

Section 10: The pre-European Māori as a fisherman

INTRODUCTION

This volume has been concerned with the period of New Zealand's past before the arrival of Europeans; that is, before the advent of historical records. The subject matter therefore is *not history but prehistory*, and the primary source of knowledge for this is obtained by archaeological research. It has sometimes been said that when literate Europeans arrived in New Zealand, "prehistory was caught alive" (e.g., Golson 1959: 47). This is true of the wider Pacific area too, when European explorers first ventured there. The thousands of islands throughout the Pacific, including New Zealand, had been more or less isolated from the events which shaped Europe and Asia up until that time. These areas outside the Pacific had long ago been through the 'Neolithic revolution' when grain started to be harvested and selectively bred so that huge surpluses of carbohydrate foods could be easily stored. This set into motion a process of population growth, animal husbandry, specialised crafts, and ultimately led to city states – and, of great importance for historians, the invention of writing. But life in the Pacific region carried on as before, oblivious to these external events. Hence the expression *catching prehistory alive*. The first explorers were able to write down records about Polynesians and Māori which, although technically 'history', in another sense might also be called 'prehistory'. It forms the beginning of what we now call 'ethnographic records', descriptions of the way of life of people isolated to a greater or lesser degree from the march of history in Europe and Asia.

Not surprisingly, archaeologists working in New Zealand and the wider Pacific area have been inclined to use this wealth of fascinating ethnographic material to fill out the knowledge gained from archaeological excavations in their efforts to build a picture of prehistoric life over hundreds and in some cases thousands of years. Although this is perfectly natural, it does have its dangers. Archaeologists working in Europe are well used to writing

prehistory from archaeological excavations alone without recourse to historical records. This has resulted in a strong self-contained discipline, where it is perfectly clear what the origin of knowledge is, and the step-by-step process of building a picture of life in remote times. Unfortunately, this is not always the case in New Zealand and the Pacific and, at worst, ethnographic records can become a silent tyrant in the hands of archaeologists, undermining the discipline of archaeology. In my opinion it is vitally important for archaeologists whose subject material is pre-European Māori or Polynesians to distinguish history and prehistory far more clearly than they have in the past. The period of time close to when prehistory was caught alive is sometimes called the 'proto-historic period', and it is perfectly legitimate to use ethnographic records judiciously alongside archaeological excavations in this case. On the whole, I think that this form of 'text-aided archaeology' should be confined to one or at most two standard errors of a radiocarbon date, say 50 to 100 years before the arrival of Captain Cook in 1769¹.

This paper has been about prehistory, not about history. When I wanted to describe what species of fish pre-European Māori caught, or the size of fish that were taken, or changes in fish catches through time, I did not explore historical records, I used knowledge directly gained from archaeological sites. If there are challenges to various conclusions I have reached, I hope that these will be based on purely archaeological data, not on historical records. This choice of building knowledge from the bottom up, from fish remains found in archaeological sites, is quite deliberate, and I recognise that it does have its limitations. However, at least it should be perfectly clear how the conclusions have been reached. Another quite different volume could be written called 'Fishing

¹ The earlier encounter by Tasman in A.D. 1642 was very brief and had nothing like the impact on Māori of Captain Cook's visits between A.D. 1769 and 1777. For this reason A.D. 1769 is chosen as the terminal date of the prehistoric period.

in Proto-Historic New Zealand', and this would be a really useful work. In the course of carrying out research for contributions to the Waitangi Tribunal, I have become aware of the immense riches about Māori fishing in the 19th century, relatively untapped, that are contained in Māori Land Court documents. Combined with archaeological excavations of proto-historic sites, this could form a wonderful chronicle of fishing in early historic New Zealand.

This paper has traversed many aspects of pre-European Māori fishing. This short final Section is not a summary of what has gone before; instead it offers a few final comments on issues that I think are especially important.

FISH WERE BOUNTIFUL IN PRE-EUROPEAN NEW ZEALAND

Archaeological evidence has provided many clues of the opulence of the New Zealand fishery in pre-European times. The average size of snapper in the far north during those distant times would have any modern fishermen gaping in astonishment. So too, crayfish in early Palliser Bay were simply enormous by today's standards. Adding to this, the earliest historic records provide us with a unique perspective on the state of the New Zealand fishery at the close of the prehistoric era. An especially graphic description of the fishery in the Marlborough Sounds is worth citing.

