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AN INTRODUCTION TO THE LATER STONE AGE RESEARCH PROJECT ALONG THE SOUTH-EASTERN CAPE COAST

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ABSTRACT

This paper introduces research conducted along the Cape St Francis part of the south-eastern Cape coast between 1981and 1992. In order to do a systematic study, the coast and adjacent shifting dune area was divided into eight zones according to concentrations and geographical location of archaeological features. Within these zones, sites with different cultural identities were excavated and sampled between the immediate coastline and five kilometres inland.

INTRODUCTION

During 1981 a long term research project was started in the south-eastern Cape with the aim to investigate and to contrast economic and settlement patterns along the Cape St Francis coast and the adjacent mountains. Several site reports have been published on the research conducted in the adjacent Kouga/Baviaanskloof mountains (Binneman 1997, 1998, 1999, 2000). This paper introduces the coastal part of the research project in the south-eastern Cape and more specifically the archaeological character of the region and the research approach followed. The results of the study will be discussed elsewhere.

The research area defined here as the south-eastern Cape, follows roughly the provincial boundaries between the Eastern and Western Cape Provinces and includes the coastal and adjacent mountain regions between the Bloukranz River Mouth and Gamtoos River Mouth (Bruton & Gess 1988; Lubke *et al.* 1988; Lubke & De Moor 1998). The Cape St Francis coast comprises the region between the Kabeljous River Mouth to the east and Klasies River Mouth to the west (Figs 1 & 2).

My first visit to the Cape St Francis coast was in 1981. During this visit I walked most of the coast between Oyster Bay to the west and St Francis Bay to the east and large areas of the shifting dune field between the two resorts (Fig.3). The two aspects which I noticed immediately during that visit, were, the richness and variety of the archaeological features and the immense threat posed to these sites by human activities.

During 1982 developers started to stabilise the coastal dunes outside St Francis Bay with branches. This was completed by the end of 1983 and during 1987 the whole area was divided into erven and tarred roads and other facilities were constructed. In the process many archaeological sites were demolished (Figs 4a, b, c & 5). Today, the whole area is covered by numerous residential buildings and a harbour complex was constructed between St Francis Bay and Cape St Francis Point.

At first a rescue operation was initiated in 1981, aimed at excavating and sampling some of the archaeological features which were under immediate threat of destruction in and around the townships of St Francis Bay and Cape St Francis. However, in 1982 I decided to convert the rescue operation to a full research project. The reason was that open-air shell middens represent single moments in time, and therefore provide limited information and it is only when a large number of these features are investigated that they can be interpreted in terms of settlement strategies, social and economic patterns. During the next few years a large number of shell middens were excavated and sampled (Binneman 1996).

Several coastal caves and shelters were also test excavated and sampled. The well-preserved deposits provided a time sequence and a framework into which the open-air observations and information could be plugged.

PHYSICAL ENVIRONMENT

The coastal foreland comprises a gently undulating plain deeply incised by rivers such as the Tsitsikamma, Kromme, and Seekoei. A striking feature of the landscape is the gravelled terraces at various contour intervals (200 m, 100 m, 60 m and 30 m) which are related to a descending

