

Contemporary island use in the west Kimberley, Western Australia, and its implications for archaeological site survival

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Sue O'Connor is completing a doctoral thesis in the Department of Archaeology at the University of Western Australia. This is focussed on excavations, aimed at examining prehistoric settlement and subsistence patterns in the coastal west Kimberley. She is also interested in contemporary use of offshore islands in this region.

This paper documents some observations resulting from several months of archaeological reconnaissance on offshore islands in the Buccaneer Archipelago, west Kimberley which I believe to be pertinent to a consideration of prehistoric site patterning in this region. Several trips to the islands were made accompanied by people from the One Arm Point and Mowanjum Aboriginal Communities whose comments have stimulated the ideas presented here. These trips were not made with the objective of recording contemporary resource use by Aboriginal people in this area today, but rather to locate archaeological sites. The observations relating to contemporary land use are therefore of a general nature, and are used solely to generate a model whereby the patterning of prehistoric sites may be understood.

The Buccaneer Archipelago is a chain of islands that stretches from Cape Leveque in the south to Camden Sound in the north, a distance of approximately 180km (see figure 1). This group is composed of over a hundred small offshore islands which have several topographic features in common. Investigation of many of these islands during the course of a six month field season in 1985 failed to locate any shell middens in open contexts and few open sites were located. This is despite a rich ethnography that reports the regular use of these islands at the time of European contact and even

the permanent occupation of some island groups, for example, the Sunday Islands in King Sound and the Montgomery group of islands.

My impression after a month of reconnaissance was that the islands had few sites, indeed some appeared to have no evidence of occupation at all. This situation was both distressing and perplexing. Distressing because this was to be my research area for the next three years; perplexing, because I knew from the trips I had made with people from One Arm Point that the islands are regularly visited today. The testimony of my consultants indicated that this had also been the case before the missions were established and before the advent of dinghies and outboard motors (see Akerman 1975, Davidson 1935 and Love 1936; 1939 for full descriptions of the manufacture and use of traditional watercraft in this region).

As many of the earliest explorers in the northwest of Australia moved along the coast it is not surprising that their accounts describe the use of offshore islands. William Dampier was the first to refer to island use. He reported seeing a large number of people on one of the islands east of Cape Leveque (in King 1827:II, 94). Subsequent explorers reported fires on distant islands and presumed they were inhabited (Stokes 1846:I, 164-5). Love, a missionary who spent many years at Kunmunya Mission, to the north of the Buccaneer Archipelago, records that the Montgomery Islands (which include High Cliffy

Island), were occupied by the Jaudibaia people who were a dialectally discrete group. According to Love the Jaudibaia were exclusively island based, having no mainland territory (in Tindale 1974:147, 242).

Likewise, the Djaii people of Sunday Island were exclusively island based. They relied on trade with the Bardi, their mainland neighbours, for the mangrove timbers from which they built their rafts. Here then were two examples of groups who resided permanently on island groups. Today Bardi and Djaii people live together in the mainland communities of One Arm Point and Lombadina on Dampierland, but the Djaii people continue to preserve a separate identity as 'island people'.

Having a background in Eastern States archaeology, I had eagerly anticipated the types of sites my 'eastern states paradigm' had led me to expect in a resource rich area where the economic importance of islands is so marked. After several months of intensive reconnaissance I did successfully locate several rockshelters and one island, High Clifty Island, which hosted a plethora of sites and a diversity of site types. This island, and the shelter sites on the larger Koolan Island became the focus of my later research effort. On finding these sites the pressure was to some extent lifted and although I continued surveying offshore islands and failing to find evidence of use, I ceased worrying about the causes and put it down to the vagaries of site sampling and poor visibility. It was only recently that I again began to examine the reasons for this patterning, and to see both in my observations of contemporary island use and the topography of the islands and coasts, some possible explanations for this phenomenon.