When Cook visited Queen Charlotte Sound in January 1770, the crew used a seine net in Ship Cove and "made a few hauls and caught 300 pounds weight of different sorts of fish which were equally distributed to the Ships Company" (Cook 1968: 235). Banks also comments on this incident, writing that they "caught more fish in the Seine than all our people could possible destroy" (Banks 1963 (I): 453). Beaglehole, in an editorial footnote to this statement, cites a list of more than a dozen kinds of fish noted by Parkinson in his journal (1972: 114) and gives possible identifications of these:

squid, snapper, tarakihi, barracouta, gurnard, blue cod, horse mackerel, dogfish, soles and dabs, grey mullet, drums², scarpee, elephant fish (Banks 1963 (I): 453).

² Beaglehole thought this might be a fish of the Sciaenidae family (croakers). This is a current family (Nelson 1994: 364), occurring in Australian waters (Roughley 1951: 70), but is not present in New Zealand. It is possible that this fish was either the marbledfish or greenbone, which can also make a noise when landed.

There is no doubt that Queen Charlotte Sound at the close of the pre-European era was a magnificent fishing ground. Cook describes it thus:

"The sea abounds with a variety of fish and in such plenty that without going out of the Cove where we lay [Ship Cove], we caught daily what with the Saine hook and line quite sufficient for all hands" (Cook 1968: 247).

Anyone familiar with the modern-day Marlborough Sounds will be astonished at these descriptions of the fishery in 1770. It would be impossible to catch a dozen species of fish with a few hauls on a seine net in this area today, and certainly not in the quantity described. Although this comment was made specifically about Queen Charlotte Sound, the super abundance of fish was something which characterised all parts of New Zealand, as Banks makes clear in his summary observations about New Zealand:

For this scarcity of animals on the land the Sea however makes abundant recompense. Every creek and corner produces abundance of fish not only wholesome but at least as well tasted as our fish in Europe: the ship seldom anchor'd in or indeed pass'd over (in light winds) any place whose bottom was such as fish resort to in general but as many were caught with hook and line as the people could eat, especially to the Southward, where when we lay at an anchor the boats by fishing with hook and line very near the rocks could take any quantity of fish; besides that the Seine seldom fail'd of success, insomuch that both the times that we anchor'd to the Southward of Cooks streights every Mess in the ship that had prudence enough salted as much fish as lasted them many weeks after they went to sea.

For the Sorts, there are Macarel of several kinds, one precisely the same as our English ones and another much like our horse macarel, besides several more; these come in immense shoals and are taken by the natives in large Seines... (Banks 1963 (II): 6, see also Cook 1968: 276).

The modern-day inshore fishing environment is but a poor and pale reflection of what is being described here. The picture painted by Cook and Banks depicts a marine environment which was bountiful with fish after 800 years of Polynesian occupation. The same cannot be said after a mere 200 years of European occupation. Estimates of virgin and current biomass of snapper, for example, suggest that only about 10% of the original biomass remains (Table 5).

We can draw two conclusions from these descriptions by the first European explorers to experience the inshore fishery. Firstly, whatever impact pre-European Māori may have had on the fishery, this pales into insignificance when compared to the devastation that has occurred since the arrival of Europeans. Secondly, catching fish for food presented no real problem for Māori. This is not merely a matter of the available technology and skill which the Māori possessed, but signifies that a ready supply of protein for their diet was simply there for the taking without too much difficulty.

CONSERVATION STRATEGY

Much has been claimed about the pre-European Māori as both a conservationist and a destructive influence on the fauna and flora of New Zealand. Some have taken the view that the pre-European Māori were 'Future Eaters', depleting the resources for future generations. In some cases, such as that of the moa and other flightless birds, this characterisation is probably quite an appropriate one; however, in the case of the fishery, this volume lends little or no support to this view. Of course, we need to consider just how large the biomass was compared with the human population size in any region, and therefore the potential intensity of marine harvesting, before making claims as to whether pre-European Māori were mindful of possible adverse effects they might be having on the resources available to them. I think it has been fairly shown in this volume that any repercussions of human behaviour on the fishery that can be observed from archaeological data show little or no adverse effect. It has been shown, for example, that for a number of species, the mean size of fish increased rather than decreased over archaeological time and this means a clear increase in relative biomass. In only two cases can a size decrease over time be observed (barracouta and crayfish). In the case of barracouta this is more likely to have resulted from natural environmental changes in New Zealand, as this species has an enormous biomass. In the case of crayfish, however, early human communities in Palliser Bay did indeed reduce their size over time.

