

THE TOORBUL POINT ABORIGINAL FISH TRAP

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INTRODUCTION

One of the most intriguing problems for archaeologists concerns the numbers of Australian people living as fisher-gatherer-hunters per unit area of the continent prior to the European invasion. Were population densities related to the productive capacity of landscape and seascape, or to aspects of technology and material culture, or to the manner of organization of the social relations of production (Jones 1977:202, 1985:293) ?

Invention or adoption of a new item of technology offers people choices. Jones (1977:202) suggested that developments in Australian technology meant that more time became available for non-productive tasks for the people concerned rather than more food. Hamilton (1980) argued that new technology in the eastern Western desert was used exclusively by males, was linked to new all-male rituals and was used to reinforce structural and ideological dominance over women. Bowdler (1976) interpreted the introduction of single piece shell fish hooks to the south coast of New South Wales in terms of changes in the productive roles of men and women in the societies concerned, rather than as an increase in food via the numbers of fish landed. These changes were considered by Jones (1977:202) as "further freeing the men for non-productive activities." On the other hand, Lourandos (1980, 1983) has argued that such innovations were correlated with economic growth which resulted from an intensification of social relations in the late Holocene. Surpluses were not expended through more leisure time, but were utilized in the social and economic pursuits of men who, through ceremonial and other social activities, sought to expand their influence.

Stone wall fish traps are interesting in this regard. These material culture items have been recorded from many coastal areas of the continent: on the islands of Hinchinbrook, Sweers, Bentinck and Mornington in north Queensland (Stockton 1975:44, V. Campbell 1978:122, J. B. Campbell 1982), from the Arnhem Land coast (Meehan 1982:36, 99, 112-114, 153), from the southern and western coasts of the mainland (Campbell 1978:122), and from the north coast of New South Wales (Campbell 1978, Coleman 1982).

Campbell (1978:129-130) said that even though a "well tended and carefully baited fish trap would secure huge catches" and "would support large numbers of people for extended periods", they appeared to have been used "inconspicuously by small groups" on the north coast of New South Wales "during the period for which we have historical evidence." In contrast to this interpretation, Coleman (1982:6-8) suggested that there was ample evidence in the early literature and European oral history for an association to be made between relatively high coastal populations and the presence of fish traps. This view incorporates the relationship between population densities of fisher-gatherer-hunters and the productive capacity of the environment, with the interesting twist that productive capacity can be augmented by technology. One of the aims of this paper is to explore that relationship further.

Stone walled fish traps were not observed by nineteenth century European recorders of south east Queensland Aboriginal material culture. Stockton (1974, 1975, 1979) described a "most puzzling feature", a stone walled structure adjacent to the large midden complex at Sandstone Point on the Toorbul Peninsula, south east Queensland (Figure 1), which he believed to be an Aboriginal fish trap. The structure is a continuous wall made of local rock, enclosing an area approximately 70m by 35m, with no visible traces of iron or cement. The walls appear to have been built by piling the stones together.