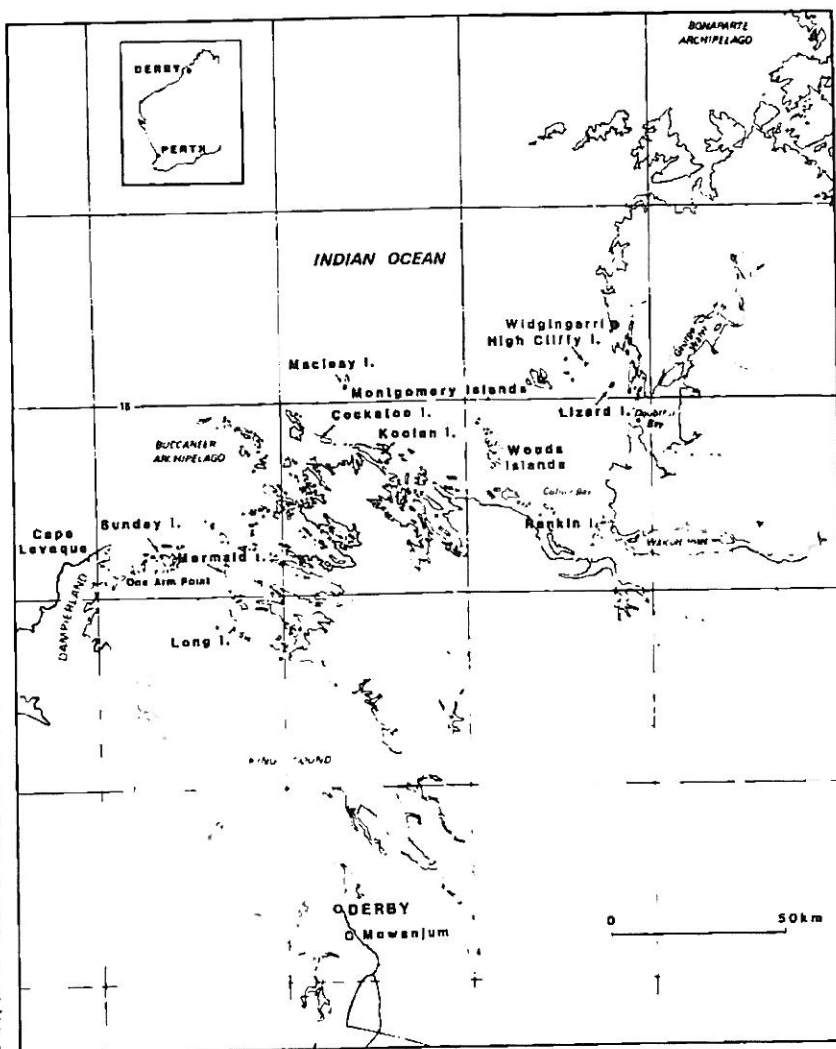


Figure 1
The Buccaneer Archipelago showing the location of islands surveyed.

Archaeological Survey of Islands in the Buccaneer Archipelago

In all, thirteen offshore islands were surveyed during 1984/85. These were Sunday, Long, Mermaid, Cockatoo, Koolan, Macleay, the two Wood Islands, Rankin, Lizard, High Clifty and the two Montgomery Islands (see figure 1).

While some of the islands were only partially surveyed, coverage of Sunday, Mermaid, Koolan, Macleay, Rankin, Lizard and High

Clifty Island was detailed. Survey methods varied depending on the density of vegetation and accessibility to inland areas. In most cases the bays around the periphery of islands were inspected using a boat to efficiently gain access to areas that would have been difficult and time consuming to reach overland. All level areas were thoroughly surveyed on foot. Access to inland areas was usually gained by walking up ephemeral creeks and spreading out along the

adjacent crests of uplands. Both Koolan and Cockatoo Island have road systems associated with iron ore mines and access in these areas was facilitated. The other islands surveyed are totally undeveloped and have no access tracks. Sunday Island, Mermaid Island and Long Island are regularly visited and fired by the people from the Dampierland Communities and consequently vegetation on these islands is more open than on the islands further north which are used less frequently. Other islands, such as Lizard and the two Wood Islands, are heavily vegetated and access across them was exceptionally difficult. Only in the case of Lizard and High Clifty Island can comprehensive coverage be guaranteed as both were burnt off by my consultants only a few weeks before the survey.

At the completion of the island survey no shell middens or open artefact scatters were located on any of the islands with the exception of High Clifty Island and Macleay Island. A small artefact scatter was located on Macleay Island on a protected strip of sand about 200 metres landward above the spring high tide line. High Clifty Island on the other hand was literally covered in occupation debris including stone house structures and large artefact scatters. The material remains on this island are unique in the region and possibly Australia, and have been described elsewhere in detail (O'Connor 1987). It is important to note here only that High Clifty Island differs topographically from all other islands surveyed in several significant respects. First, it has no sandy beaches at all, and second, it is flat topped, providing an elevated level surface for habitation.