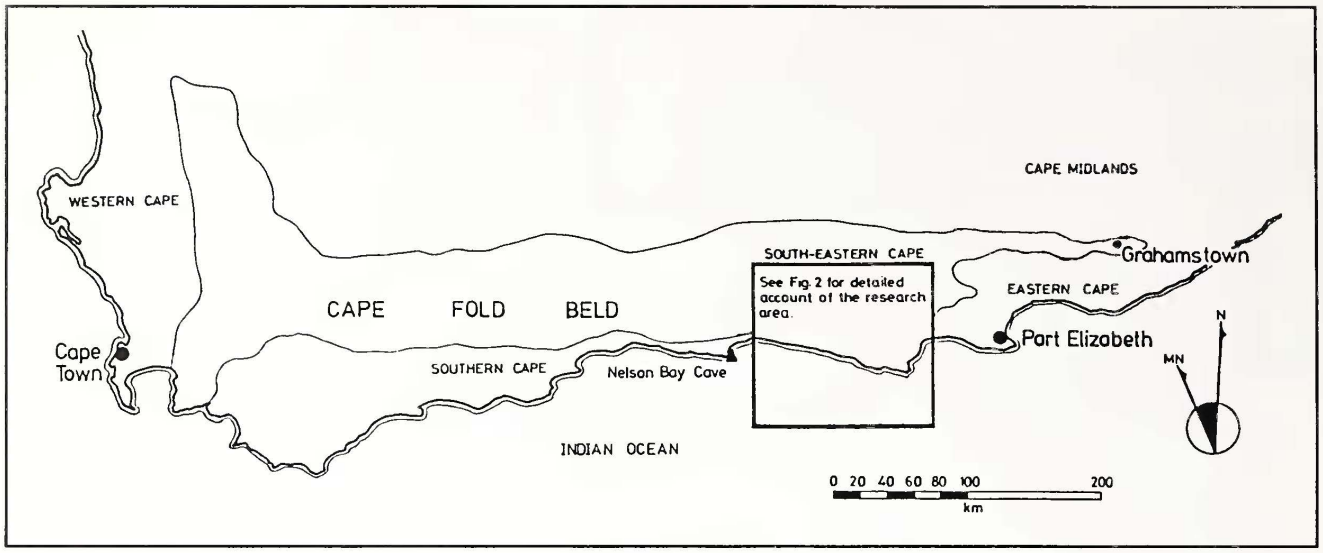

Fig. 1. Map of the south-eastern Cape research area in relation to adjacent regions.

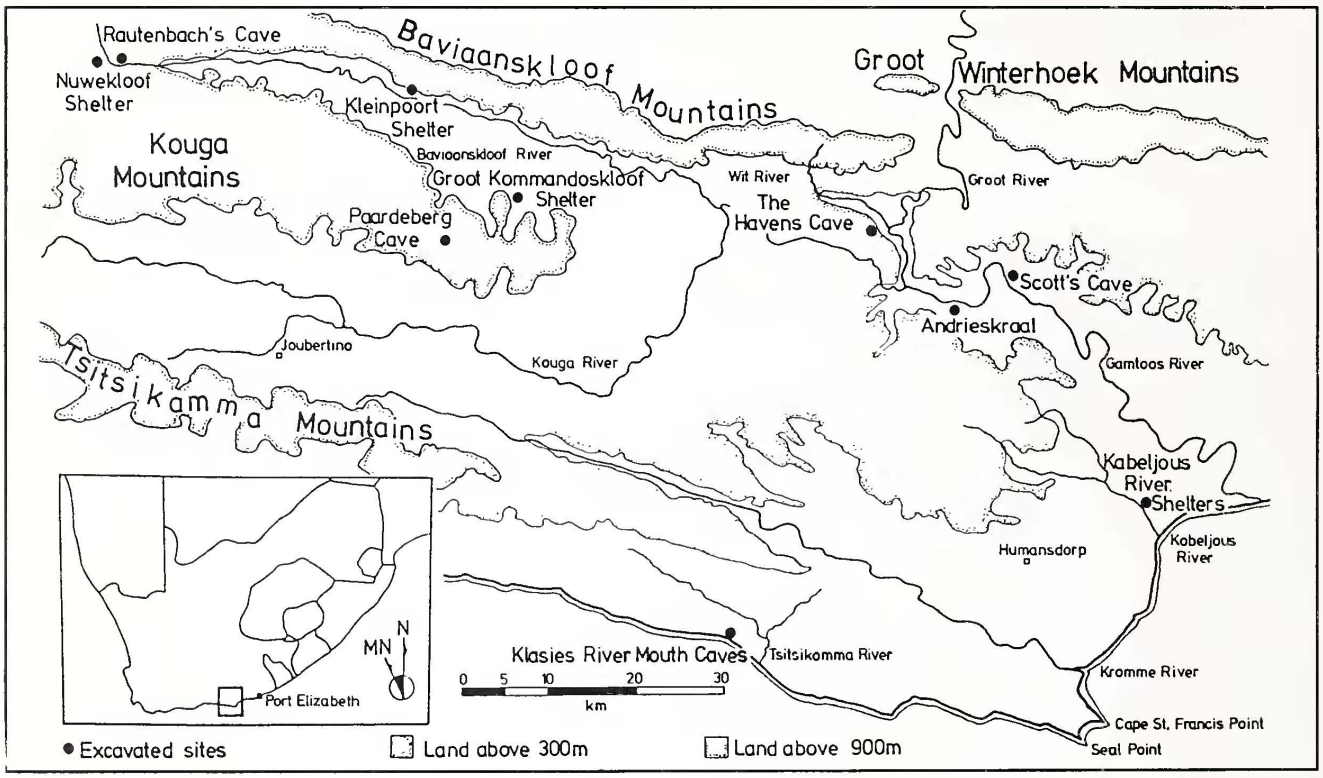

Fig. 2 Detailed map of the south-eastern Cape research area and excavated sites.

sequence of high sea levels (Butzer & Helgren 1972). The coastal region is dominated by rocks of the Cape Supergroup, and Table Mountain quartzites and sandstones underlie most of the area.