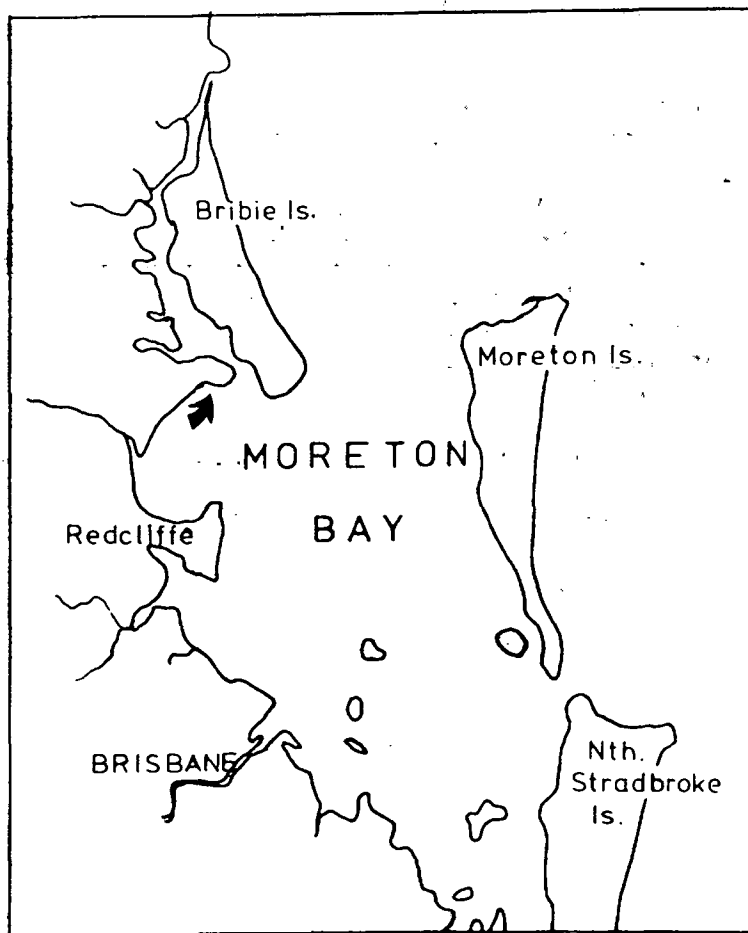


Figure 1. Moreton Bay with Sandstone Point site arrowed (adapted from Hall 1980:95).

Stockton (1975:44) found that while members of the family who had farmed the adjoining land since 1900 referred to the structure as an Aboriginal fish trap, another local resident suggested it was built by Islanders who had worked in the area early this century. Stockton (1975:45) concluded that unless more information is forthcoming, the identification of the makers of the structure must remain in doubt. Another aim of this paper is to lay that doubt to rest. It presents an informant's evidence for Aboriginal use of the trap in historic times, and by utilization of the theoretical links between technology, resources, population density and the productive versus non-productive aspects of social life, together with analogy, develops a case for prehistoric antiquity of the Toorbul Point trap.

POPULATION DENSITY AND TRAPS

In her disagreement with Campbell (1978), Coleman (1982) sought to correlate the presence of fish traps on the north coast of New South Wales with "villages" recorded by the earliest European explorers of the region. Her evidence is summarized in Table 1. This information hardly constitutes a coastline bristling with huge settlements of people. Nor can these "villages" really be said to be located at the sites of fish traps if the distances inferred from Campbell's (1978:124) map are taken into account. For example, the Port Stephens observations are related to the Broughton Island trap which is some 10km distant; Port Macquarie is some 15km from the Point Plomer trap; the Clarence River estuary is some 10km from Angourie where the fish trap is located.

Table 1. Attributes of "Villages" associated with fish traps on the north coast of New South Wales (after Coleman 1982:6).

LOCATION	"VILLAGE" ATTRIBUTES	NUMBERS OBSERVED	DATE	REFERENCE
Port Stephens	"comfortable huts of ti-tree bark, capable of holding a number of persons"	-	1827	Cunningham 1827
Port Stephens	rudimentary shelters	ca.100	1844-1854	Scott 1929
Manning River	many "tents"	-	1830	Parry n.d.
Port Macquarie	huts of solid construction capable of holding up to 10 persons	-	-	Lang 1847
Clarence Estuary	three huts 8ft X 5ft, one of them double and capable of holding up to 15 persons	-	1799	Flinders
Clarence Estuary	two "temporary villages" of substantial huts	-	1839	Perry
Richmond River	a few huts "upwards of 30ft., in length and 6 feet in height"	"many"	1828	Rou in Lang 1847

Campbell (1978:130) reported an Aboriginal person's comments which indicated that use of the traps was related to neither seasonal gatherings nor to ceremonial activities. However, this area of the coast supported relatively high population densities (Belshaw 1978, Coleman 1982), even if people were actually not known to gather in huge groups immediately adjacent to fish traps. There is an apparent contradiction here in that traps occurred where population density was high, yet there is no historical evidence for large gatherings of people camped by, and harvesting from, the traps.

