrigin Region

TABLE 4: PERCENTAGE OF ARCHAEOLOGICAL SITES PER ENVIRONMENTAL ZONE



KEY:

Environmental Zone:

R & W = Rivers and Wetlands

CD = Coastal Dunes

Fr & Wd = Forests and Woodlands

Rc & Cv = Rockshelters and Caves

Cl & D = Cleared and Disturbed areas

U = Underwater

Indian Ocean

Southern Ocean

DWELLINGUP
abandoned
Boddington
abondoned
Kulin
Wickepin
Cuballing
NARROGIN
Toolibin Lake
Taarblin Lake
White Lake
Quindanning
Williams
Lake Grace
WAROONA
Preston Beach
HARVEY
Brunswick Junction
Chuckem Gully
River
Buchanan
River
Hillman
Darkan
River
West Arthur
WAGIN
Salt Lake
Dumbleyung Lake
Dumbleyung
Lefroy
River
Lake Quarbing
Lime Lake
Norring Lake
Beaufort Lake
Charling Lake
Flagstaff Lake
Towerrinning Lake
Arthur
River
Cobbinine
River
Woodanilling
Nyabing
abandoned
BUNBURY
COLLIE
Boyanup
Donnybrook
Cape Naturaliste
CAPEL
Capel River
Dunsborough
Yallingup
BUSSELTON
Ludlow
Vasse - Wonnerup System
Vasse River
Kirup
Balingup
Carrolup
Carrecuttup
River
KATANNING
Coyrecup Lake
River
Balgarup
Dinninup
Brook
River
Jarrahwood
Greenbushes
Boyup Brook
KOJONUP
Creek
Broomehill
Gracetown
Cowaramup
River
Margaret
Margaret River
Mayanup
Gnowangerup
Nannup
Blackwood
River
BRIDGETOWN
Tweed
River
River
Tambellup
abandoned
Blackwood
Brook
Barlee
River
Palgarup
Karridale
Scott
River
Gingilup Swamps
Lake Quitjup
Lake Jasper
Lake Smith
Donnelly
Carey
Brook
MANJIMUP
Perup
River
Tone
Little Unicup Lake
Unicup Lake
Cranbrook
AUGUSTA
Cape Leeuwin
Pemberton
Warren
River
Byenup Lagoon
Lake Muir
Frankland
Yeagarup Lake
Tordit Gurrup Lagoon
Rocky Gully
MOUNT BARKER
Meerup
River
Doggerup Lake
Doggerup Creek
Lake Samual
Lake Florence
Northcliffe
Shannon
River
Weld
River
Deep
River
Gardner
Lake Martinup
Windy Harbour
Broke Inlet
Walpole
Bow Bridge
abandoned
Denmark
Nornalup
ALBANY

N

10 0 20 40

Scale in Kilometres

LEGEND

- Major Roads
- Minor Roads
- Streams
- Railways
- Busselton-Walpole Region Boundary
- Towns
- Archaeological Sites

LOCATIONS OF REGISTERED ARCHAEOLOGICAL SITES

APPENDIX 1

OBLIGATIONS RELATING TO SITES UNDER THE ABORIGINAL HERITAGE ACT,1972-1980

"Report of Findings"

15. Any person who has knowledge of the existence of anything in the nature of Aboriginal burial grounds, symbols or objects of sacred, ritual or ceremonial significance, cave or rock paintings or engravings, stone structures or arranged stones, carved trees, or of any place or thing to which this Act applied or to which this Act might reasonably be suspected to apply shall report its existence to the Trustees, or to a police officer, unless he has reasonable cause to believe the existence of the thing or place in question to be already known to the Trustees.

Excavation of Aboriginal Sites

16. (1) Subject to Section 18, the right to excavate or to remove anything from an Aboriginal site is reserved to the Trustees.

(2) The Trustees may authorise the entry upon and excavating of an Aboriginal site and the examination or removal of any thing on or under the site in such manner and subject to such conditions as they may direct.

Offences Relating to Aboriginal Sites

17. A person who-

(a) excavates, destroys, damages, conceals or in any way alters any Aboriginal site; or

(b) in any way alters, damages, removes, destroys, conceals, or who deals with in a manner not sanctioned by relevant custom, or assumes the possession, custody or control of, any object on or under an Aboriginal site, commits an offence unless he is acting with the authorisation of the Trustees under Section 16 or the consent of the Minister under Section 18.

Consent To Certain Uses

18. (1) For the purposes of this section, the expression "the owner of any land" includes a lessee from the Crown, and the holder of any mining tenement or mining privilege, or of any right or privilege under the Petroleum Act 1967, in relation to the land.

(2) Where the owner of any land gives to the Trustees notice in writing that he requires to use the land for a purpose which, unless the Minister gives his consent under this Section, would be likely to result in a breach of Section 17 in respect of any Aboriginal site that might be on the land, the Trustee shall, as soon as they are reasonably able, form an opinion as to whether there is any Aboriginal site on the land, evaluate the importance and significance of any such site, and submit the notice to the Minister together with their recommendation in writing as to whether or not the Minister should consent to the use of the land for that purpose, and, where applicable, the extent to which and the conditions upon which his consent should be given.

(3) Where the Trustees submit a notice to the Minister under subsection (2) of this Section he shall consider their recommendation and having regard to the general interest of the community shall either-

(a) Consent to the use of the land the subject of the notice, or a specified part of the land, for the purpose required, subject to such conditions, if any, as he may specify; or

(b) wholly decline to consent to the use of the land the subject of the notice for the purposes equired, and shall forthwith inform the owner in writing of his decision.

(4) Where the owner of any land has given to the Trustees notice pursuant to subsection (2) of this section and the Trustees have not submitted it with their recommendation to the Minister in accordance with that subsection the Minister may require the The Trustees to do so within a specified time, or may require the Trustees to take such other action as the Minister considers necessary in order to expedite the matter, and the Trustees shall comply with any such requirement.

(5) Where the owner of any land is aggrieved by a decision of the Minister made under subsection (3) of this Section he may, within the time and in the manner prescribed by rules of Court, appeal from the decision of the Minister to the Supreme Court which may hear and determine the appeal.

(6) In determining an appeal under subsection (5) of this Section the Judge hearing the appeal may confirm or vary the decision of the Minister against which the appeal is made or quash the decision and substitute his own decision which shall have effect as if it were the decision of the Minister, and may make such an order as to the costs of the appeal as he sees fit.

(7) Where the owner of the land gives notice to the Trustees under subsection (2) of this section, the Trustees may, if they are satisfied that it is practicable to do so, direct the removal of any object to which this Act applies from the land to a place of safe custody.

(8) Where the consent has been given under this section to a person to use any land for a particular purpose nothing done by or on behalf of that person pursuant to, and in accordance with any conditions attached to, the consent constitutes an offence against this Act".

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APPENDIX 2

NOTES ON THE RECOGNITION OF ABORIGINAL SITES

There are various types of Aboriginal sites, and these notes have been prepared as a guide to the recognition of those sites that may be located within the survey area.

An Aboriginal Site is defined in the Aboriginal Heritage Act 1972-80, Section 5 as;

a) Any place of importance or significance where persons of Aboriginal descent have, or appear to have, left any object natural or artificial, used for , or made for or adapted for use for, any purpose connected with the traditional cultural life of the Aboriginal people, past or present;

b) Any sacred, ritual or ceremonial site, which is of importance and special significance to persons of Aboriginal descent;

c) Any place which, in the opinion of the Trustees is or was associated with the Aboriginal people and which is of historical, anthropological, archaeological or ethnographic interest and should be preserved because of its importance and significance to the cultural heritage of the State;

d) Any place where objects to this Act applies are traditionally stored, or to which, under the provisions of this Act, such objects have been taken or removed.

HABITATION SITES

These are commonly found throughout Western Australia and usually contain evidence of tool-making, seed grinding and other food processing, cooking, painting, engraving or numerous other activities. The archaeological evidence for some of these activities is discussed in detail under the appropriate heading.

Habitation sites are usually found near an existing or former water source such as gnamma hole, rock pool, spring or soak. They are generally in the open, but they sometimes occur in shallow rock shelters or caves. It is particularly important that none of these sites be disturbed as the stratified deposits which may be found at such sites can yield valuable information about the inhabitants when excavated by archaeologists.

SEED GRINDING

Polished or smooth areas are sometimes observed on/near horizontal rock surfaces. The smooth areas are usually 25cm wide and 40 or 50cm long. They are the result of seed grinding by the Aboriginal women and indicate aspects of a past economy.

HABITATION STRUCTURES

Aboriginal people sheltered in simple ephemeral structures, generally made of branches and sometimes grass. These sites are rarely preserved for more than one occupation period. Occasionally rocks were pushed aside or were used to stabilise other building materials. When these rock patterns are located they provide evidence of former habitation sites.

MIDDENS

When a localised source of shellfish and other foods have been exploited from a favoured camping place, the accumulated ashes, hearth stones, shells, bones and other refuse can form mounds at times several metres high and many metres in diameter. Occasionally these refuse mounds or middens contain stone, shell or bone tools. These are most common near the coast but examples on inland lakes and river banks are unknown.

STONE ARTEFACT FACTORY SITES

Pieces of rock from which artefacts could be made were often carried to camp sites or other places for final production. Such sites are usually easily recognisable because the manufacturing process produces quantities of flakes and waste material which are clearly out of context when compared with the surrounding rocks. All rocks found on the sandy coastal plain, for example must have been transported by human agencies. These sites are widely distributed throughout the State.

QUARRIES

When outcrops of rock suitable for the manufacture of stone tools were quarried by the Aborigines, evidence of the flaking and chipping of the source material can usually be seen in situ and nearby. Ochre and other mineral pigments used in painting rock surfaces, artefacts and body decoration are mined from naturally occurring seams, bands and other deposits. This activity can sometimes be recognised by the presence of wooden digging sticks or the marks made by these implements.

MARKED TREES

Occasionally trees are located that have designs in the bark which have been incised by Aborigines. Toeholds, to assist the climber, were sometimes cut into the bark and sapwood of trees in the hollow limbs of which possums and other arboreal animals sheltered. Some tree trunks bear scars where sections of bark or wood have been removed to make dishes, shields, spearthrowers and other wooden artefacts. In some parts of the State wooden platforms were built in trees to accommodate a corpse during complex rituals following death.

BURIALS

In the north of the State it was formally the custom to place the bones of the dead on a ledge in a cave after certain rituals were completed. The bones were wrapped in sheets of bark and the skull placed beside this. In other parts of Western Australia the dead were buried, the burial position varying according to the customs of the particular area and time. Natural erosion, or mechanical earthmoving equipment occasionally exposes these burial sites.

STONE STRUCTURES

If one or more stones are found partially buried or wedged into a position which is not likely to be the result of natural

forces, then it is probable that the place is an Aboriginal site and that possibly there are other important sites nearby. There are several different types of stone arrangements ranging from simple cairns or piles of stones to more elaborate designs. Low weirs which trap fish when tides fall are found in coastal areas. Some rivers contain similar structures that trap fish against the current. It seems likely that low stone slab structures in the south-west jarrah forests were built to provide suitable environments in which to trap some small animals. Low walls or pits were sometimes made to provide a hide or shelter for hunting.

Elongated rock fragments are occasionally erected as a sign or warning that a special area is being approached. Heaps or alignments of stones may be naturalistic or symbolic representations of animals, people or mythological figures.

PAINTINGS

These usually occur in rockshelters, caves or other sheltered situations which offer a certain degree of protection from the weather. The best known examples in Western Australia occur in the Kimberley region but paintings are also found throughout most of the State. Several coloured pigments may have been used at a site. Stencilling was a common painting technique used throughout the state. The negative image of an object was created by spraying pigment over the object which was held against a wall.

