

ANTIQUITY OF MARINE FISHING IN SOUTH-EAST QUEENSLAND

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Abstract The Moreton Region Archaeology Project has investigated coastal sites in South-east Queensland since the late 1970s. Despite Pleistocene occupation in the area adjacent to the then coastline, and more recent coastal settlement dating to the later Middle Holocene, evidence of a well developed marine fishery dates only to the most recent 2,000 years. According to the data presently available, this does not appear to relate to taphonomic factors.

Introduction

This report presents the results of continuing research which demonstrate from empirical evidence that well developed Holocene marine fisheries in coastal areas of south-east Queensland are no older than 2,000 years.

Human occupation of coastal south-east Queensland dates to the late Pleistocene. Neal and Stock (1986) presented evidence from the Wallen Wallen Creek site to show a continuous sequence from about 20,000 years ago until the European period. Prior to the middle Holocene this was a mainland site situated on a river bank. Their data show a "dramatic increase in occupation intensity during the late Holocene" by which time the site was located on North Stradbroke Island (Neal & Stock 1986: 618). They suggested that prior to the late Holocene Aboriginal people used the "marginal environment" of the coastal Wallum ecosystem in a "temporary transit" manner, passing through it on journeys between the "major resource zones located on the coast to the east and the river valley and mountains to the west" (Neal & Stock 1986:621). It is true that the coastal environs have to be considered as a marginal environment for terrestrially oriented hunting and gathering populations. This is so for the entire span of Holocene history. Subsistence-wise, people with a terrestrial hunting and gathering focus would have been attracted to permanent settlement in the "resource-rich" (Hall 1986:99) river valleys of the hinterland, but not to the Wallum of the coastal lowlands. Radiocarbon dates provide evidence that the hinterland was indeed occupied earlier in the Holocene (Hall 1986; Morwood 1986), and by implication from at least late Pleistocene times as well (Neal and Stock 1986).

Archaeological evidence of pre-European Aboriginal marine fishing on the south Queensland coast has been examined across a spectrum of environmental variability. Fish remains and relevant material culture items have been sought by a number of investigators in archaeological excavations conducted at sites on the mainland foreshores and off-shore islands (Hall and Lilley 1987; Lauer 1979; Walters 1987, 1989; Walters et al. 1987; McNiven 1991). All evidence from these sites indicates that the origin of the fishery occurred after 2,000 BP, some 4,000 years after the time of sea level stabilization in this region (Table 1). The data clearly show that while occupation of some sites was relatively early, fish remains do not indicate the development of a significant fishery until relatively late in the regional sequence.

Holocene fisheries to the north and south of this region commenced somewhat earlier (Coleman 1978; Rowland 1981), and the south coast of Queensland does seem anomalous with regard to the situation elsewhere on the Australian eastern seaboard. While no definite conclusions can be drawn at this stage, it may be that explanatory models for this pattern will have to incorporate the coastal Wallum ecosystem in some significant way. If people only occupied the coastal area in a transient or itinerant way prior to 2,000 BP because of the lack of terrestrial food resources, the evidence suggests that there was also no great interest in, or availability of, fish resources. There seems little doubt that at least some fish would have been caught during any visits to the coast. Both Hall and his co-workers (Hall and Lilley 1987) and McNiven (1991) report very small numbers of fish bones (less than a few grams in total weight) at their sites. However, the emerging empirical reality appears to be that fish were not taken on a scale that would constitute a serious fishery until after 2,000 BP.

Rowland (1989) objects to this notion, claiming that evidence between the mid-Holocene and 2000 BP has been lost as coastal sites have been destroyed. Rowland (1989) postulated site destruction and decay rather than past human behaviour as the cause of the archaeological pattern. But as the data in Table 1 show, sites such as Hope Island, the Brisbane Airport site, and Teewah Beach Site 26 all date from the middle Holocene period. Hope Island contains no fish remains, the Airport site has only a smattering of fish bones, presumably well less than the equivalent of one fish and as yet not established as archaeological, while Teewah Beach 26 has less than 2g of bone, all of which dates to less than about 900 years ago. These data seem to reject the necessity of adding extra hypotheses of site destruction in order to explain the absence of serious fishing prior to fairly recent times.