This does not necessarily mean that the pre-European Māori deliberately adopted a fishing strategy designed to increase the size of fish. A more plausible interpretation is that the people brought with them from Polynesia cultural attitu-

des towards harvesting the sea which inadvertently had this result: in particular, the pattern of keeping all fish that were actually caught, rather than discarding some as not worth eating (such as small ones), or discarding some on the grounds that they would either maintain or even improve the fishery in future (such as large mature fish with greater spawning capabilities). In this respect, we cannot now second guess what was in the minds of early fishermen in New Zealand, but we can certainly observe the results of their activities in archaeological sites and guide our interpretations with knowledge gained from ethnographic observations in near and remote parts of Polynesia. The taking of small fish is a widespread practice throughout the Pacific and is seen as perfectly appropriate behaviour; the fish are seen as entirely suitable as food. This cultural attitude is the one most likely to have arrived with immigrants to New Zealand some 800 years ago and, so far as we can tell, the one which prevailed until the arrival of Europeans. This is certainly not the commonly held ideology today, amongst either Māori or Europeans. I have no doubt that this largely reflects widespread publicity in newspapers and television about the supposed detrimental effects of taking small fish, rather than long established traditional belief and behavioural charters. This modern resource management strategy has certainly not been accompanied by any improvement in the inshore fishery during the historic period, and while fisheries scientists will claim many complex factors for its decline, we may perhaps in the end learn something useful from the way pre-European Māori, with their proclivity for small fish, harvested the sea.

OFFSHORE FISHING

One of the most surprising things to emerge from the archaeological study of fish remains in New Zealand is the complete absence of any indicators of fishing for species which inhabit the clear oceanic waters near the edge of the continental shelf and beyond. A number of such species are present in New Zealand waters, particularly in summer months, and would have been taken if pre-European Māori sought them. For example, along the west coast of the South Island and further north albacore are quite common. Skipjack tuna are also present in both eastern and western waters off the northern half of the North Island. Dolphinfish, although relatively rare, are present in oceanic waters from the

Bay of Plenty northwards. Marlin, too, found primarily on the east coast of the North Island, straggle to Cook Strait in some years. Although all these fish were certainly known to the Māori and had names, if they were caught and eaten at all it must have been extremely rare because their bones have never been recovered in archaeological sites. This contrasts with a number of parts of the tropical Pacific. For example, the people at Mochong in the Mariana Islands systematically hunted and caught marlin and dolphinfish (Leach *et al.* 1988b) and, in the eastern Pacific, tuna of several species were being caught in substantial numbers in both the Society Islands (Leach *et al.* 1984; Davidson *et al.* 1998), and the Marquesas Islands (Leach *et al.* 1997c; Davidson *et al.* 2000a).

By contrast with these Pacific Islanders, the pre-European Māori were nowhere near as adventurous, harvesting fish almost exclusively from close inshore. In Appendix 3 I have attempted to arrive at a quantitative estimate of this. I distinguished between inshore and offshore as being either greater than 50 metres depth of water or more than 100 metres from the shore. The archaeological samples of fish remains were then cautiously apportioned to these two categories. More than 80% of all fish caught could be attributed to the inshore fishing environment.

There is little doubt that in places in the tropical Pacific where oceanic species were specific targets for fishing activities this was not by necessity for food. With some notable exceptions, such as Easter Island, fish are superabundant close inshore in the Pacific, just as they once were in New Zealand. Fishing in oceanic waters is distinctly dangerous and full of adventure and, as far as the food quest is concerned, is a far less reliable source. People who fish in these waters do not go there primarily for food, as there are already abundant supplies closer to home inshore. They go to sea precisely because of the danger and excitement associated with it. It presents an opportunity for men (not women) to escape from the humdrum routine of village life with wives and children demanding attention with domestic duties. In small islands with high population density people are constrained in various ways. Getting to sea away from these constraints was an impetus by itself and had its own reward; and if the fishermen arrived home with tuna this was even better.

By contrast, New Zealand has an enormous landmass. The pressures of high density living did not apply to anything like the same extent as in the

tropical Pacific, and one of the motivating forces to go out to sea did not apply to the same extent. Men could satisfy their need for adventure in many other ways not available on small islands, such as exploring forested areas for new sources of useful stone, and taking part in trading expeditions to distant communities.