One way out of this dilemma is to view the situation as being similar to the Arnhem Land coast, a place of high population density and stone walled fish traps. Population density on the Blyth River coastal area is one of the most dense ethnographically recorded values for Australia (Lourandos 1980:248, Jones 1985:294). Even though Meehan (1982:31-32, 39, 99, 113-114) noted Kunapipi ceremonies which attracted up to three hundred people for a few days and a hundred people for somewhat longer, she also described small groups of people travelling to harvest fish traps thereby creating dinnertime camps adjacent to the traps. Such a scenario would resolve the differences between interpretations offered by Campbell (1978) and Coleman (1982). Large campsites appear not to have been located immediately adjacent to the traps but sufficiently close for people to travel to the traps when they needed supplies of fish. They would spend a short time there, creating dinnertime camps, and then return to home base. Larger numbers of people gathered for ceremonies at these home bases.

This pattern is upheld at Toorbul Point. The fish trap is not immediately adjacent to large camp sites, but would have been in the range of reasonably easy access for anyone camped on the Toorbul Peninsula and, in particular, the huge midden complex some 3km away at Sandstone Point. The Toorbul Point bora ground is 5km inland and other bora rings have been recorded on nearby Bribie Island. If people gathered on the peninsula to visit relatives or hold ceremonies and made a base camp at Sandstone Point or on the banks of Ninghi Creek where large middens have been destroyed as recently as the past few decades ("Old Salt" pers comm), it makes sense that they would have sought fish from a trap only a short distance away.

INCREASING PRODUCTIVE CAPACITY

The ability to increase the productive capacity of an environment could well be considered one of the definitive characteristics of humanity. In this regard, facilities such as stone wall fish traps suggest that the causal agent determining the human population of an area cannot be considered according to a strict choice between resources and subsistence technology. Resources are context dependent. If fish are uncatchable, it is irrelevant how many there are in local waters. It is only when a technological capacity exists through which fish can be obtained, that they become a resource. Fish traps actually alter the environment, and so alter the resource base. If the population density of fisher-gatherer-hunters is resource dependent, then to the extent that facilities such as traps provide or augment those resources, the population density must also be seen as technology dependent. This argument demands that the dividing line between resources and technology be blurred somewhat to acknowledge the overlap and interdependence of these factors.

When people gather in large numbers they have to be fed by the harvesting of one or more abundant resources. In prehistoric eastern Australia bunya nuts (Sullivan 1977), zamias (Beaton 1982) and moths (Flood 1980) are documented examples. If people gathered in large numbers on the foreshores of prehistoric Moreton Bay, the most likely method of efficiently feeding them would have been fishing. The most likely places to harvest fish in great abundance are those where an appropriate subsistence technology could be employed. These places seem to have been located on the shores of the western Bay, where waters are relatively more shallow, calmer, and turbidity is higher. One such place is Toorbul Point and in particular the Sandstone Point-Godwin Beach foreshore at the northern extremity of Deception Bay. Figure 2 shows the results of excavations at various localities around the shores of Moreton Bay. It presents the numbers of identified specimens of fish remains recovered per square metre of surface excavated for nine situations arranged west to east across the Bay. The Sandstone Point foreshore is clearly outstanding as an example of a deep site dominated by the evidence of relatively intense discard of the remains of fish meals. All other excavation contexts shown are on offshore islands, and all date to within the last thousand years except St Helena Island which dates to within the last two thousand years (Hall 1982, Alfredson 1983).