ENGRAVINGS

This term describes designs which have been carved, pecked or pounded into a rock surface. They form the predominant art form of the Pilbara region but are known to occur in the Kimberleys in the north to Toodyay in the south. Most engravings occur in the open but some are situated in rock shelters.

CACHES

It was the custom to hide ceremonial objects in niches and other secluded places. The removal of objects from these places, the taking of photographs of the places or objects or any other interference with these places is not permitted.

CEREMONIAL GROUNDS

At some sites the ground has been modified in some way by the removal of surface pebbles, or the modeling of the soil, or the digging of pits and trenches. In other places there is no noticeable alteration of the ground surface and Aborigines familiar with the site must be consulted concerning its location.

MYTHOLOGICAL SITES

Most sites already described have a place in Aboriginal mythology. In addition there are many Aboriginal sites with no man-made features which enable them to be recognised. They are often natural features in the landscape linked to the Aboriginal account of the formation of the world during the creative "Dreaming" period in the distant past. Many such sites are located at focal points in the creative journeys of mythological spirit beings of the Dreaming. Such sites can only be identified by the Aboriginal people who are familiar with the associated traditions.

PART TWO

ETHNOGRAPHY

BY

RORY OCONNOR

1.0 INTRODUCTION

1.1 Background

In 1989 R.O'Connor, C.Bodney and G.Quartermaine carried out a study and produced a Report on the Aboriginal Significance of Wetlands and Rivers in the Perth-Bunbury Region ("the 1989 Report"). In March 1994 R.O'Connor and G.Quartermaine were appointed to carry out a similar study of the Busselton-Walpole region. Similar to the Perth-Bunbury study, the Busselton-Walpole exercise involved a compilation of existing information concerning Aboriginal heritage sites in the vicinity of wetlands and waterways and a wide-ranging consultation of relevant Aboriginal organisations and individuals in the designated area.

This ethnographic section of the report on the study presents a brief historical sketch which reviews historical forces which were brought to bear on the region's Aboriginal population and the changes to that population which resulted. It also discusses in some detail the concept of "significance" as that concept affects the study, and changes which have occurred in recent years to the way in which Aboriginal people attribute significance to places. Following this, the report examines the existing database held in the Site Register at the Department of Aboriginal Sites and adds to it additional data collected both in the course of the Aboriginal consultation and the archival/historical search. Next, the report presents an overview of Aboriginal associations with wetlands and rivers in the study region which endeavours to bring together the material gleaned from all research sources and present it in a format relevant to the current situation. Finally, the report discusses stratagems whereby potential conflicts arising from differing requirements and expectations may be avoided.

1.2 Research Brief

The study area is shown in the Figure on page vi. It comprises the Shannon, Warren, Donnelly and Blackwood Rivers and the Busselton Coast drainage basins. It is an area of approximately 35,000 square kilometres bounded roughly by the towns of Capel, Busselton, Dunsborough, Augusta, Walpole, Kojonup, Katanning, Nyabing, Harrismith, Narrogin, Darkan, Boyup Brook and Balingup.

Within the above area the Consulting Brief required the consultants to study and draft a report on the significance of wetlands and rivers to Aboriginal people, in terms of both previous activity and current associations. The study therefore had two components: an archaeological and an ethnographic/historical component; the former reviewing sites that are not currently used but contain material evidence of former Aboriginal activity, the latter addressing currently used sites and other sites of significance to Aboriginal people. It was suggested that in the latter case a distinction which had been drawn in the 1989 Report between attributions of significance from a historical/human/mundane viewpoint and attributions from a mythological/supernatural/sacred viewpoint should be adopted. However, as noted above, the concept of significance, viewed from an Aboriginal perspective, has developed further in recent years, as also has the usage to which sites may be put. For example, a site which may have formerly been of sacred significance to Aboriginal people may nowadays be used as a focal point, or one of a series of focal points, in a tourism venture. These matters, accordingly, are discussed in this document.

As the fundamental purpose of the consultancy was to contribute to water allocation decisions, the study was aimed at providing a regional perspective on the importance of river systems and wetlands to Aboriginal people. To this end, the ethnographic component of the study included both a review of the existing database and a wide-ranging consultation with Aboriginal organisations and individuals throughout the study region.

1.3 Scope of Study

Although the study area is defined in Figure One, it should be noted that this type of work does not lend itself readily to precise geographical determination. The historical forces which helped to shape the present-day populations of Gnowangerup and Kojonup, for example, radiated outwards from both King George Sound and the Swan River Colony. Therefore any understanding of that population would be incomplete if it did not take those forces into account. Likewise, the traditional Aboriginal inhabitants of the study region, as with Aborigines elsewhere in Western Australia, tended to have social relations with neighbouring groups, sometimes over surprisingly large distances, which led to seasonal movements for the purposes of sharing food resources, arranging marriages or holding social/religious ceremonies. In more recent times, as the tribal population faded into history and was replaced by the ancestors of today's Aboriginal population, movements for seasonal work or voluntary or involuntary resettlement tended to fragment families and further redistribute people. Accordingly, to present as vivid and full a picture as possible in the time allotted for the work, it was necessary both to consult Aboriginal people and organisations outside the geographically defined study area and to widen accordingly the scope of the archival/historical research.

A second point to note under this rubric is that the work was not intended to be, nor is it here presented as, a full and final tabulation of all areas of significance to Aboriginal people in the vicinity of wetlands and waterways in the study area. The small number of sites of Aboriginal significance recorded within the Site Register at the Department of Aboriginal Sites at the commencement of the work is evidence of how little

similar work has been previously carried out in this region. This document will add to that record, but it is to be expected that the inventory will increase as local Aboriginal people become more aware of the implications of recording the existence of their heritage areas. In this regard, the discussion of significance in Chapter Three of this section is particularly relevant.

1.4 Acknowledgements

Executive officer(s) and/or committee member(s) of the following Aboriginal organisations were contacted in the course of the consultation which preceded both the archival/historical research and production of this report.

- Southern Aboriginal Corporation.
- Bibelmen Mia Aboriginal Corporation.
- Manjimup Aboriginal Corporation.
- Nyiningy Aboriginal Corporation.
- Gnuraren Aboriginal Corporation.
- Bojanning Aboriginal Corporation.
- Cooraminning Aboriginal Corporation.
- Gnowangerup Aboriginal Corporation.
- Kojonup Aboriginal Progress Assoc.
- Katanning Aboriginal Advancement Assoc.

Particular gratitude is here expressed for the guidance and advice of Mr Glenn Colbung of the Southern Aboriginal Corporation. In addition, the following Aboriginal people gave their time and interest to the study and also shared information, for which gratitude is here expressed: Mr G.Webb, Mrs G.Webb, Mr W.Webb, Ms G.Chapman, Mr J.Hill, Ms M.Morgan, Mr W.Woods, Mrs L.Woods, Mrs L.Haywood, Mrs R.Haywood, Mrs M.Hart (nee Woods), Mrs R.Williams, Mrs F.Winmar, Mrs G.Hansen, Mrs P.Michael, Mrs R.McVee, Mr S.Ugle, Mrs V.Ugle(nee Parfitt), Mr L.Eades, Mr R.Jones, Mr C.Williams, Mr A.Wallam, Mrs C.Northover and Mr J.Northover.

2.0 HISTORICAL OVERVIEW

2.1 Introduction

The area in which the survey was carried out was occupied by European settlers from three different directions: one group moving roughly northwards from the expanding settlement at King George Sound; one moving eastwards from Augusta and later from Busselton and Margaret River; a third moving southwards from Perth, initially to establish an overland route between there and King George Sound and later to establish small settlements along that route which ultimately grew into farming communities. This last movement continued and gained fresh momentum with the opening of the Great Southern Railway in the eighteen-nineties. As the impacts of these incursions upon the region's Aboriginal population differed, each will be dealt with separately in this document.

2.2 King George Sound: the Meananger

The first chart of the present Albany region was prepared by George Vancouver who, aboard H.M.S. "Discovery", explored the area in 1791. He named it "King George the Third Sound". Following publication of his journal in 1798, the Sound came into use as a refitting depot for ships en route from the Cape of Good Hope to Sydney. Friendly contacts were made with the Meananger, the local inhabitants, on all recorded visits, including H.M.S. "Investigator", the "Geographe", the Brig "Mermaid", the Brig "Bathurst" (two visits) and the Corvette "Astrolabe".

Realising that the French Government intended to settle the Sound, the Colonial Secretary ordered the establishment of a military garrison there and its formal annexation as a British Colony. During the late afternoon of Christmas Eve in 1826, the "Amity" carried Major Lockyer and a small token force into King George Sound to achieve this end. His party was made up of a captain and sergeant of the 39th. Regiment, eighteen rank and file, twenty-three Crown prisoners and Assistant Surgeon Isaac Scott Nind.

Thus, the first European settlers of the Albany region did not alienate land from the original inhabitants, did not bring livestock other than for their own consumption and had minimal impact upon the lifestyle of the Aborigines. The root causes that led to conflict between settlers and Aborigines in other parts of Australia, therefore, did not exist in Albany. The sole potentially dangerous situation that developed in the first year as a result of the murder of an Aboriginal man and abduction of an Aboriginal woman by a group of sealers camped on Breaksea Island was handled skilfully by Lockyer, who arrested the culprits and restored good relations with the Aborigines. Lockyer was replaced by Captain Joseph Wakefield in April 1827, who was in turn followed by Lt. George Sleeman and later by Captain Collett Barker (all of the 39th. Regiment). Good relations prevailed with the Meananger, who camped in and around the settlement during this period. The journals of members of the garrison party, preserved in State Archives and the Battye Library of Western Australian History, offer what is probably the best record of everyday Aboriginal life at the time of contact. It is indeed strange that they have not received wider exposure. They are here summarised, firstly because of their general historical importance and secondly, because they form a background for the events which followed the expansion of European settlement in Western Australia.

Nind records that the original settlement overlooking the Sound consisted only of eight to ten buildings, some of which were "brick nogged", others of turf and others of wattle and plaster. The roofs were thatched with rushes and coarse grass. Initially the tiny garrison received the name of Frederickstown, but this name was not adopted in the official documents and lapsed. In 1829, following the establish-ment of the Swan River Colony, the garrison was no longer needed in King George Sound and its abandonment was planned, largely because of a dearth of essential resources. Nind records:

"in the most essential thing, good water, it was very deficient. Neither was there any timber found near the place that was serviceable for erecting buildings. The soil in the immediate neighbourhood of the encampment proved very unproductive, for on turning it up a few inches beneath the surface it was nothing but a pure white sand."

However, the discovery of better land at Geographe Bay and the favourable account of the inland arising from Dr.Wilson's exploration held the fledgeling community together. In the same year, the range of hills called Borringerrup by the Meananger was explored and a large resource of good quality timber discovered. Beyond Borringorrup, a further rugged range of hills known as Corjernurrup was sighted. [These are the Porongorups and the Stirling Ranges].

The Meananger were described as of "middle stature, slender in the limbs, and many of them with a protuberant abdomen". As clothing they wore only a "cloak of kangaroo skin, reaching nearly to the knee" and worn as a mantle over the shoulders, fastened at the right shoulder by a rush, thereby leaving the right arm free and unencumbered. The cloak was prepared as follows:

"...the skins are pegged out upon the ground to dry, and are then cut into the proper shape with a sharpened stone; with the same instrument the inner surface is scraped away until the skin becomes soft and pliable; it is afterwards rubbed over with grease and a sort of red ochreous earth, which they also use to paint the body. The skins thus prepared are stitched together with the sinews of the animal, which are drawn from the tail".