TECHNOLOGICAL ACHIEVEMENTS

There is abundant evidence from archaeological sites of a highly differentiated fishing technology, particularly with bone and shell hooks. This attests to a great deal of experimentation and a keen interest in the development of new forms. It does not necessarily mean that new forms were more effective than older ones. A casual visit to a modern fish tackle shop will convince anyone that form and functionality are not closely related. For each fish species there is a veritable plethora of fish hook or lure types. In pre-European New Zealand, when fish were so numerous one could catch them with the most rudimentary equipment, it is hard to attribute the obvious experimentation taking place to a desire for increased efficiency. It is much more likely that the stimulus for diversifying the range of fishing equipment was the need of individuals to express stylistic features rather than functional ones.

It must also be remembered that the moment iron was introduced by Europeans, the Māori abandoned shell and bone in favour of making their hooks from nails and other scraps of metal.

There are no indications that highly specialised fishing technologies were being developed during the prehistoric period in New Zealand. I have already mentioned the lack of fishing activities focused on the offshore oceanic waters, and to this can be added the lack of deep water fishing, such as for ruvettus. These fish are present in New Zealand waters, and were apparently discovered in the prehistoric period in other parts of the Pacific, but not in New Zealand. Similarly, the basis of specialised fishing techniques like 'frightening lines', which take advantage of the fact that some species are afraid to swim under thick hairy ropes, were not discovered by the Māori. Finally, there are no signs in New Zealand of the development of an aquaculture industry such as took place in Hawaii during the prehistoric period (Kirch 1985: 211-214).

As far as new fishing technologies and specialised knowledge are concerned, there are few signs

of significant new achievements in prehistoric New Zealand.

This should not be seen as denigrating the pre-European Māori as fishermen. On the contrary, they were clearly very skilled and extremely knowledgeable about all aspects of their fishery³. However, we must be careful to obtain a balanced perspective. Some groups of people in the Pacific hardly fished at all, particularly those on larger land masses, and many never ventured far out to sea in canoes for fish or any other reason. There is therefore nothing unusual in this somewhat mundane view, which I think is a closer reflection of reality.

Certainly, the first Europeans to New Zealand greatly admired the prowess and skill of Māori fishermen. They in turn were amused at the trifling efforts of the Europeans:

... and after having a little laugh at our seine, which was a common kings seine [i.e. the seine net commonly used in the navy], showed us one of theirs which was 5 fathoms deep and its length we could only guess, as it was not stretched out, but it could not from its bulk be less than 4 or 500 fathom. Fishing seems to be one of the chief business of this part of the country; about all their towns are abundance of nets laid upon small heaps like hay cocks and thatched over and almost every house you go into has nets in it making (Banks 1963 (I): 444).

This comment was made when Cook and Banks visited the Bay of Islands in December 1769.

PRE-EUROPEAN MĀORI DID NOT LIVE ON FISH ALONE

There are very important environmental changes from north to south in New Zealand. The marine fauna changes significantly over the length of the coastline, so that in the far north snapper is the dominant fish available to prehistoric communities, whereas in the far south blue cod and barrac-

outa are the most common species. These changes are well reflected in the archaeological record. Over this same geographic range, access to carbohydrate foods changes from relatively abundant to almost non-existent.

With this perspective, it can be seen that in the far north both protein and carbohydrate foods were readily available and permitted a relatively large population to develop by the time of European contact. In the far south, the general lack of carbohydrate foods meant that access to fat was the single most important consideration for these people, and large populations were not possible.

Thus characterised, access to protein was not an issue in either the north or the south. There were plenty of fish available to anyone living near the coast, and in some places forest birds were also readily available to satisfy the need for protein. The really important problem was access to fat or carbohydrate in all parts of New Zealand.

In the central area of New Zealand, once again, plenty of protein was available, but carbohydrate foods were difficult to grow and access to sources of fat, such as seals, was relatively limited. Not surprisingly, the population in the central area appears to have been small at all periods.

DISCUSSION

The purpose of this paper was to provide a summary of current knowledge about the fishing activities of the pre-European Māori. Since the subject matter concerns the period before written records, the view is heavily biased towards the information gained from the archaeological record and pays only minor attention to other sources, such as oral history and tradition. This slant is quite deliberate, and reflects my opinion that wherever possible prehistory should be written using prehistoric evidence from the bottom up. Oral traditions are formulated and transmitted from one generation to another with purposes other than transmitting a simple chronicle of daily human activities. Archaeological evidence also has its own problems concerning biases of various kinds; towards certain durable forms, for example. However, archaeologists are keenly aware of these sorts of problems, and are constantly seeking new ways of improving the quality of knowledge gained from the ground and refining interpretations as a result.