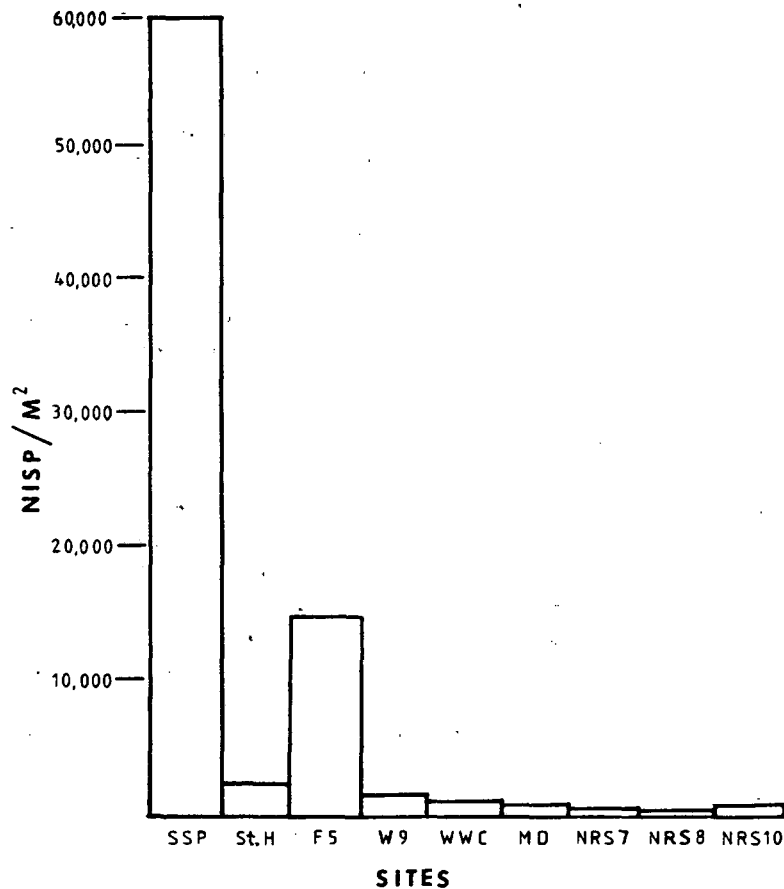


Figure 2. The number of identified fish specimens per square metre of surface excavated for various Moreton Bay sites. SSP is the Sandstone Point 1 excavation.

There is no apparent reason to believe that the shores of the western Bay are adjacent to greater fish biomass than anywhere else in the Bay area, but it seems that these were the locations most favoured for fishing. What becomes crucial to understanding why this was so is an acknowledgement of the role of subsistence technology. Traps, nets, spears and poisons dominate the Aboriginal material culture used in fishing Moreton Bay in the eighteenth and nineteenth centuries and there is no reason to believe the situation was any different in the prehistoric period. With the possible exception of spears, all these items of fishing equipment are eminently suited to the shallower, calmer waters provided by sand and mud flats rather than the higher energy beaches and deeper waters of the more eastern parts of the Bay. It is to be expected that if large numbers of fish were to be caught in the western Bay, these forms of subsistence technology would play a vital role in augmenting and making available the necessary catches. It is perhaps no coincidence that the most impressive prehistoric fishing station in south east Queensland is situated only a few kilometres from the Toorbul Point fish trap.

People applied developments in fishing techniques and facilities to land large hauls of fish on the Toorbul Peninsula. Whether this was for reasons related to economic growth (Lourandos 1980, 1983) or to allow more time for non-productive aspects of life such as ceremonies (Jones 1977) is unclear. What is clear is that the period of most intense fish discard in this area dates to the last thousand years, that this intensity is unparalleled in other sites examined from the Moreton Bay area, and that the site is situated several kilometers from the Toorbul Point bora ground. This suggests that the most parsimonious view of the context of the trap is to consider it as dating to this intense period of fishing beginning about the 11th century A.D., whence it was utilized in the manner of the Arnhem Land traps to augment food intakes of both dinnertime campers and those who took catches back to the Toorbul Point base camps where visitors and ceremonial participants were victualled.