Another article of dress was the noodlebun, a long band

spun from the fur of the possum and worn around the waist to carry weapons. Single men, known as Jahlies, ornamented their heads by lodging feathers and dogs' tails in a headband made like the noodlebun. Women wore no ornament except a "fillet of worsted yarn" around the neck, which they called woortill. Both sexes smeared their faces and the upper parts of their bodies with red ochre, which they called paloil, mixed with animal grease. When in mourning, this was replaced with white pipeclay, called kaingin. They practised cicatrisation, mainly on the shoulders and chest, as a distinguishing mark for the different family groups and as a mark of distinction. The men also pierced the nasal septum and wore a feather or other substance in the aperture.

Although able to make fire by friction, when travelling each member of the group carried a firestick. In winter, this was carried under the cloak for the sake of heat. This implement was generally a smouldering cone of the Banksia grandis.

Their weapons consisted of spears (keit), which were propelled by a throwing stick (meara), knives (taap), stone hammer (koitj) and a carved flat wooden weapon similar to a boomerang (curl). The spears were a long slender stick the thickness of a finger and about eight feet long, scraped down to a fine point, straightened and hardened by fire. Hunting and fishing spears, called maungull, were barbed with a piece of wood fastened on with kangaroo sinew (peat) and covered with Xanthorrea preissei gum (wank). Fighting spears were longer and heavier and more elaborately barbed, a distance of five to six inches from the point being lined with pieces of sharp stone embedded in gum. Each man carried from two to five spears. The spearthrower was about two feet long and four inches wide. A sharp piece of stone (tockil) was embedded in gum in the handle of the spearthrower and used to resharpen the spear when it became blunted by use. At the other end of the spearthrower was a small wooden peg (mert) which was inserted into a hole in the end of the spear. The hammer was made by embedding two sharpened stones in a large piece of gum mounted on a short stick. The taap was a stick with sharp-edged stones fixed in a bed of gum at the end and for two or three inches down the side, forming a serrated instrument. They also used a short heavy stick, called a towk, for throwing at or striking small animals such as the possum (quernde) or wallaby (taamur). The women carried a long pointed stick called a waun, with which they dug up roots and edible tubers. It also doubled as a weapon, when required. They also carried a kangaroo-skin bag, called cote, in which they carried the foodstuffs which they gathered.

Their shelters, called tourloits were made by embedding branches in the ground and bending these over to form a bower four feet high by six feet wide. In summer, these were thatched with Xanthorrea leaves and in winter covered with pieces of bark on which stones were placed . These were generally erected in a sheltered spot near but not beside water. Each encampment consisted of two to seven shelters, except during the fishing and burning seasons, when large parties would assemble together. Usually the encampments consisted of near relatives. Those families who had locations on the coast migrated inland for the winter, whilst the inland families moved to the coast during the summer fishing season. The country, however, was divided into tracts of territory, over each of which a family exercised primary rights.

The most prized meats were those of the kangaroo (yungur), the wallaby (taamur) and the emu (wait). In the hunt, they were assisted by dingoes (jimmung), which they collected in the wild when young and domesticated. The owner of a dingo was said to be toort-a-din and was entitled to an extra proportion of meat. He also lent out his dogs, in return for a share of meat. At some seasons, lizards formed a substantial proportion of the Meananger's food. Three species were eaten: the goanna or munnuar, a dark coloured relative called wandie and the blue-tongue or youern. Three species of snakes were eaten, the "wackul, norne and dockat". Nind recorded that the "wackul is the common diamond snake of New South Wales". He is clearly referring here to the Southwestern carpet python, as the dockat is the dugite and the norne is the tiger snake. This comment about the wackul or the Waugal is somewhat surprising in the light of the massive literature that has developed recently around this allegedly mythic figure. This matter will be further discussed below. The King George Sound Aborigines also hunted possums, the different species being called nwarra, quernde and comal. In the spring, eggs and young chicks were collected and eaten.

The sea and inland lakes and rivers also provided food for the Meananger. During summer and autumn they assembled at the coast to harvest the marine resources. Captain Collett Barker noted that none of them was able to swim, which he found remarkable, given their exploitation of the waters. He recorded in his journal:

"...Mokari enjoyed watching the soldiers having a swim this evening, but he would not join them. Come in Mokari, plenty fish, they called. Plenty fish, plenty cold, he replied".

As they did not have canoes, this inability to swim restricted their fishing opportunities. Their major fishing tool was the harpoon spear, which they used with great dexterity. At the mouths of the creeks which flow into the Sound, they erected weirs made of bushes. Fish swimming over these were either caught by hand or speared. Whales occasionally thrown up on the shore by storms were butchered and eaten and seals were pursued as a prized delicacy. Freshwater crayfish called challons were caught in the swamps surrounding the Sound, as were the freshwater tortoises called kilon. Three different species of frogs called cooyah were also harvested in the swamps. A grub similar to the witchetty grub of central Australia was harvested from the Xanthorrea, small ones being called paaluck and larger ones changul.

Several species of vegetable food were used also by the

Meananger. The tuboc was recorded as a member of the genus Orchideae, its tuberous root being eaten when young. Of the other vegetable foods named naank, meernes, chocket and tunedong, the only record is that they were ferns and sedges.

Only Nind endeavoured to carry out a census of the Aboriginal population in the vicinity of King George Sound. He noted that the population was "far from numerous" and identified thirty men and twenty-four women by name. Barker also supplied a list of names which corresponded roughly with those supplied by Nind. However, Barker noted that Coolbing (rendered Colbum by Nind) "had come in from the Manypeaks region". If this was the case and if the attractions of new foodstuffs lured people in from more outlying districts, then Nind's fifty-four individuals may not have all been members of the King George Sound group.Finally, with regard to social organisation, Nind made the following observations:

"....upon the first formation of the settlement, we endeavoured to discover whether they had any chiefs, and for a long time believed they had; indeed we had fixed upon two or three individuals to whom we supposed that rank belonged....Their names were Naikennon, Gnewitt, Warti and Eringool. Naikennon gave out for some time that he was king and captain of the black men....after a little time both he and his brother Mawcurrie became more sociable....We had therefore a fair opportunity of satisfying ourselves that neither of them possessed any authority over their countrymen. The individuals who possess most influence are the mulgarradocks or doctors, who are considered to possess the power of driving away wind or rain, as well as bringing down lightning or disease upon the object of their hatred....The whole body of the natives is divided into two classes, Erniung and Tem or Taaman, and the chief regulation is that these classes must intermarry, that is, an Erniung with a Taaman.

Initially, the Meananger camped alongside the newly-arrived garrison but, as both parties became more accustomed to each other and as good relations prevailed, they tended to move into the Europeans' camp. Thus Nind noted that Mawcurrie and his brother became "so partial to our people as seldom to leave our camp". Also, on 18 January 1830, Barker noted that Mokari and about twenty or thirty Aborigines moved into the camp at 7 a.m. The Aborigines also adopted European foods: thus Barker noted that on 8 march 1830 "the doctor (i.e. Nind) and myself started after breakfast to see Tarragan accompanied by Coolbing carrying a pot of rice".

It has been well recorded that throughout Australia, as Europeans settled around the coastlines, a wave of introduced exotic diseases radiated outwards through the surrounding Aboriginal communities. The Meananger of King George Sound were the people who bore the first brunt of such disease introduction in Western Australia and, as will be described below, passed these infections on to neighbouring groups. The garrison's records show them steadily dying from inexplicable ailments for which surgeon Nind had no cure. The symptoms recorded resemble those of the common cold or influenza. Naikennon died in late 1830 and was given a bush burial by his own people. Tarragan died in late March 1830. Mokari died on 9 August 1831, the same year in which King George Sound settlement formally became part of Swan River Colony under the name of "Plantagenet County", with Albany as its port. He was buried in Town Lot S112. Talwin died less than three weeks after Mokari, his final hours being described by the Perth Gazette as follows:

"...No sooner did Talwin recover a little, by remaining at the settlement, than he betook himself to the bush bivouac of his native advisers, to whom he did not fail to attach the whole blame, especially to the recommendation of an old uncle Coolburn, who in addition to his authority as a relation, assumed that of a descendant of Aesculapius. He was one of the doctors of the tribe. Talwin died, after a lingering and painful illness, on the morning of the 24th. of August. We buried him near Mokkare."

The Albany Town Hall now stands on former Town Lot S112.

The friendly and hospitable Meananger thus passed into history, but not before unknowingly transmitting the reasons for their passing to their inland neighbours, a matter to which this document will turn in due course. It is, however, useful to first consider changes taking place in the European population of Plantagenet County and the effects these changes were having upon the Aboriginal population.

2.3 King George Sound: the Settlers

The foundation of the Swan River Colony and the decision to establish a permanent settlement rather than a military garrison at Albany had two immediate effects which were to have catastrophic long-term consequences for the Aboriginal population of the Southwestern corner of the State. Firstly, the urgent need for the establishment of an overland route between Perth and Albany led to exploratory journeys through the interior, with associated opening up of country and consequent alienation of land. Secondly, the township of Albany attracted permanent settlers who, once established there, moved inexorably outwards in search of pasture and farming land. I shall deal with both of these historical population movements in turn.

In 1831, Captain Thomas Bannister made the first overland trip from Perth to King George Sound through Williams and Arthur River. His journey led to the establishment of the "Old Sound Road", west of the present Albany Highway (an 1833 map of the region uses the name "Williams District" and shows the proposed road a few kilometres to the west of the present township/river crossing). In 1835, Surveyor Alfred Hillman,

who was later posted in Albany, travelled from Kelmscott to Williams River, and thence to the coast and back to the Swan River via the Murray River. The Great Southern Expedition, led by Captain Stirling, with Surveyors J.S.Roe, J.Norcott and a body of the Mounted Corps, travelled from York roughly along the alignment of the present Great Southern Highway (i.e. through the present Brookton, Narrogin, Wagin and Katanning) and through the Stirling Ranges to Albany in the same year. The major problem experienced by all three expeditions was location of reliable water sources along their routes. Alfred Hillman, based in Albany in 1836, attempted to lead a party northwards to Swan River, roughly along Bannister's route. Lack of water forced them to turn back at Gordon River, near the present Cranbrook. At this point, he recorded in his journal that:

"...early this morning, 13 September, we were visited by about fifty natives, who apparently had not seen Europeans before. We could not understand a word of their language. They, however proved to be the most desperate thieves I ever met with."

His February 1837 expedition proved more successful, as eight of the Gordon River Aborigines accompanied him and guided his party to the spring around which the town of Kojonup now stands. Hillman recorded that these Aborigines called the place Kojonup, meaning "place of the quartz stone axe", this material being obtained from a hill located just south of the railway line. At that time, there were three Aboriginal camping areas in Kojonup, all within about one mile (1.6 Kms) of the spring: Wilgie Hill to the west, from which ochre was obtained, Dorney's Hill, which later became the Kojonup Aboriginal Reserve, and the hill on which the Roman Catholic Church is now built. In May of the same year, European settlement of Kojonup began, when a military depot was established there under the command of Lt. Armstrong for the protection of the overland mail from Albany to Perth. The garrison was moved further south two years later, for reasons which I am unable to ascertain. Thus, a letter from the Colonial Secretary to the Military Commandant at Perth, dated 29 October 1838, reads as follows:

"...the Governor, having in Executive Council decided on re-establish-ing the posts of Kojonup and the Kalgan on the 15th of November next, I have been directed to request you to arrange for the two parties of six men each, taking up their station at those places on or about that time. The post at Kojonup is to be about four miles further on the line of the road to Albany than it was formerly; and that of the Kalgan where two roads cross, or thereabouts."