On some of the islands shelter sites were recorded, with stratified deposits, but such formations were rare. Rock shelters have only been located on Koolan Island and High

Clifty Island and in both cases excavations were carried out in a selection of these sites. These sites contained deposits rich in shellfish, fish, turtle and other organic materials. The available ethnography indicates that shelter sites in the Kimberley were used largely as refuges from rain and squalls for short periods during the wet season (Blundell 1975). Some shelters were also incorporated in an essential way into the ritual cycle of Kimberley life. Each year at the end of the dry season clans would gather in their own clan estate to repaint the art sites. This event was regarded as essential for the perpetuation of the rains and therefore life (Blundell 1975). In this respect it is interesting to note that almost all the shelters located on the surveyed islands contained evidence of use, even if it were only a single painted motif.

Island use Today

Today camping trips to the offshore islands are made for multifarious reasons and for varying durations. They may be as short as a single day trip or 'picnic' or for prolonged periods of several weeks. The rationale for these trips varies and ranges from the desire to renew traditional ties with country, to escape the hustle and associated problems of community living, to hunt turtle and dugong and to obtain the commercially valuable trochus shell which is often processed on the islands to remove the flesh and the shell returned to the community for sale through agents to south east Asia.

Whatever the purported reasons for these trips, the activities that take place once there are so numerous that if one did not know the rationale for the journey, it would be difficult to discover it in the preoccupations of the participants. A brief overview of these activities is included here.

Women and children fish in the tidal reef pools with short spears (called by the Bardi *jungur*), or catch crabs to bait fishing lines, and generally rediscover places previously visited. When fruit is ripe, time may be spent collecting it and digging for yams. Men rarely line fish but use metal tipped spears to catch turtle, and large fish in the deeper water. This activity can take place from the bow of a dinghy or by standing on prominent rock platforms or at low tide over deep pools in the reef. Dugong are also eagerly sought and caught today using a detachable metal harpoon on a hardwood shaft. Occasionally, men will use heavy gauge lines to fish but this is not the preferred method of fishing.

A large amount of time is spent in simply sitting, chatting and taking time off from school and other community commitments. Today little non-commercial shellfish is collected although oysters may be eaten, when fat, straight from the rocks. According to my female companion from One Arm Point, Lena Stumpagee, chiton (*Acanthopleura spinosa*) are still a popular food when no fish or turtle are caught. Most non-commercial shellfishing is undertaken by women and children.

In contrast, trochus shells (*Tectus niloticus*) are collected predominantly by men from the rockplatforms at low tide. Women and older children may assist with collection, but usually engage in the processing. This activity is primarily undertaken to obtain the shells for sale, but some meat may be eaten with vinegar after the shells have been boiled. Further elaboration of the types of activities engaged in is not necessary as they are similar to those which have been amply described for other parts of northern Australia (Anderson and Robbins 1988; Meehan 1982). It is important however, to emphasise that while people are out on the

islands most of their subsistence needs are met from the sea.

Camps are invariably made on the beaches on the clean dry sand above the high tide mark. In exceptionally windy circumstances windbreaks may be erected or the camp will be moved to a more sheltered part of the island. Today these shades are made of canvas tarpaulins or pieces of corrugated iron which have been brought to the islands expressly for this purpose. Certain families with traditional claims to an island might have a 'permanent' camp with wooden uprights supporting an iron or bough roof. At these camps a few possessions are often left such as the ubiquitous milk tins which double as billies and all purpose containers, and perhaps a few

possessions which will not be needed until the next time the camp is occupied. A specific example of 'situational gear' of this sort might be the cut down 44-gallon drums used for trochus processing (see Binford 1979 for a discussion of this type of 'site furniture'). This spot tends to be thought of locally as 'belonging' to the user (see Smith 1987, for a description of similar camps on Dampierland and Anderson and Robins (1988:190) for the Cape York Peninsula, Qld).