In addition, decay of the fish remains themselves does not appear to account for the chronological pattern of recovery of fish remains in south-east Queensland (Walters 1987; McNiven 1991). As would be expected, the fish remains show some evidence of slight deterioration with age, but in general the condition of the oldest fish remains is not greatly different from the youngest. This work will be reported in more detail elsewhere, but breakage patterns, friability and edge wear of bones do not correlate clearly with age. There is certainly no dramatic decline in what might be termed

Table 1: Dates for evidence of fishing

Site	Earliest date ¹	Earliest fishing ²	Reference
Little Sandhills	modern	modern	Kelly 1982
Toulkerrie	370 +/- 75	540(463)290	Hall 1984
NRS sites	410 +/- 50	modern ³	Richardson 1984
	450 +/- 60	modern ³	Richardson 1984
	470 +/- 60	modern ³	Richardson 1984
Minner Dint	520 +/- 75	670(535)460	Hall 1980
Fraser Is.799/54	770 +/- 150	Nil	Kelly 1982
Broadbeach	1290 +/- 70	1336(1264,1196,1193)1060	Haglund 1976
Fraser Is.217/15	1510 +/- 190	Nil	Kelly 1982
First Ridge	1540 +/- 80	1687(1413)1300	Hall 1982
One Tree	1620 +/- 60	1693(1527)1390	Hall 1982
St Helena Is.	1790 +/- 80	1920(1719)1530	Alfredson 1983
Brown's Road	1950 +/- 190	Nil	Kelly 1982
Sandstone Point	2290 +/- 100	1689(1392)1185	Nolan 1986
Brisbane Airport	3910 +/- 80	Nil ⁴	Hall & Lilley 1987
Hope Is.	4350 +/- 220	Nil	Walters et al 1987
Teewah Beach 26	4780 +/- 80	1168(955)790	McNiven 1991
Wallen Wallen Ck	20560 +/- 250	1280(1174,1156,1154)1009	Neal & Stock 1986

1. Dates as reported in literature.
2. Dates calibrated using CALIB (A), 10 yr record, 2 sigmas.
3. Shell dates corrected using 450 yr marine reservoir effect.
4. See text (a few fragments were found).

preservation quality of these remains in the lowest levels of sequences. In addition, levels and sites where fish remains are absent show no differences in matrix characteristics such as soil character and chemical parameters to levels where remains are present, often in big numbers. Yes, certain types of bones, ie those of particular species or skeletal elements preserve better than others. But when these factors are taken into account, decay can only explain subtleties like patterns of diversity at particular sites. It does not appear, on the evidence from south-east Queensland, to account for the regional profile. For every site that may have been affected by the differential preservation of some fish remains, there are other sites which show good preservation and provide for us a clearer picture of the regional pattern. Decay of fish remains does not appear to account for the pattern in the region. Table 1 demonstrates that postulated disappearance of sites 4000 - 2000 BP, which perhaps contained older fish remains, is at this stage an unnecessarily tedious explanation. Hope Island, the

Brisbane Airport Site and Teewah Beach Site 26 all now give us sequences across this time period.

McNiven (1991) also found himself unable to agree with the idea of late fishery development, despite his own Cooloola evidence. He says quite correctly that absence of fish remains may reflect taphonomic factors or differential discard. But faced with the lack of evidence for mid-Holocene fishing at places like Teewah Beach, he speculates that in the middle Holocene "fishing may have been of equal or greater importance" than shellfishing (McNiven 1991:21). He refers to my interpretation of the evidence as "Walters' model", and argues that this "underestimates the role of fishing in the mid-Holocene due to an analytical bias towards fish remains recovered from late Holocene shell middens" (McNiven 1991:21). As Table 1 shows, this is not really so much a bias, as it is a reflection of the data available. Good chronological records exist now for at least three major sites (in addition to Wallen Wallen Creek) spanning the middle to late Holocene in this coastal context. None of them

contain evidence for a developed fishery before late Holocene times.

There is a danger that induction can always be foiled by a black swan, and we all know that four sites do not constitute much of a sample. It would indeed be silly to suggest that no evidence for earlier fishery development in coastal south-east Queensland will ever be found. All I have tried to show, here and elsewhere since the late 1980s, is that *on the evidence we have*, the interpretation I have given is the most parsimonious one that adheres to the data.

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