Certainly, the reason for this move was not conflict with local Aborigines, as a letter of 15 March 1840 from William Nairn Clark to the Colonial Secretary reveals, not only that good relations were prevailing, but also that Aborigines were still willing to act as guides and show the location of their water sources to the Europeans:

"...on leaving the settlement, we were told that no fresh water was to be obtained between the Gordon River and Kojonup, (a distance of 35 miles) and we accordingly filled two fifteen gallon breakers...we had travelled about twelve miles on the way when our natives shouted and pointed to a strange native who was perched on a high tree on the roadside...our natives then enquired in their language where water was and he pointed to the right side of the road...we accordingly struck off into the bush under his direction (and found) a new river hitherto unknown in the bed of which there was a fine pool of excellent water...Shortly after our arrival we were joined by a large party of natives, men, women and children...The native name of this place is Kinenup...One of the natives volunteered to accompany us to Kojonup...and at the distance of seven miles diverging to the left of the road we struck on the same riverunder the directions of the native. The country here was of a beautiful description and abounded in fine sheep pasture. The native name is Yarenup. The river existed in pools and the land all around was of a fine red loam. From this place we proceeded to Kojonup and pitched our tent at the only spring of water in the townsite. The grass in the townsite had been burnt by native fires."

Over the course of the following decade, the Old Sound Road was developed and by 1853 became a gazetted road. In 1880, Cobb and Company initiated a regular coach run between the two townships, the journey from Albany to Perth taking seventy-two hours.

Parallel to this official opening of the interior by the Colonial Government, came the development of Albany as a port. Initially a stop-over and reprovisioning point for ships en route from England to Sydney, in 1852 it was selected by the British Admiralty as a coaling depot for a regular mail service to be established between England and New South Wales. In recognition of its increased maritime importance, H.M.S. "Prince of Wales" in 1857 carried to Albany material for the construction of two lighthouses, one on Breaksea Island and the other on Point King. Inevitably, the possibility of new commercial opportunities in such a township led to an increase in population. Equally inevitably, the potentially rich pasture and farming lands to the northwest, north and northeast of Albany led to gradual spread of those industries. The Census of 1849 showed the population of the Plantagenet district, including Albany to be 428 persons. In 1857, when construction of the two lighthouses commenced, the district contained 800 persons, 350 of whom resided in Albany. In 1870, the Plantagenet District contained 1,585 persons (998 males and 587 females). In the following year Albany was gazetted as a municipality. By 1884, the population of the municipality had risen to just under three thousand persons.

Gnowangerup, an Aboriginal word meaning "place of the mallee hen eggs", was settled as the pastoral industry expanded through Borden in the 1850-1860 decade, the Pallinup River (Salt River or Salt Creek) offering them a means of driving their flocks from the coast to the interior. George Cheyne had settled in 1835 the property at Cape Riche which came to be known as "Bonnington Braes" - the same year in which Surgeon Alexander Collie R.N. had taken ill on a voyage from Perth to Sydney and had landed in Albany to rest in Cheyne's house, where his condition worsened and he died. Having no children of his own, Cheyne brought his nephew Andrew Moir from Scotland in 1842 to assist him in his business endeavours. In 1852, he also brought Andrew's brothers Alex and George to Albany. In 1859, one year before Cheyne returned to Scotland, Andrew took over "Bonnington Braes" and joined it to the neighbouring "Glenvale" which he had developed, to form the current "Sandalwood" property. Early in the previous year, George Muir, who had been assisting Andrew, travelled inland along the Pallinup River and set up "Mongup", where he ultimately built the historic homestead with the help of convict labour. Following the same route, Edward Treasure, who had come from England four years earlier, settled Martinup in 1860, to be followed by Richard Burridge and William Searle, who settled "Clear Hills". Magitup, near Borden, was settled in 1860 in the name of the Police Board, with George Chester as Resident District Sergeant. Following these pioneer settlers, the pastoral and farming industries expanded rapidly northwards from Borden, resulting in the Gnowangerup-Broomehill-Katanning area being largely cleared and settled by the late eighteen-eighties. As will be reviewed below, the final rapid development and expansion of the last-named township and its hinterland occurred after the opening of the Great Southern Railway in the mid-1890s.

Development along the "Old Sound Road" was slow to begin. The population of Kojonup for the first twenty-five years consisted mainly of garrison men and their families. Similar to the Albany-Gnowangerup movement, European expansion in this area seems also to have initially followed rivers and reliable water sources. This will be considered below, when dealing with southward expansion from the Swan River and York.

2.4. Aborigines From the Central Area

A study of the exiguous historical records which deal with this point and the records of consultation with Aboriginal elders in Albany, Gnowangerup, Katanning and Kojonup show that two factors were constant throughout the contact experience in this region. Firstly, Aboriginal people settled on and around the pioneer selections, where their knowledge of watersources and other natural resources made them invaluable as shepherds and guides on the occasions of the opening up of new country for pasture. No oral historical record of pre-contact life was collected in the course of the consultations - the oldest memories concerned accounts of early pastoral life related by grandparents. Generally these were records of overland droving trips, or of chains of reliable watersources along which the early pioneers' flocks were herded. The second notable factor echoes the fate of the Meananger - disease spread northwards from Albany quite early in the contact era. By the time settlement commenced its outward movement reviewed above, the local full-blood tribespeople had commenced to succumb to deadly exotic diseases against which they had no resistance. As noted above, lack of water forced Surveyor Hillman's 1836 expedition to turn back towards Albany before reaching Kojonup. On his return journey he noted in his journal that he passed a number of fresh Aboriginal graves. Bignell (1971) records that in 1859 the Kojonup/Eticup tribal group was thought to have numbered around 400 people, but by 1880, this number was greatly reduced. Curr (1886) lists the names of only eight full-blood Aboriginal people in Kojonup. Warburton, in a speech to the Kojonup Historical Society in 1991 reminisced that:

"...about 1928 I remember a full-blood Aborigine (not a local man) being pointed out to me as being a rare sight in Kojonup, so it must have been between 1865 (when my maternal grandfather arrived) and the 1920s that full-blood Aborigines vanished from the Kojonup environs".

Bates (1944) records the deaths of two of the last Aborigines from the Kojonup region - both were carried into the nursing post which she had set up in the Katanning Native Reserve, in which Reserve it was hoped that "the Bibbulmun relicts would find rest in the evening of life". She described the general hopelessness of the Reserve in which measles were rife and the passing of Ngungalarai and Nungian as follows:

"...at Kojonup and Narrogin the same state of affairs prevailed, the few derelicts eking out an aimless existence with no interest in the new life or people...Everywhere I heard the plaint 'Jangga meenya bomunggur' - the smell of the white man is killing us...A poor consumptive girl, Ngungalarai, was one day brought in to me from Kojonup. She had been reared by kindly and gentle white people and had become used to their ways and refinements. While she lay dying, I took her a lace-covered tray and all the little appurtences of afternoon tea. Although she was in the last stages of disease, she loved to handle the thin slices and dainty cups as she had seen her white girl companions do. She died very quietly a week after she arrived...on the top of nursing there came Nungian from Kojunup, a poor girl in the last stage of consumption. She also had to be kept in camp and ministered to, though one could only tempt her with a few "white" delicacies, for the poor girl - she was only 26 - had gone beyond the coarse damper and black tea; indeed she only ate a few trifles I brought her out of regard for me. On the evening of the sixth day she died in her sleep".

The latter death was recorded in the Great Southern Herald

of 1 August 1903 as being that of the last of the full-blood Kojunup Aborigines.

In the Gnowangerup region. Bates also records the passing of the last full-blood tribespeople, as follows:

"...the mallee-hen group of the Palenup or Salt River area ended sadly. A special friendship called babbingur between certain brothers-in-law prevailed among the Bibbulmun, and two Palenup Bibbingur were the last of their group in the district. These men clung to each other in an extraordinary comradeship. In the passing of the years, one became emaciated and listless from some disease - or it may have been the loss of the will to live. His babbin cared for him devotedly, worked for him, hunted for him, fed him. At some white man's farm or sheep run he would find employment, but the white employer would tell the sick friend to work or get out. The moment his babbin heard the words, he would put down his axe or spade and move on with his mate. The wanderings circled their home ground, and one day the sick babbin lay down by the riverside and died. His friend dug the grave and buried him, lingered in the vicinity a little while in mourning, seeking no food, until he too became feeble and listless. He had lighted no spirit fire for the dead man, because there was no fear of a spirit of a friend so much beloved. All round the little area he walked with stumbling feet and at last laid himself down near the new-made grave, and the two kaanya souls passed over to their heaven together".

2.5 The Western Seaboard

The first settlers arrived at Augusta in May 1830 aboard the "Emily Taylor". The record of their landing notes that:

"tents were pitched on the shore and a gala meal of damper, pork, biscuits and cheese, billy tea and wine was partaken of. Within a few hours natives appeared simulating great rage but peace was soon achieved by exchange of trinkets".

The local Aborigines then led the newcomers to a well where fresh water was obtained. However, the good relations between the Aborigines and the settlers soon degenerated, with the former killing cattle and sheep for food and the military garrison, which had been established to protect the settlers, carrying out reprisal raids in which an unrecorded number of Aborigines perished. Added to this, the difficulty of clearing forests for pasture proved greater than originally envisaged. Accordingly, in 1832, Captain Molloy left Augusta to take up a grant of 12,400 acres at the Vasse River, to be followed by the Bussell Brothers, who took up 5,573 acres. The Augusta settlement lapsed until the 1870s, when M.Davies began exploiting timber there under Government licence and established a permanent settlement in June 1879. At that stage, there were no Aborigines in the Augusta region.

Unlike other parts of the survey area reviewed in this historical sketch, attacks by Aborigines on settlers appear to have started in the Vasse River settlement soon after the arrival of Europeans, increasing in intensity after 1836. On 21 February 1841, George Layman, a twenty-nine year old settler was speared by a local elder named Gaywal as a result of an argument over Layman giving food to another Aborigine. The Vasse River group was pursued by a reprisal party, who massacred them at Wonnerup. Although at least eight Aborigines were killed, Gaywal escaped the slaughter, to be shot seven days later. After the massacre, despite occasional localised violence, pastoral expansion followed the same pattern as elsewhere in the survey area, with tribal survivors settling on the Europeans' properties and earning their livelihood as shepherds and farm labourers.

In 1851, the Bussells set up a pastoral/farming property at the Ellensbrook River. Lynn (1960) records the arrival of Sam Isaacs at the Bussell household:

"...a full-blooded Aboriginal Sam Isaacs was driving a mob of pigs to Busselton when he accidentally lost them. He was found wandering close to the homestead in search of the pigs and was taken in by the Bussells, fed and given a good night's rest. It appears that Isaacs stayed at Ellensbrook and became a valuable and indispensable worker, eventually becoming head stockman".

Sam Isaacs moved to Margaret River with the Bussells in 1864. He is best remembered by history for the part which he played with Grace Bussell in the renowned sea rescue, as a result of which he was awarded one hundred acres of land by the Western Australian Government. Sam Isaacs, who was known to his own people as Yebulbis, has descendants in the Busselton area. Both his grandson (Mr G.Webb) and great-grandson (Mr W.Webb) were interviewed in the course of the study. Because of this unbroken link with the past, as will be noted below, Aboriginal knowledge of traditional sites in the Western Seaboard part of the study area is greater than in the inland.