A CASE FOR PREHISTORY

Fish traps increase the productive capacity of environments by providing large surpluses of fish and other seafoods (Avery 1975:109, Campbell 1978:125, 129, Meehan 1982:36, 153, Altman 1983:69). Coleman (1982) argued for a correlation between fish traps and large gatherings of people who were fed on such surpluses. This view has been modified in the present paper in the light of Campbell's (1978:130) findings that large gatherings of people assembled for ceremonial or seasonal reasons were not directly associated with traps on the New South Wales coast and Meehan's (1982:99, 114) documentation of the use of traps by small groups of people who travel to them specifically for fish harvesting. These studies show that a correlation can be expected between fish traps and high local population densities with occasional gatherings of large numbers of people in the hunting range which encompasses the traps.

Population density in the Moreton Bay area is thought to have been relatively high at least around the time of European invasion (Hall 1982:83-84). On the Toorbul Peninsula the large midden complex at Sandstone Point implies a relatively large human population and the pattern of fish discard in the last seven or eight centuries implies intense use of the site as a fish eating place where large surpluses of fish had been obtained. There is a ceremonial site within several kilometres of both the large prehistoric campsite and a section of the coast suitable

for the use of stone wall traps (i.e. a regular, gently sloping sea bottom which produces an extensive intertidal zone, and locally available raw material for walling - Avery 1975:105). From this model, developed from the initial idea of Coleman (1982) and modified in the light of these other findings, it could be predicted that a stone wall fish trap could be found in the hunting range of the Toorbul Peninsula people in prehistoric times.

This more theoretical approach to dating the trap can be augmented by certain analogies which provide circumstantial evidence to support prehistoric use of the trap. Stone wall traps are known from both northern New South Wales to the south, and the Hervey Bay area to the north. There is no direct evidence as yet that these are prehistoric either, though Coleman (1982), Campbell (1978) and Meehan (1982) provide evidence and reasoning to allow a convincing case for the antiquity of the former.

Wooden stake and brush traps utilizing tidal movements were used in Moreton Bay prior to the European invasion (Flinders in Steele 1972:19) and continued to be used after it (Petrie 1975:72-73, Winterbotham n.d.:50). If the knowledge of trapping technology was available and utilized there is no reason to suspect that stone wall traps would not have been built where suitable raw material was locally available and ambient conditions were suitable (Avery 1975).

This is particularly so given that stone wall fish traps do not require much labour for their construction or maintenance. Contrary to the earlier expectation that stone wall traps "involved a considerable outlay of time and manpower, presumably demanding a high level of organisation" (Campbell 1978:129), data show that not much effort is involved. Avery (1975:109) reported contemporary use of stone wall fish traps in southern Africa where four to five men were required for daily maintenance of the traps concerned. Stockton (1982:112) said that construction "does not require a great deal of skill or effort." In one modern Tasmanian case "a group of six youths were able to complete the construction of a trap in one low tide" (Stockton 1982:109). Altman (1983:70) characterized Arnhem Land fish trapping using non-stone traps as being conducted "by only a few men" while the "majority of camp residents can have a leisurely time".

USE OF THE TRAP IN THIS CENTURY

Professor Bruce Rigsby of the University of Queensland has recently undertaken correspondence with a resident of the area adjacent to Montville, Queensland, concerning various aspects of Aboriginal life on and around the Toorbul Peninsula. This person, who wishes to remain anonymous, has provided first hand evidence for Aboriginal use of the Toorbul Point fish trap. He writes as follows:

For about ten years from the mid 1930's, Roland Birt was oysterman at Toorbul Point, a very big man who answered to the nick name of "clinker"; he and his brother, of similar size, were at one time stokers on the Koopa. Clinker's wife [Ann] was an aboriginal from Moreton Island; she often referred to the area between Bulwer and Comboyuro as "Gumpun", we assumed this to be home ground.

Until recently the whole of Toorbul Point was owned by the Clark family, and extensive oyster leases were worked off the foreshore, where there was also a large native fish trap

which the late Mr Colin Clark saw to it that this was well looked after and maintained. He also adopted the same attitude towards the bora rings complex on Toorbul in the bush about half way in from Cook's Point...

Ann Birt was small, very active, born probably about 1880, quiet almost retiring...