What the above description does serve to illustrate is the topographical focus of these trips. The emphasis of almost all the activities that take place on the offshore islands is on the immediate coastal/littoral periphery. It is the beach, the reefs and the tidal pools

that people think of, when they think of the islands. This is not to say that occasional incursions will not be made inland but with the exception of non-secular activities such incursions to the inland are rare. Only once did I witness a trip away from the beach zone, and this was when, at my request, Lena's husband, Kahki Stumpagee went to dig yams behind the beach. We moved inland from the beach a distance of 30m but the coast was still visible from this yam patch. Kahki summed it up when he said that there was simply 'no reason' to move away from the beach front. Interestingly, this type of geographic emphasis is also found on Bentinck Island where Tindale (1962:276-7) notes that place names occur principally along the coast reflecting the Aboriginal perception of the high productivity of coastal areas and low productivity of inland areas.

Despite the fact that today journeys to the islands are made using small dinghies powered by outboards, I believe that the way the islands are used today and the positioning of camps is probably analogous to recent prehistoric land use patterns.

The Islands

The other important factor affecting choice of site location is the topography of the islands themselves. Koolan Island is twelve kilometres long and three wide and as such is one of the larger islands in the Buccaneer Archipelago. Most of the islands are considerably smaller. The ground is extremely stony, being in places a floor of boulders or scree. Unless recently burnt, the dense spinifex and acacia make passage across them a hazardous and uncomfortable business and the occurrence of venomous snakes on many of the islands adds to the danger. On most of the islands sandy beaches are few and restricted. Many of the islands



Plate 1
Lena Stumpagee exploiting food resources from a reef on Long Island.

such as Koolan and Cockatoo rise steeply, and flat ground away from the beaches is hard to find. There are few faunal resources available inland on the islands. Only one island in the Buccaneer group, Long Island, supports a species of small macropod. The others are home to only a few species of small rodents, dasyurids and reptiles. Birds are abundant but, again with the exception of the extremely rare sandy islands, breeding colonies are confined to the coastal margins. The islands do support the yam *Dioscorea* sp. and many other fruit trees which are still sought today. The implications of this will be discussed below.

The position of freshwater sources will obviously influence mobility, the duration of occupation and the location of sites. Freshwater sources on the islands are often located at the back of the beaches and are regularly inundated by the high tides. At Long Island the sole freshwater source is located in the intertidal zone and can only be used at mid to low tide. These sources are constantly replenishing and within an hour of exposure are fresh enough to drink again.

Finally, of paramount relevance to any discussion of land use in the coastal west Kimberley, are the tides. This area is notorious for having almost the largest tidal variation anywhere in Australia. In areas of the Buccaneer Archipelago tidal rise and fall may be up to 12 metres. During Spring high tides most of the sandy beaches are completely inundated. The currents created by these massive tidal fluctuations can be in excess of 10 knots and traditionally provided the means for rafting between islands.

Additionally, this area of the Kimberley coast is directly in the cyclone path. It is not uncommon for wet season storms to ravage the small beaches on the mainland and islands.

Implications for Archaeological Site Survival

If this same pattern of island use operated in the past it is likely that inland areas away from the coasts were little used. Steep scree slopes and sheer rock walls are not conducive to habitation. Task specific activities such as forays inland to collect fruits and other resources would have occurred, but as the islands are so small it is unlikely that people would have made temporary camps in these areas. They would instead have moved back to the coast, as they do today. These types of activities require few tools. A digging stick, a tomahawk and a billy suffice for such trips today. It is therefore not surprising that no archaeological signature of this type of land use remains.

More importantly, camps made on the fine sand at the backs of the beaches leave little or no trace of activities which have taken place only a few months previously. I have visited several camps where I have either witnessed, or been told, that family groups had been camped for several weeks where no evidence of the event remained at all. Even the pervasive 'cool drink' cans had been consumed by the sand and less durable items removed by the winds. After the Spring tides only clean white sand remains.

In view of this observed present day site patterning it seems hardly surprising that evidence for island occupation is slight. If in the past camps were made on the sandy beaches as they are today then it is predictable that no evidence at all will remain of these activities. Spring tides will cover these campsites completely several times a year. Material remains such as bones, shells and artefacts will have no opportunity to accumulate on a stable surface. In this respect, it is interesting to note that Dampierland, where the

topography is much more subdued, has numerous shell middens and surface campsites. In this area extensive Holocene dunes spread for up to two kilometres from the beach zone to the interior pindan soils. The shell scatters are often extensive and while the dune crests and swales on which they occur are not stable, they are never inundated.