2.6 South From the Swan River Colony

The 1989 Report described the Aboriginal patterns of movement along rivers and chains of lakes and other water-sources. Governor Stirling's 1837 journal spoke of "well-marked tracks from one watering spot to another" and mentioned a "well-known track (which) led from Perth to Pinjarra, Marrinup, Williams River, Kojonup, Kendenup and Porongorups". It was noted above that this track was also used by Hillman in the course of his first expedition south from Perth and by Bannister on his overland trek to Albany. As these tracks were developed, so also did European settlement expand outwards. Such expansion was not without its hazards, however, and lives were lost among settlers and Aborigines. Thus the Thompson Family History (Western Australian Archives) has a note that:

"...a young constable from Kojonup...was escorting a Mrs Noonan and her daughter Bridget to Perth. They stopped at the Bannister river for lunch. The natives speared him. He is buried about fifty yards on the left side towards Perth. His grave is surrounded by a timber railing".

All such killings were followed by reprisals, in which the Aboriginal population always fared worst. Again, as elsewhere in the study area, survivors settled on the pastoral/farming properties and became integrated into the settlers' economy. Again, disease tended to gradually carry off the remaining full-blood survivors and their places were equally gradually filled by part-Aboriginal people. With the opening of the Great Southern Railway in the 1890s came the settlement and gradual development of towns such as Narrogin, Wagin and Katanning. By that time, however, bush Aborigines had disappeared from the region - when Otto Martin established his farm at Nippering near Wagin in 1903, he specifically remarked that there were no full-blood bush Aborigines left in the area. The repressive legislation and administrative policies following the Roth Report of 1905 and the Moseley Report of 1935 and the consequent removal of part-Aboriginal children from full-blood parents and their incarceration in so-called missions and settlements saw a final severing of the link with the traditional past in much of the northern part of the study area.

Oral history in this part of the study area, similar to the situation reviewed in the Gnowangerup/Borden region, tends to deal with recollections of early farming days and movements of people following European settlement. Attributions of significance on the basis of traditional religious associations arising from such an oral record may not be totally accurate, a matter to which this document now turns.

3.0 ANTHROPOLOGICAL CONSIDERATIONS

3.1 Significance

A distinction was drawn in the 1989 Report between attributions of significance made by Aboriginal people on the basis of former or current domestic usage or on the basis of relevance to traditional ritual or mythology. This distinction was further analysed as a series of dichotomies between historical and mythological, human and supernatural or mundane and sacred areas, one area being viewed as significant from a historical/human/mundane viewpoint, another from a mythological/supernat-ural/sacred viewpoint, although it was suggested that the two viewpoints were best viewed as polar extremes on a continuum rather than all-or-nothing absolutes.

In the same document, the reclassification of historical sites as "significant" by Aboriginal people was also discussed, although the position was then taken that sites not known to contemporary Aborigines, but discovered as a result of historical research could not be classified as "sites of significance to living people" and were therefore omitted from the report. Given the inclusion by the Department of Aboriginal Sites of such sites in the Site Register and the availability of the Register to Aboriginal people, that earlier position is probably no longer tenable. In addition, Aboriginal people and their assistants, when involved in controversies such as that surrounding the restoration of the Old Swan Brewery, are searching the historical and archival records for data to support their positions. There is therefore potential for information thus accessed to become enmeshed in an "information loop" and to be represented to the public as living knowledge or material gleaned from the previously-undocumented reminiscences of "elders". I would here refer the reader to Brunton 1991, much of which is relevant to this topic and especially his comment that:

"...but soon after, perhaps to cover themselves Keen and Merlan make the following comments.....'we also believe that there has been developing over the past few years a clearer sense on the part of some Aboriginal people of the controversy over the Bula matter as a question of resistance to encroachment on an Aboriginal domain. It is not just a matter of "traditional religion", but a more clearly political and public matter of resistance to encroachment'. They do not dwell on the implications of these remarks, and the RAC does not seem to have realised their significance. But these comments suggest that things may be a little more complicated than some would have us believe. It is not necessarily a matter of "invention", if that carries the implication of cynical manipulation - although, as Keen and Merlan would know, the phrase 'the invention of tradition' has had widespread currency among anthropologists for nearly a decade. It is a question of extension, of elaboration (to use Levitus' word), of a not-necessarily-conscious innovative response to changing circumstances".

A final aspect of the invention of tradition through absorption of historical records into oral traditions which needs consideration here is the way in which such stories can be added to, altered or embellished. Kolig (1980) has collected a series of oral historical records from the Kimberley region which recount stories of meetings between ancestors of today's Aborigines and Captain Cook. These refer to places which Cook never visited and are therefore totally inaccurate. Likewise, I have been told by Aboriginal elders in the Collie region that the feral pigs which inhabit the Harris River swamps are descended from Daisy Bates' pig herd which she had on her farm near the Peel Inlet. Again, Daisy Bates never had such a farm. Another interesting embellishment occurred when visiting the spring at Kojonup with Aboriginal people in the course of the field trip which preceded this report. One of the Aborigines told me that the original settlers had found this spring by capturing an Aborigine, tying him to a tree and feeding him brine. When he was released, the story went, he bolted for the nearest water and the settlers followed him, thereby discovering the spring. This was indeed the method of finding water in the Great Sandy and Gibson Deserts employed by the Canning Expedition of 1912, a fact which is a matter of public record as a result of the Royal Commission of Enquiry into the Expedition and therefore well known throughout the Western Australian community. The historical record above shows that it was not the case at Kojonup. Firstly, Kojonup was not discovered by settlers, but rather by surveyors exploring an overland route from Albany to Perth. Secondly, the records of the discovery of the spring and water sources between it and Gordon River do not suggest any ill-treatment of Aborigines: the notion of an Aborigine half-crazed with thirst leading explorers on a meandering sight-seeing journey through the bush and explaining place-names to them seems unlikely. Therefore, whereas it seems that sites discovered through historical research are now being assimilated into the "living significance" category by Aboriginal people, stories and anecdotes regarding such sites should be treated with caution as they may be, or be based upon, mere canards.

A further development in the way that Aboriginal people in the southwestern corner of this State attribute significance to places and in the way such attributions are viewed (and used) by those sections of State and Commonwealth bureaucracies which administer Aboriginal heritage matters is also worthy of consideration, as it is of central importance to this document.

At the time of production of the 1989 Report, Aboriginal people tended to view significance, whether in terms of the domestic or religious life, as being specifically or particularly

attributable that is, for example, a certain spring or camping area was said to be of significance because a particular (usually named) ancestor had used it as a resource, or else a certain area was said to be of spiritual significance because of a particular action or set of actions which were known to have been performed there, or because of a particular religious story which alluded to it. More recently, there has developed what I have elsewhere (O'Connor 1994) called "generalised significance", that is significance being attributed to (or claimed for) an area on the basis of that area's physical or environmental characteristics rather than on the basis of an area-specific reason. Thus, the chain of lakes and swamps between Baldivis and Mandurah was recently claimed as significant by the Aboriginal persons who oversee heritage matters in that region. The given reasons for that claim were:

1. the wetlands were known to have been used as food and water resources by Aboriginal people before European settlement, although the identities of those users are unknown;
2. the shores of the wetlands were known to have been used as camping places by Aboriginal people before European settlement, although in most cases the exact location of such camping places is unknown, as are the identities of campers;
3. Aboriginal religion posits a spiritual connection between humans and other plant and animal species - as largely pristine asylums for native species, the wetlands are repositories for the spiritual essences of those species.

It is clear that this formulation presents a further development of the notion of significance as defined by Aboriginal people themselves. It is also noteworthy that it creates an avenue whereby what would formerly have been described as purely archaeological sites can be subsumed under the "significant to living Aboriginal people" rubric. This latter position has also been gradually advanced by the Aboriginal heritage bureaucracy in recent years, a matter evidenced by the renaming of archaeological sites as "cultural sites". Given the vast quantities of discarded stone tools scattered across the ground surface of Western Australia, such a situation presents a powerful tool for manipulation and use by persons opposed to the State's development.

Two issues arise from the development of generalised significance and the movement of archaeological sites into the "living significance" category: firstly, their legal basis and secondly, their social scientific basis. From the viewpoint of the current legislation, Section 5 (b) of the Aboriginal Heritage Act defines the Act as applying to:

"...any sacred, ritual or ceremonial site, which is of importance and special significance to persons of Aboriginal descent."

No specific definition of "sacred, ritual or ceremonial" is given in Section 4 of the Act; however, Section 39 (2) (b) directs the Aboriginal Cultural Material Committee, when evaluating the importance of places and objects, to have regard to:

"...any former or reputed use or significance which may be attributed upon the basis of tradition, historical association or Aboriginal sentiment".

It would appear therefore that what I have referred to as "generalised significance" has a basis in the Act, on the grounds that it is being attributed to "a sacred site of importance or significance to persons of Aboriginal descent". This type of application of the Aboriginal Heritage Act therefore offers a powerful tool for the prevention of development in the vicinity of all wetlands, or indeed any areas to which Aboriginal people choose to attribute a generalised significance.

Although the incorporation of stone artefact scatters into the "living significance" category creates a powerful anti-development weapon, it also creates ethical problems for persons working as liaison consultants between developers and Aborigines, and a dilemma for the discipline of archaeology.

When originally appointed, the Aboriginal Cultural Material Committee established an Archaeology Sub-Committee. Applications in respect of such archaeological sites as stone tool scatters made pursuant to Sections 16 and 18 of the Act were routinely passed to this Sub-Committee for consideration, along with supporting documentation such as reports on archaeological surveys or evaluations of the subjects of the applications. The Sub-Committee, following its evaluation of those materials, would relay its findings back to the Aboriginal Cultural Material Committee to assist them in formulating a recommendation to the Trustees of the Western Australian Museum in the case of an application pursuant to Section 16, or the Minister for Aboriginal Affairs in the case of Section 18. Implicit in that system was the assumption that sites such as stone artefact scatters were of purely archaeological scientific interest, because of the scientific information which could be gleaned from them. It is my experience that Aboriginal people, particularly in tribally-oriented parts of the State, tended to accept this definition of the situation by analysing stone artefact scatters as "just rubbish". In the mid-1980s, a change in personnel involved in the teaching of archaeology in the University of Western Australia led to the inclusion of an archaeologist on the Aboriginal Cultural Material Committee and the dissolution of the Archaeology Sub-Committee. At the same time, archaeologists from that University, acting as consultants to private and public sector developers, began involving Aboriginal people in their work. As the Committee tended increasingly to require such involvement as standard procedure, a gradual shift from analysing and assessing sites such as artefact scatters as places of purely scientific interest to areas of significance to living people began. This shift has finally reached its logical conclusion in recent years with the requirement by the Department of Aboriginal Sites that permission to disturb stone artefact scatters must be sought from local Aboriginal organisations before a

recommendation to the Minister pursuant to Section 18 of the Aboriginal Heritage Act will be made in regard to applications. An ethical issue arises for consultants who are then required to approach Aboriginal organisations, show them what may be minuscule scatters of stone tools and request their permission to disturb these. On at least two occasions that I am aware of, this has led to exorbitant demands for "compensation" before permission would be given for such disturbance of "significant" sites whose existence the Aboriginal people were unaware of until approached.

The re-categorisation of archaeological sites as sites of significance to Aboriginal people gives rise to a dilemma for archaeology in cases where such re-categorisation is accompanied by calls to abandon or alter a development in order to"protect" those sites. Archaeology, as such, is neither inimical to nor incompatible with development. Scientific archaeology seeks to gain information regarding prehistoric human activities from archaeological sites. To extract this information, archaeologists must gain access to the sites and, in the course of its extraction, either partially or totally destroy them. Clearly, the presence or absence of sub-surface material in a site cannot be established without test-pitting, that is digging into the site and removing the archaeological material contained therein. The notion of preserving an archaeological site purely because of its archaeological interest, other than as a temporary measure to facilitate an opportunity for establishment of a research programme, is therefore a nonsense, almost as much a nonsense as the practice of archaeologists being hired by Aboriginal groups to discover archaeological sites in order that those groups can protect them.