During the Mullet and Tailor seasons, if a shoal was close in, Mrs Birt would row out, trailing a bunch of Bribie pine, torulosa she oak and vanilla lily, this she maintained was necessary to attract the porpoises, very doubtful, but occasionally they would follow the dinghy and frighten a portion of the shoal into the trap. This exercise had to be performed on a falling tide; when it fully receded there would still be a couple of feet in the trap, with the top of the rock enclosure just awash. The fish were then easily caught with either scoop or cast nets...

The natives purpose of siting this trap in an oyster area was obviously to hold up bream & flathead between tides, both feed on young culture; with a seasonal school or two of mullet & tailor - with porpoise assistance - as a bonus.

Clinker Birt died of cancer in the late 1940's, and Mrs Birt lived at Kennigo St in the Valley until her death a few years later.

["Old Salt" 26.5.1985]

This then is clear evidence for use of the trap by an Aboriginal person, rendering the structure, by definition, Aboriginal in that sense.

SIGNIFICANCE OF THE SITE

The first-hand account quoted here confirms for the first time in the literature the Aboriginality of the trap. As such it gives the site a new "relative value" or "significance rating" (Sutcliffe 1984:62-63): Flood (1984:55) presents four general categories used by the Australian Heritage Commission for assessing the significance of Aboriginal sites as below:

1. traditional sites significant to Aboriginal people but not necessarily to non-Aboriginal people;
2. contact sites relating the history of contact between Aboriginal people and Europeans;
3. sites involving creative activities such as art;
4. scientific sites - places which have a potential for scientific study or which have figured prominently in research.

The publication of this evidence places on record the potential for the site to be deemed significant to Aboriginal people in terms of the first two Heritage Commission categories. However, that significance is for Aboriginal people to determine and be involved in consultation about. This would lead to the "talking to each other" advocated by Sutcliffe (1984:66).

It is the task of the archaeologist, "qua archaeologist, to assess archaeological significance, which is to say, scientific significance" (Bowdler 1984:1). There are questions which can be asked in order to attempt such assessment as follows:

1. Can this site contribute knowledge which no other site can ?
2. Can this site contribute knowledge which no other resource, such as documents or oral history or previous research, can ?
3. Is this knowledge relevant to specific or general questions about human history or behaviour or some other substantive subject? (Bowdler 1984:1-2).

As this site is unique in the Moreton region of south east Queensland, it can obviously contribute knowledge which no other site can. Despite the account presented here and other historical accounts of trapping, the actual site itself is the only avenue available for examining trap size in relation to construction effort, size and diversity of fish catches, the relationship between experimental fish catches and the composition of prehistoric middens on the Toorbul Peninsula, and other such specific questions concerning human behaviour. It is also a site which stimulates discussion of the kind presented here, concerning the more general issues of human evolution, such as the relationship between technology and resources, in determining the numbers of fisher-gatherer-hunters in given areas. In this respect the site is vital to scientific research, and every effort should be made to preserve it and associated sites such as the Sandstone Point midden complex if and when proposed residential development proceeds. The site has been listed on the Australian Heritage Commission Register of the National Estate.

CONCLUSION

This paper has documented the Aboriginality of the Toorbul Point stone wall fish trap. It has been argued that there is no good reason to doubt a prehistoric origin for the trap and that there are compelling theoretical arguments and suggestive circumstantial reasons to believe that it is of this antiquity.

The site is significant to archaeology in terms of its future research potential, and in this regard it is highly desirable that it be saved at all costs. Also, in terms of "the relative lobby weights of the competitive interests" (Sutcliffe 1984:64) which determine cultural resource management policy, the site has potential significance for tourist promoters, local authority planners and, of course, Aboriginal people.

This paper has suggested that the strict division between resources and subsistence technology as causes of human population densities in prehistoric Australia needs to be reconsidered in the light of facilities such as stone wall fish traps. Where items of material culture such as traps expand the resource base they are best viewed as augmenting the resource base of an environment, and in fact rendering those resources an artefact of human cultural behaviour.

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