In the last 200 years, the New Zealand Māori and Pacific islanders in general have variously

³ The choice of phrase 'their fishery' is deliberate, for this ownership is entrenched in the Treaty of Waitangi as the following excerpt from *Article the Second, Treaty of Waitangi, English version, 6 February 1840* shows: "Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possession of their Lands and Estates Forests and Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession" (Orange 1987: 258).

been viewed by Europeans as ignorant and primitive people with only crude technology, representing a fossilised form of an earlier stage of human social and cultural evolution or, in a more romantic vision, as noble savages in harmony with nature. To some extent, this latter idealised view still prevails in some quarters. However, we now know from a great deal of archaeological evidence that pre-European life was definitely “nasty brutish and short” and, for the bulk of people, probably on a par with Medieval Europe in many respects.

I hope that this paper will serve to dispel romantic notions about the nature of pre-European fishing in New Zealand and reveal the Māori for what he really was—profoundly knowledgeable about the sea and its resources, and well able to harvest fish in a manner which conformed, in the main, to the customs of his ancestors in the tropical Pacific.

ACKNOWLEDGEMENTS

The idea of writing a paper describing pre-European fishing in New Zealand was first discussed in earnest by myself and Atholl Anderson in 1976, and the two of us collected material and worked together for a time on this project. We have both maintained a strong interest and commitment to this field of research since then, both on the sea as well as the land, and I would like to acknowledge Atholl’s contribution to this work, which has been a very long time in coming to fruition.

I would like to express my sincere thanks to Larry Paul at the National Institute of Water and Atmospheric Research (NIWA) for many useful discussions about fishing and fisheries issues over a long period. My thanks also go to the staff of Te Aka Matua Library (formerly Hector Library) at the Museum of New Zealand for their friendly help over the past few years, especially Manuela Angelo, Christine Kiddey, Padmini Ekanayake-Carlson and David Linney. Librarians are the unsung heroes of scientific research.

I am grateful to numerous people for advice on a wide range of subjects explored in the course of writing this paper, amongst whom I would like to mention John Davidson Victoria University of Wellington, Peter Brown Oxford University, Dale Serjeanston University of Southampton, Graeme

Ward Australian Institute of Aboriginal and Torres Strait Islander Studies.

Many thanks to Geoffrey Budworth who gave me great deal of good advice about knots, to Janey Thomas who was always willing to help me with digital image manipulation, to Raymond Coory for taking some excellent photos for me, to the late Willie Butler, a rock climber, who found the hooks at Pohara which are illustrated in Figure 64, and to *Manawhenua ki Mohua* who kindly gave their permission for these hooks to be included in this paper.

Illustrations are individually acknowledged in the captions but I would like to mention several colleagues who suggested or provided illustrations (including some that were not used in the end), or assisted me to obtain them: Jim Allen, Nigel Prickett, Melinda Allen, Eric Conte, and especially Yosi Sinoto.

I would like to thank the Foundation for Research, Science and Technology for financial support for research projects in the Archaeozoology Laboratory at the Museum of New Zealand Te Papa Tongarewa.

Over the past few years I have been very fortunate in having a number of research assistants who have been a pleasure to work with, not only because they are never clock-watchers, but also because of their enthusiasm and lateral thinking on weekends as well as during the week, with such diverse tasks as boiling down rotten fish, painting *MV Kaselehliia*, and tolerating my insistence on checking and re-checking many thousands of bone measurements. In this respect I should particularly like to mention Carolyn McGill, Michelle Horwood, Karen Fraser, Jim Samson, Gretta Burnside, Meredith Robertshaw and Penny Leach; their tireless good humour is greatly appreciated.

I am very grateful to Arturo Morales of the Laboratorio de Arqueozoología Universidad Autónoma de Madrid, and Ian Smith of the Anthropology Department University of Otago for their careful and critical reading of drafts of this paper.

Finally, I would like to acknowledge a special debt to my wife Janet Davidson for her encouragement and support over many years, for her helpful advice during the research and writing of this paper, and also for her editorial skills with the manuscript.