3.2 Current Significance

On a further level of analysis, places to which Aboriginal people attribute significance for reasons reviewed above can assume a current significance for them, for economic, political or environmental reasons.

As noted above, Aboriginal sites, including archaeological sites, may assume an economic significance for Aboriginal people if they are in the path of proposed development. However, economic significance may also arise out of business opportunities associated with the tourism industry. The Bibelmen Mia Aboriginal Corporation is currently establishing a tourism venture in the vicinity of Injidup Springs near Dunsborough and is researching the potential for escorted walking tours along the coastline between Cape Leeuwin and Cape Naturaliste, visiting in the latter case the chain of grottos and springs along the coast. Other similar ventures are being planned for the Walpole and Manjimup area and, somewhat outside the study region, in Mandurah. Clearly, such exploitation of the Aboriginal heritage could lead to a sound economic base for the involved Aboriginal people.

On a political level, association with heritage areas can lead to better integration of local Aboriginal communities with the wider community. Thus, shortly before the field trip which preceded this report, the Aboriginal community at Kojonup had held a community open day at Kojonup Spring, which was well attended and appears to have been a marked success. On a less pleasant note, the series of recent confrontations in which Aboriginal people have prevented or delayed developments in this State on the grounds of claimed disturbance of heritage areas show clearly how Aboriginal sites can be used to flex an emergent Aboriginal political muscle, as noted by Brunton in the passage reproduced above. The quagmire that is State and Federal heritage protection legislation is now crossed by well-worn tracks trodden by legal feet and the wider Western Australian community can no longer ignore Aboriginal site issues. Finally, within Aboriginal communities themselves, bitter and often very public arguments have flared over the past half-decade because of competing claims over rights to make decisions over local heritage matters. This has been most spectacular in the Perth Metropolitan Area, but has also occurred elsewhere in the State and within the study area. Often, such confrontations are interlinked with questions of economic significance as discussed above, but in other cases simply reflect old feuds and rivalries within Aboriginal communities. They are, however, becoming more pronounced as the economic importance of heritage sites increases and access to the Courts and legal resources become easier for Aborigines.

The question of environmental significance is to an extent linked with that of political significance. The notion of traditional Aborigines as proto-environmentalists does not stand up to objective scrutiny, but is nonetheless well entrenched in the minds of members of the environmental movement. So deep is this entrenchment that it is becoming part of an information-loop as discussed above in relation to historical sites and is being adopted unquestioningly by Aboriginal people themselves. The fact that Aboriginal heritage protection legislation is far more powerful than environmental protective legislation has led inexorably to an infiltration of Aboriginal organisations throughout the State by persons whose primary aims revolve more around the environment than around Aboriginal welfare. On one recent occasion of which I am aware, this has led to the sad situation of a respected Aboriginal elder being abused and her right to decide over heritage matters in her region of expertise being questioned because of her refusal to "find" an Aboriginal site in the area of an environmentally unpopular development close to the study region.

4.0 ABORIGINAL SIGNIFICANT SITES IN THE STUDY REGION

4.1 Previously Recorded Sites

The exiguous nature of the ethnographic database held in the Site Register at the Western Australian Museum's Department of Aboriginal Sites witnesses the fact that the majority of Aboriginal site surveys carried out within the study area concentrated solely on archaeological matters. In the entire area only eighteen sites have been previously recorded as being of significance to Aboriginal people, with four others slightly outside the boundary of the study. Recorded data on these sites are detailed in Table One.

As can be seen from the list of previously recorded sites of significance, none is associated with rivers or wetlands. Eight are either urban reserves or settlements, dating from the middle decades of this century; eight are burial sites, again of relatively recent origin; three are ceremonial sites and two are mythological. The remaining site is a post-contact camping area.

4.2 Newly Recorded Sites - Aboriginal Consultation.

The following sites of Aboriginal significance were recorded in the course of the Aboriginal consultation. They are listed in summary form in Table Two and their locations shown in Figure Two. As noted in 1.3 above, it was decided to include within this category certain sites outside the survey area where they were related to movements of Aboriginal people of importance to the study or where they related to other sites within the geographically defined study area.

1. (Numbers here allocated refer to site numbers on Figure One) Siesta Park Waterhole. This was a camping ground and water source used by Aboriginal people subsequent to the settlement of Busselton by Europeans. It is now located on private property beside the Busselton-Dunsborough Road.
2. Nilgup Park Camp and Lake. As with Site 1 above, this area also was a camping site and water source used by Aboriginal people after the establishment of the settlement at Vasse. Again, it is now on private property.
3. Lakes Project Estate at Dunsborough. In the course of the development of this housing estate, a spring and camping ground used by Aboriginal people after European settlement have been destroyed.
4. Willanup Spring/Bunker Bay Farm. Willanup Spring is recorded in the Site Register at the Department of Aboriginal Sites as an archaeological site (Number S01007). It is, however, an area of significance to Aboriginal people, as it was a water source, camping area and also a corroboree ground.
5. Injidup Springs. As with the preceding four sites, these springs are known to have been used as a water source with associated camping area by Aboriginal people following European settlement. An Aboriginal-owned tourism enterprise is now located nearby.
6. Yalingup Cave. This is a mythological site associated with a mythic saga which is nowadays the property of Mr G.Webb of Busselton. Beside the cave is a spring which was an Aboriginal water source. As with Injidup Springs, Yallingup Cave and Spring are associated nowadays with an Aboriginal-owned tourism venture.
7. Ellensbrook Farm. In 1851 the Bussell family, accompanied by their Aboriginal farm workers established this farm (see 2.5 above). The permanent springs which feed the Brook are said by Aboriginal people to have been used before that settlement as water sources by the region's indigenous inhabitants. Aboriginal people who died on the farm in the early years of settlement are buried near to the Brook.
8. Lake Jasper. Ten archaeological sites are located in the vicinity of Lake Jasper, namely Site Numbers S02660, S02450, S02659, S02595, S02714, S02448, S02596, S02597, S02449 and S02658. In the course of the consultative process, the Land and Social Justice Spokesperson for the Manjimup Aboriginal Corp-oration, who is also the Secretary of the Southwestern Coalition of Aboriginal Organ-isations, stated that the traditional owners of the Lake Jasper area had been traced and that Dreaming stories pertaining to the Lake, which is also a site on a Dreaming track, had been recorded. On this point it should be noted that the Lake is currently the object of a conflict between local environmental groups and a mineral sands mining organisation. Observations made in the course of the discussion in Chapter Three above may be relevant in this case.
9. Pallinup River. It was noted in Chapter Two above that the Pallinup River was used by Aboriginal people and early European settlers as a means of access from the Cheyne Bay/Bremer Bay section of the south coast to the Borden/Gnowangerup area, and also as a water source for their livestock. Curiously, the early settlers appear to have renamed the Pallinup the Salt River (see comments by Daisy Bates reproduced in 2.4 above) and this latter name is used nowadays by Aboriginal people, although the original title has been restored on official maps. Local Aboriginal elders described camping places and water sources on both sides of the river from its source near Broomehill to the sea and consider it to be an area of historical significance for that reason. However, certain particular water sources and associated camping grounds are said to be of particular significance and are therefore here listed separately.
10. The early settlement of the Borden region and specifically of Mongup by the Moirs have been reviewed in 2.3 above. It is likely that the Moirs were initially attracted to the area because of the existence of a permanent spring,

whose Aboriginal name was Mongup, but which is nowadays known as Nightwell. The Moir Family notes held in the Western Australian Archives record that:

"...Mongup, home of George Moir, was built with convict labour after 1858...Local Aboriginal legend is set off by the rumbling of underground water which runs down the hill approximately along the old mail track under the corner of the main house and can be heard on very seldom occasions making very ghostly noises. They are also very suspicious of any noises heard in the shearing shed and still to this day refuse to sleep there."

Nightwell was mentioned by a number of Aboriginal people as an area of spiritual significance, although the story relating to it appears to have been forgotten. It was also an Aboriginal camping area and a water source used after European settlement. The name "Nightwell" arises from the fact that the water level in the spring is said to rise during the night and fall during the day. Mrs Hart of Gnowangerup, who shepherded sheep with her father along the Salt River, remembers the death of the last full-blood Aborigines on Mongup and their burial close to the River. Whether these are the same persons whose passing was recorded by Daisy Bates (see 2.4 above) is unknown.

11. The junction of Salt River and Warperup Creek to the east of Borden was another regular Aboriginal camping spot, with the nearby pool supplying fresh water. It is understood that the water in this pool is now brackish and not fit for drinking.

12. A permanent spring is located at the western side of the Gnowangerup swimming pool, beside the Nyabing Road. This was the first reliable water source to the north of Mongup and is said to have been an Aboriginal camping area before European settlement. It is also believed that a corroboree ground was located alongside this spring. Although nowadays brackish and unpleasant to taste, the spring was fresh and clear in the early days of settlement.

13. Whereas the Salt River contained a series of water sources which provided a safe passage for Aboriginal people from the Borden/Gnowangerup area to the south coastal regions, similar chains of reliable water sources led from the inland to the western seaboard. Once again, three factors remain constant; firstly, memory of the exact locations of these stopping places is sketchy; secondly, they are generally remembered as tracks or "runs" used by Aboriginal people after European settlement, in many cases whilst shepherding the settlers' flocks, rather than as pre-contact access corridors; thirdly, most of the water sources were in the vicinity of the major rivers. Thus, within ten kilometres of the source of the Salt River near Broomehill, the Coblinine Creek rises, to flow northwards and join with the Dongolocking Creek and form Lake Dumbleyung. From Lake Dumbleyung, a chain of salt lakes passes to the south of Wagin to the source of the Beaufort River which, in turn, joins the Arthur River to flow past Boyup Brook and Bridgetown and reach the sea at Augusta. Also flowing into the Arthur River is the Hillman River which, if followed to its source northwest of Darkan, leads to within ten kilometres of the source of the Bingham River. This, in turn, is part of the Collie River system. flowing into the sea at Australind. In the extreme north of the study region, the Williams River rises near Narrogin, to flow through Williams and Quindanning and join the headwaters of the Murray River. At Boraning, near Quindanning, the Williams River is within twenty kilometres of the sources of both the Bingham and the Hillman River. In the extreme south of the study area, the Balgarup River flows to the south of Kojonup to join the Blackwood River, thereby giving access both to the sea and to the inland areas mentioned above. The historical significance of these waterways was mentioned by a number of Aboriginal people in the course of the consultation. However, each waterway also incorporates a series of named sites, details of which now follow.

14. The importance of Kojonup Spring both to early explorers and to Aboriginal people has already been noted in Chapter Two of this report. There is a local tradition that a 'big snake" lives in the granite rocks on the northwestern side of this spring. Although none of the local Aboriginal people claim to have seen it, they believe that it may be "the same kind of thing" as the subject of the Perth story of the Waugal. The local Aboriginal people are also aware of the existence of the quarry utilised by their ancestors as a source of axe-heads, but were not aware of the location of the corroboree ground. This was identified in the historical research and is therefore included in the succeeding section rather than at this point.

15. To the west of Kojonup, the next water source was said to be Lake Qualeup (called Curriarup by Mr A.Wallam of Wagin). This was also a favoured camping area. Wahkilup Soak, although closer to the town, appears to have faded from Aboriginal memory and, like the Kojonup corroboree ground, was discovered in the course of the archival research and is therefore not here included.