The shelter sites on islands present one of the few situations where material remains stand any chance of survival and as has been stressed in many analyses they cannot be viewed as representative of the total settlement/subsistence system.

Anderson and Robins (1988) have undertaken a comprehensive investigation in the Bloomfield River area, southeast Cape York Peninsula and have reported the same discrepancy between documented traditional and contemporary site use and the sparsity of the archaeological record. Sandy beaches are recorded as the focal residence points in this area, which like my survey area has few other accessible areas for campsites. They put this down to the environmental and cultural factors affecting site formation over time. They conclude:

Despite the intense use and occupation of the Bloomfield River area over at least the last 100 years, little evidence of this occupation remains (on the surface at least)... In the areas for which usage is documented, not only is there very limited evidence of contact and pre-contact occupation, but activities at contemporary sites also appear to leave only ephemeral traces. (Anderson and Robins 1988:202.)

Conclusions

The results of numerous investigations throughout Australia have demonstrated that the nature and distribution of archaeological sites across the landscape are generally very strongly influenced by environmental factors such as bedrock geology, landforms and



Plate 2
Eroding midden on Dampierland to the south of the archipelago. This mainland area lacks the steep topography found further north and middens are to be found on the dunes behind the beach.



Plate 3
Aerial view of Cockatoo Island showing the steep terrain typical of the islands in the archipelago.

associated soils and vegetation, and climate (Anderson 1984, Hughes and Sullivan 1984, Sullivan 1976). These factors have in turn influenced 'the availability of plant and animal foods and other organic raw materials, water, raw materials for stone artefacts, (and) *suitable campsites*' (Hughes and Sullivan 1984:45; emphasis mine). Hughes and Sullivan (1984) stress the degree to which these environmental factors will affect site survival and detection by the archaeologist. In addition to these well documented environmental masking effects, cultural factors such as the preferred location for campsites and the focus of economic and leisure activities have been discussed. It is these phenomena, in conjunction, which must be considered when attempting to understand site patterning in the coastal west Kimberley.

Without a clear understanding of these processes, any attempt to reconstruct the coastal economies in this region will severely underestimate the importance of such activities. While I have chosen in this paper to concentrate on the use of offshore islands, the observations herein will apply in a large measure to the mainland coast northeast of Dampierland where sandy beaches are also the favoured campsites, where they are restricted in area, and regularly inundated. I have limited this discussion to the islands, as the landscape units on the mainland are more complex, being richer in terrestrial resources and more environmentally diverse.

While the means of travel may have changed, I have argued that the activities pursued on offshore islands today by Bardi and Djaiu people from the One Arm Point and Lombadina communities provide many insights into traditional land use practices. More importantly, the choice of campsite locations is also, I have argued, unchanged. This

factor, combined with the nature of the landscape in this region has probably led to the complete destruction of most open campsites.

The salutary conclusion which might be drawn from all this is that the sites upon which my research is focussed are the exception to the rule, rather than representative. Even though the rate of site destruction is likely to have been high, enough archaeological evidence has survived to a) indicate that some of the islands were used (including relatively distant islands such as Macleay Island) and b) to give some indication of the time span of that occupation. Shelter sites can be viewed as traps in which some of the debris of human occupation is caught and remains (see also Cribb 1986:171). If it was not for the presence of the few shelter sites on the islands evidence of the types of activities pursued in this region of the Kimberley would be scant and limited largely to a few non-secular stone arrangements and the occasional small open artefact scatter. Much has been made in Australian prehistory regarding the significance of the late Holocene appearance of shellmiddens in some areas of the eastern seaboard (see for example Beaton 1985). In some areas, such as Princess Charlotte Bay, the occupation histories of all site types investigated to date supports this notion (Beaton 1985). Increasingly however, in many other regions, it appears that environmental factors operating in the mid to late Holocene may have masked the evidence of earlier coastal economies and wrongly influenced our perceptions about the timing and nature of prehistoric site patterning in these regions (Head 1987). The Buccaneer Archipelago is one area where demonstrably 'the absence of sites does not equal the absence of people' (Cribb 1986:171), and where site destruction, with few exceptions, has probably been

continuous throughout the mid to late Holocene.

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