16. "Measles Bridge" over the Beaufort River has been mentioned in 2.4 above as the site of the first measles outbreak on that River. Martup Spring was described by a number of Aboriginal people as one of the most important sites in the region, as it continued in use long after European settlement. A number of stories relate to this area, which was the site of a semi-permanent camp and corroboree ground. As the location of a dangerous Waugal, children were not allowed near there after mid-afternoon. The Martup Waugal had the power to blind his detractors - Mr Angus Wallam recalls the story of an old Nyungar who "slung off" at the Waugal for no reason and awoke the next morning totally blind. His friends led him back to the spring, where his face was washed in the waters and his sight restored. Martup Hill, the bare rock to the west of the spring is believed to be inhabited by an evil spirit who was chased in there by local Nyungars when he invaded their corroboree ground. It is avoided by today's Nyungars.

17. The next camping ground known to Nyungars to the east of Martup Spring was on the southeastern edge of Dumbleyung Lake. No mythological associations were reported for this area.

18. From Dumbleyung Lake, as noted above, Aboriginal people travelled along Dongolocking Creek to Jilikin Rock and Jilikin Lake near Kulin. Jarrah trees growing near Jilikin Rock are said to have been planted by travelling Nyungars. The exact location of the freshwater source at Jilikin Lake was not researched, as it is a considerable distance outside the study area.

19. To the west of Martup Spring, the next camping places on the Beaufort River were Carbellup Pool and One Heel Pool.

20. John Bowtell Dearle and a Mr Brooker took up 10,000 acres at a spring on the Arthur River named Modiarrup and established a farm there in 1868. The spring, which was believed to be inhabited by a Waugal serpent, was the water source for Nyungars during the seasonal exploitation of wildlife on Towering Lake (known to Aboriginal people as Towingup Lake). The ruins of the original Modiarrup Farmhouse can be seen today and the spring still supplies fresh water. Three other water sources were named as significant sites along the Arthur/Blackwood Rivers, namely Norring Lake, Parkering Lake and Lime Lake. Their exact locations were not established.

21. Thirty-one kilometres south of Williams and six kilometres east of the Albany Highway was located the important camping ground of Carperdine Pool, where Aboriginal people from the Williams, Arthur and Beaufort Rivers would meet to hold corroborees and trade.

22. A spring is located in the northern bank of the Buchanan River where it is crossed by the Great Southern Highway, immediately south of Piesseville. This spring was formerly an Aboriginal water source, but it is now brackish and unpalatable.

23. As noted in 2.3 above, the first recorded overland trip from Perth to Albany was made by Captain Thomas Bannister in 1831. The "Old Sound Road" largely followed his route, crossing the Williams River some four kilometres west of the present Albany Highway crossing. A spring near Josbury, on the southern bank of the river was the last fresh water until Arthur River on that road. This spring was also an Aboriginal water source, beside which was a camping ground, used by people travelling along the river. From there to the west, there is no knowledge of water sources until the Bingham River is reached, with its chain of springs and pools listed in the 1989 Report.

24. Travelling northeast from Josbury, two freshwater soakwells were located at Geeralying, approximately halfway between the present townships of Williams and Narrogin. An Aboriginal reserve was established there in the early years of this century, wherein Mr Scotty Ugle of Narrogin was born seventy-three years ago. An unknown number of Aboriginal people is buried beside this reserve. This site is recorded in the Department of Aboriginal Sites Register as archaeologiccal site number S00226.

25. Northeast of Narrogin, near the Debelin Rock Road, Mrs Verna Ugle (nee Parfitt) was born at the Aboriginal camping ground known as Murramuckan Well sixty-five years ago. A windmill has been fitted on this well, which is now on private property. Because of this latter factor the site was not visited and its exact location has therefore not been ascertained. This is probably the same site as Pustkuchen's (1981) Marramucking Spring, an "Aboriginal meeting place". He records that this spring is now taboo to local Aborigines because of the killing of a woman there.

4.3 Newly Recorded Sites - Archival Research

Sites, which were recorded in the course of the historical/archival research, are listed in Table Three and their locations are shown in Figure Two. The reader is directed at this point to the extended discussion in Chapter Three above: although these sites could not reasonably be The following termed "sites of significance to living Aboriginal people", as they are not nowadays known to them, their inclusion in a document of this nature may lead to their re-categorisation under that rubric in the future. However, for the purpose of this report, they are here dealt with separately.

26. A number of Aboriginal sites located in the Kojonup region owed their existence to the presence of the permanent spring listed as site 14 above. The first was an ochre quarry, near to Kojonup Town Lot P3, and known to early settlers as Wilgie Hill. This was also a corroboree ground - Charles Elverd recalls witnessing a corroboree there about 1900 at which the participants painted themselves with ochre from the quarry. Wilgie Hill was also the scene of "many native battles" (source: W.A. Archives).

27. The Kojonup Aboriginal Reserve was located on Dorney's Hill, which was also the site of a traditional camping ground.

28. The hill upon which the Kojonup Roman Catholic Church is now built was also a traditional Aboriginal camping ground.

29. A camping area such as Kojonup, containing permanent reliable water and a ceremonial ground could be predicted to have at least one nearby burial ground. One such site is recorded as being located north of the Katanning-Kojonup Road, in light soil between Katanning Road and Bignell Road.

30. To the east of Kojonup, Warkelup Spring or Joseph's Well is the next traditional Aboriginal water source. It is located alongside the Broomehill Road, approximately six kilometres from Kojonup.

31. Nairn Clark's 1840 expedition to the north of Albany has been described in 2.3 above. Assuming that his descriptions of directions and distances were reasonably accurate, the first Aboriginal camping place and water

source, which his Aboriginal guide called Kinenup, would have been in the lower reaches of Slab Hut Gully, some ten kilometres from its confluence with the Gordon River.

32. The second Aboriginal water source described by Nairn Clark, which was known as Yarenup to the Aboriginal people, would have also been on Slab Hut Gully, in the vicinity of the present Gracefield Farm. Sites 31 and 32 are the only evidence found in the course of the study of Aboriginal usage of the Frankland River system.

33. Wakhinup Soak is located approximately half way between Kojonup and Mayanup and some seven kilometres south of the roadway. The following Aboriginal myth refers to the creation of this soak:

    "...the country was gripped in drought and the only known water was salty. The health of the parched Aborigines, birds and animals deteriorated. An eagle-hawk, soaring above the sky and swooping to earth, observed that a fat and shiny crow had a wet beak, wet with fresh water. The eaglehawk, seething with fury, attacked the cunning crow. In so doing, his claws split the rocks and the blood of the attacked crow was scattered over the surrounding rocks and earth. So a fresh water soak is to be found in the Wakhinup area, hidden amid rocks and surrounded by rich red loam."

34. Pederick (1979), a member of one of Wagin's pioneer families explains that the township's name comes from "wedge", meaning "emu", and "gnardich", meaning "lake". This Aboriginal name clearly refers to Lake Wagin, which is listed in the Department of Aboriginal Sites Register as archaeological site number S02713. Likewise, he lists thirty-two rockholes, pools and springs as "watering places in the early years of settlement...(which) are now useless owing to the high salt content of the water'. Although these are likely to have been Aboriginal water sources, in the absence of concrete evidence they are not here included, with the sole exception of "Carberdine Pool", which is probably Site 21 above.

35. Nelson (1983) mentions "Boanning Soak near Wagin" as an Aboriginal water source. However, the exact location of this soak was not established in the course of the study.

36. Pustkuchen (1981) records that the name "Narrogin" came from the Nyungar word "Gngrgagin", meaning "the place of water", and that this name referred to Narrogin Pool, an Aboriginal water source and camping area.

37. As with Kojonup, Narrogin Pool was associated with a nearby burial ground. However, in this case, the burial site has become incorporated into the townsite (Grainger 1931) and is now under the corner block where Angus and Homer Streets cross. Three unnamed persons are there buried and an old full-blood Nyungar named Walkie.

38. Grainger also names Jugominning Spring as an Aboriginal water source and camping area. However, as with 35 above, the exact location of this Spring is not recorded.

4.4 Additional Information

The Gnuraren Aboriginal Progress Association has recently participated in an Australian Heritage Commission funded review of Aboriginal sites in the Augusta region. It is to be expected that a number of sites recorded in the course of that review will be of relevance both to the archaeological and ethnographic components of this study. However, at the time of preparation of this document the review report was not available and has therefore not yet been consulted.

The Land and Social Justice Spokesperson for the Manjimup Aboriginal Corporation is currently setting up an Aboriginal heritage research project for the region between Broke Inlet and Black Point. It is likely that the report which will follow that project will also be of relevance to the Water Resources Planning Branch of the Water Authority of Western Australia. Both this report and the above-mentioned would be available from the Department of Aboriginal Sites in due course.

5.0 REGIONAL PERSPECTIVE

5.1 Site Significance

It was noted above that Aboriginal oral history in the study region tended to focus on the historical period following European settlement. The historical sketch which forms Chapter Two of this section shows why that is the case: the socially unsettling effects of settlement included large scale depopulation as a result of exotic diseases and violence, the ultimate disappearance of the traditional full-blood population from the Southwest, the appearance of a population of people of mixed ethnic descent, the resettlement of that new population in missions and settlements, often remote from country of birth and finally a general denigration of Aborigines and their indigenous culture by the wider population leading to attempts on the part of many Aborigines to hide or abandon their background.

Accordingly, little information was collected in the course of the study on pre-contact ceremonial or mythological sites in the vicinity of rivers and wetlands. Of the thirty-eight newly recorded sites, twenty-five were included as a result of information collected from Aboriginal people in the course of the consultative process. Of these twenty-five, three were ceremonial grounds, five were mythological sites and one was both ceremonial and mythological. The depth of significance of any site is always difficult to assess, as Aboriginal interest in any area may vary in proportion to a number of factors, not the least of which may be opposition to a proposed development. The discussion in Chapter Three above is relevant at this point - given, for example, the degree of research which has been carried out in regard to Lake Jasper by personnel from the Western Australian Museum, it seems remarkable that no record of its being an important Dreaming site exists. Nonetheless, five sites were mentioned on a number of occasions by separate people as being of special importance and significance and as therefore requiring special protection. These were: Yalingup Cave, Mongup (Nightwell), Gnowangerup Spring, Kojonup Spring, Martup Spring/Measles Bridge.

5.2 The Waugal Myth

The ubiquitous Waugal myth was discussed in the 1989 Report. As noted in Chapter Two above, a record of Aboriginal life at the time of first settlement at Albany states that Aboriginal people ate the Waugal, which was "the common diamond python of New South Wales". An elderly Aboriginal woman in Albany also stated in the course of recent work carried out there by the present author that this record was correct and that she had eaten the Waugal. This clearly presents an anomalous situation. The broad cultural similarity of the Aboriginal groups in the Southwest is accepted both by anthropologists and by the Aboriginal people themselves. It is thus difficult to see how the deity of one group can be the food of a neighbouring group. Nor can the snakes' distribution be used to explain this anomaly - before the clearing of the Southwest and Wheatbelt for farming and pasture, the Waugal's habitat was the wooded country roughly southwest of a line joining Geraldton to Esperance, that is, the same as the territory of the Nyungar groups. The unwillingness of the Aboriginal people at Kojonup to definitely state that their spring was inhabited by a spiritual entity similar to that popularised in recent spectacular Perth Metropolitan Area confrontations is also perplexing. Given the amount of political investment that has been made in the Waugal story, it is now impossible to reach an objective conclusion in regard to this anomaly. However, it is clear from the content of interviews carried out both in the course of the study and other recent similar work that the degree of public acceptance of the Waugal myth varies in proportion to the radicality of the speaker.

5.3 Wetlands as Aboriginal Resources

It was noted in the 1989 Report that wetlands in the Swan River/Murray River region had been important food resources for Aboriginal people both in the pre-contact era and in more recent times. That a similar situation existed in the present study region can be seen from the early Albany records summarised in Chapter Two. However, as distinct from occasional camping places as reviewed below, the reserves into which the surviving Aboriginal people settled in the latter decades of the nineteenth century and early decades of the twentieth century in the study region were generally not associated with wetlands. Unlike the 1989 Report, the consultative process which preceded production of this document did not reveal the same degree of reliance upon wetlands as was encountered in the course of the earlier work. The reasons for this are unclear. It may be that the historical forces reviewed in 5.1 above have resulted in a greater break with the traditional foodstuffs in the study region than was the case in the Swan/Murray region. it may also be that the more noticeable position of Nyungars in the relatively small rural communities which make up the study area has led to a greater degree of integration into the wider society. This integration would also have been accentuated by the involvement of Aboriginal people in the local farming and woodcutting communities, as distinct from their counterparts in the Perth area who tended to survive through charitable donations, small-scale cottage industries and odd-jobs.

5.4 Wetlands as Campsites

An inspection of the site data in Chapter Four shows that, similar to the situation recorded in the 1989 Report, most Aboriginal occasional camping areas were associated with wetlands or rivers. The historical record is clear in this regard, as are the reminiscences of the older Aboriginal people interviewed. However, as mentioned previously, oral history in the study

region tends to extend back only to the historical period following European contact, with some notable exceptions such as Martup Springs and "Measles Bridge".

5.5 Wetlands/Rivers as Access Tracks

This subject has been reviewed in both Chapter Two and Chapter Four. Aboriginal guides leading the early explorers followed their traditional pathways which joined chains of watersources, most often following waterways. in turn, early European settlers tended to follow these Aboriginal tracks. Thus, for example, the early settlement of the extreme southeast corner of the study region came about as adventurous settlers pushed northwards from the coast along the Pallinup or Salt River. It has also been noted that the Aboriginal people, engaged as shepherds by these early settlers tended the flocks along the rivers, thereby fitting the new industry into the traditional lifestyle.

It is clear that the rivers of the study region were access tracks to the sea for the inland people, a matter hinted at in the historical record and made specific by elderly persons in the course of the research. It is a matter of regret that the chains of pools and other watersources followed in the course of the seasonal migrations are no longer fully remembered. What has been collected in the course of the research is at best a tempting, but limited, sample of the larger whole. Nonetheless, sufficient information was collected to enable the conclusion that, similar to the waterways studied for the 1989 Report, the study region's waterways were the main focus of Aboriginal traditional life from the viewpoint of food and drink, living areas and highways along which seasonal migrations occurred.

6.0 RECOMMENDATIONS

This present study has been an overview of a large area of the State. Of necessity, therefore, it did not concentrate in great detail on any one local region. It has revealed that, although differences exist in the degree of retention of traditional knowledge, both between the present study area and that considered in the course of the 1989 Report and between individual regions within the study area as a whole, there is still a corpus of knowledge regarding heritage sites within the Aboriginal community there. Planning aimed at developing a water resources allocation strategy should therefore consider matters of Aboriginal heritage at an early stage.

The consideration of Aboriginal heritage matters suggested in 6.1 should involve two phases. The first phase would use this present document to develop a predictive model, which would enable planners to pinpoint areas and aspects of the study region which are likely to be or to contain significant sites. The second phase would ideally precede any ground disturbing development and would involve consultation of local Aboriginal elders to ascertain specific site locations.

If the above procedure were followed, then the risk of a clash between the interests of Aboriginal people and those of the wider Western Australian community over usage of water resources can be minimised. However, that being said, the reader is again directed to the extended discussion in Chapter Three of this document. An increasing attitude of radicality can be discerned among Aboriginal people today. Whereas the reasons for this are understandable, they take nothing from the gravity of the situation gradually developing in the community. Recent spectacular confrontations which have erupted over the Aboriginal heritage/devel-opment interface show that goodwill and prior consultation will not necessarily obviate such unfortunate occurrences.

REFERENCES

Bates, D.	1944	The Passing of the Aborigines. London: John Murray.
Bignell, M.	1971	First the Spring. Perth: U.W.A. Press.
Brunton, R.	1991	Aborigines and Environmental Myths. Environmenta Backgrounder No.4.
Curr, E.	1886	The Australian Race. Melbourne: Ferris.
Grainger, J.	1931	Narrogin. Unpublished.
Kolig, E.	1980	Captain Cook in the Western Kimberleys, in R.& C.Berndt (eds) Aborigines of the West. Perth: U.W.A. Press.
Lynn, K.	1960	A Short History of the Augusta-margaret River District. Unpublished.
Nelson, L.	1983	The Great Southern Expedition of 1835. Albany Advertiser.
O'Connor, R., C.Bodney and G.Quartermaine.	1989	Report on an Investigation of Aboriginal Significance of Wetlands and Rivers in the Perth-Bunbury Region. W.A. Water Resources Council.
O'Connor, R.	1994	Ethnographic Survey of the Southwest Corridor Rapid Transport Reserve. Prepared for D.P.U.D.
Pederick, M.	1979	The Emu's Watering Place. Shire of Wagin.
Pustkuchen, A.	1981	The Way Through. Perth: Artlook Books.

TABLE 1 SCHEDULE OF PREVIOUSLY RECORDED SITES

Site No.	ImpGrid	Metgrid	Site Type	Site Name
1:250,000	Mapsheet SI 50-05			
S02578	298805	314241	E, b	King Bundaitch's Grave.
S02598	299809	315245	E, o	Ellensbrook Farm.
S02613	30-80-	32-24-	E, c o	Rosa Brook Road.
S02656	302811		E, m	Meekadarribee Cave.
S02614	32-80-	34-24-	E, m o	Margaret River.
S02553	340846	352278	E/A, b	Cable Sands Skull.
Mapsheet SI 50-10				
S02576	402745	410187	E, b	Pemberton Burial.
S02574	417759	424200	E, c	Manjimup Ceremonial.
S02545	421768	427208	E, b	Manjimup Burials.
Mapsheet SI 50-6				
S02273	526840	522275	E/A, b	Marribank Cemetery.
S02271	526841	522276	E, o	Marribank Settlement.
S02272	527842	523277	E/A, b	Marribank Cemetery
S02800	545852	540286	E, o	Woodanilling Reserve.
S02801	557836	551271	E, o	Katanning Reserve.
S02802	557836	551271	E, o	Katanning Reserve.
S02803	557836	551271	E, o	Katanning Reserve.
S02804	601806		E, o	Gnowangerup Reserve.
S02704	602805	592244	E/A, b	Gnowangerup Burial.
S02745	606805	596244	E, c o	Gnowangerup.
Mapsheet SI 50-06				
S02477	459898	461327	E, b	Koolakin Burials.
S02799	489918	488345	E, o	Williams Reserve.
Mapsheet SI 50-03				
S02797	519928		E, o	Narrogin Reserve.

Legend:		
	A	Archaeological.
	E	Ethnographic.
	o	other.
	b	burial.
	c	ceremonial.
	m	mythological.

TABLE 2: SCHEDULE OF SITES RECORDED DURING ABORIGINAL CONSULTATION

Site Number (in text)	Site Type	Site Name
1	Camp, water source	Siesta Park Waterhole.
2	Camp, water source	Nilgup Park Lake.
3	Spring, camp	Lakes Project, Dunsborough.
4	Ceremonial, camp, water source	Willanup Spring.
5	Camp, water source	Injidup Spring.
6	Mythological	Yallingup Cave.
7	Spring, burial	Ellensbrook Farm.
8	Dreaming track	Lake Jasper.
9	Traditional access track	Pallinup or Salt River.
10	Spring, mythological	Mongup/Nightwwell.
11	Camp, water source	Warperup Creek.
12	Spring, camp, ceremonial	Gnowangerup Spring.
13	Traditional access tracks	Various.
14	Spring, quarry, mythological	Kojonup.
15	Camp, water source	Lake Qualeup.
16	Camp, water source, ceremonial, mythological	Martup Spring/Measles Bridge.
17	Camp	Dumbleyung Lake.
18	Camp, water source	Jilikin Rock.
19	Camp, water source	Carbellup & One Heel Pools.
20	Spring, mythological	Modiarrup.
21	Camp, water source, ceremonial	Carperdine Pool.
22.	Spring	Buchanan River, Piesseville.
23	Spring, camp	Josbury.
24	Reserve, burials, water sources	Geeralying.
25	Well, camp	Murramuckan Well.

TABLE 3: SCHEDULE OF SITES RECORDED DURING HISTORICAL RESEARCH

Site Number	Site Type	Site Name
26	Quarry, ceremonial	Kojonup.
27	Camp, reserve	Dorney's Hill.
28	Camp	R.C. Church Hill.
29	Burial	Kojonup Burial Ground.
30.	Spring	Warkelup Spring.
31	Camp, water source	Kinenup.
32	Water source	Yarenup.
33	Water source, mythological	Wahkinup Soak.
34	Water source	Lake Wagin.
35	Water source	Boanning Soak.
36	Camp, water source	Narrogin Pool.
37	Burial	Narrogin Burials.
38	Camp, water source	Jugominning Spring.

Indian Ocean

DWELLINGUP
abandoned
Boddington
WAROONA
Preston Beach
HARVEY
Brunswick Junction
BUNBURY
COLLIE
Boyanup
Donnybrook
CAPEL
Cape Naturaliste
Dunsborough
Yallingup
BUSSELTON
Ludlow
Kirup
Balingup
Jarrahwood
Greenbushes
Cowaramup
Gracetown
Margaret River
Nannup
BRIDGETOWN
Mayanup
Boyup Brook
Karridale
AUGUSTA
Cape Leeuwin
MANJIMUP
Palgarup
Pemberton
Northcliffe
Windy Harbour
Quindanning
Williams
NARROGIN
Cuballing
Wickepin
Kulin
Lake Grace
Darkan
West Arthur
WAGIN
Dumbleyung
Nyabing
Woodanilling
KATANNING
KOJONUP
Broomehill
Gnowangerup
Tambellup
Cranbrook
Frankland
Rocky Gully
MOUNT BARKER
Walpole
Bow Bridge
Denmark
Nornalup
ALBANY
Southern Ocean

Vasse - Wonnerup System
Vasse River
Capel River
Margaret River
Blackwood River
Scott River
Gingilup Swamps
Lake Quitjup
Lake Jasper
Lake Wilson
Lake Smith
Barlee Brook
Donnelly River
Carey Brook
Warren River
Yeagarup Lake
Meerup River
Doggerup Creek
Doggerup Lake
Lake Samuel
Lake Fluorene
Gardner River
Lake Maringup
Broke Inlet
Shannon River
Weld River
Deep River
Hillman River
Chuckem Gully
Buchanan River
White Lake
Toolibin Lake
Taarblin Lake
Arthur River
Towerrinning Lake
Beaufort River
Lake Quaring
Norring Lake
Lake Charling
Flagstaff Lake
Lime Lake
Salt Lake
Dumbleyung Lake
Lefroy River
Cobiniine River
Carrolup River
Carlecatup Creek
Coyrecup Lake
Balgarup River
Dilmunup Brook
Bibbulmun Track
Perup River
Tone River
Little Unicup Lake
Unicup Lake
Byenup Lagoon
Lake Muir
Tordit Gurrup Lagoon
Broke Inlet

10 0 20 40
Scale in Kilometres

N

LEGEND

- Major Roads
- Minor Roads
- Streams
- Railways
- Busselton-Walpole Region Boundary
- Towns
- 31 Ethnographic Sites

NEWLY RECORDED ETHNOGRAPHIC SITES (as listed in Tables 2 and 3)