The coast is characterised by a series of halfmoon sandy bays, Slangbaai, Thysbaai, Seal Bay and St Francis Bay, all facing eastward. Adjacent to the coast are small dune areas, remnants of a far larger system in the past. These include the well-known Geelhoutboom dunes above the Klasies River Caves, Brandewynkop and the large dune field stretching from Oyster Bay to the mouth of the Kromme River. The latter is an extensive dune field of parallel longitudinal dunes which run in the direction of the prevailing winds (west to east), and are refered to as hairpin dunes (Heydorn & Tinley 1980; Tinley 1985).

The large shifting sand dunes are underlain by ferricretes, calcretes and fossilized dune sands which are situated on top of Table Mountain Sandstones. Due to the continuous movement of the dunes, many new sites appear all the time while simultaneously others are covered. The deflation bays

Fig. 3. View of the shifting dune bypass system between Oyster Bay (bottom left) and St Francis Bay (top centre).

between the dunes are often waterlogged in winter. These waterlogged areas usually support grass and other vlei vegetation. A stream, the Sand River also passes through the dunes, but is only visible for short intervals between them. Often many of these old vlei areas are exposed between the dunes in huge dark grey blocks and floors.

Cowling (1982) recognises four major plant communities along the coast. The dune fynbos, which is restricted to the immediate coastline, consists of three elements: fynbos, dune thicket and dune grassland. The dune fynbos is typical of the south western Cape, excluding the large leafed proteas. The dune thicket comprises the large leafed tall shrubs with numerous climbers and is related to many tropical species along the east coast. This dune thicket, when in protected areas, may develop into thick low forest. The dune grassland comprises a mixture of tropical and temperate grassland species and numerous bulbs. The grasses usually occur between the parallel dune ridges on waterlogged sites.

The region experiences a warm temperate climate with mild temperatures. Although rainfall may occur at any time of the year, the highest downfall occurs during the winter months, ranging between 500 mm and 800 mm annually. It is prone to strong winds, mostly during spring, with the prevailing wind direction from the west and south-west (Tyson 1964).

ARCHAEOLOGICAL BACKGROUND OF THE REGION

Previous archaeological research in the region

Prior to 1981 little research was conducted in the area. Amateur archaeologists were responsible for some excavations and collections along the Cape St Francis coast (collections made by Mr W. Gess and Mr L. Abel are housed in the Albany Museum). They also 'discovered' the Klasies River Caves in 1955 and reported it to archaeologists at the South African Museum.

Large collections of Earlier and Middle Stone Age stone tools were made by Laidler (1947) in the sand dunes on the farm Geelhoutboom above the Klasies River Caves.

Fig. 4a. View of shell middens among the shifting dunes at Second Bush, 1981.

Fig. 4b. The stabilisation of the dunes with branches resulted in the covering of shell middens as well (early 1982).

Fig. 4c. The same location now with roads. A small boat harbour was built where the road ends during the 1990s.

Rudner (1968) reported numerous open-air shell middens along the immediate coastline and described the pastoralist ceramics and stone artifacts found on these sites.

The first excavations in the region were conducted in 1925 by Dr John Hewitt, Director of the Albany Museum between 1910 and 1958, in rock shelters near the mouth of the Kabeljous River (Hewitt 1925). I re-excavated one

Fig. 5. Badly damaged shell midden with a 'For Sale' sign, 1988.

Fig. 6. Earlier Stone Age handaxes and cleavers mixed with Middle Stone Age stone tools in the Thysbaai dunes.

of the shelters in 1984 (Binneman 1996). At St Francis Bay Thackeray and Feast (1974) removed a burial and Cairns (1975) excavated a stone feature.

During the 1960s the University of Chicago (1982) excavated several of the caves and shelters at Klasies River Mouth. Between 1984 and 1999 the Archaeology Department at the University of Stellenbosch conducted further excavations, mainly at Klasies River main site (Deacon 1995; Deacon & Geleijnse 1988; Deacon & Schuurman 1992). I have also conducted test excavations at Cave 1 and 5 during 1984 (Binneman 1985, 1996; Hall & Binneman 1987; Henderson & Binneman 1997).

Further along the Tsitsikamma coast, FitzSimons, Director of the Port Elizabeth Museum between 1906 and 1936, excavated several caves and rock shelters which included Coldstream and Whitchers Caves (FitzSimons 1921, 1923, 1926). Coldstream Cave was first excavated in 1907 by Mr E. Whitcher and again in 1911 by Mr Drury from the South African Museum in Cape Town. The excavations at the site yielded four painted stones and a large number of skeletons. At Whitchers Cave, which is some 15 km inland, FitzSimons excavated more than 50 skeletons.

Two excavations were also conducted in 1965 and 1967 by H.J. Deacon at a cave at Storms River Mouth in the Tsitsikamma National Coastal Park (Deacon, H. J. 1970).

ARCHAEOLOGICAL CHARACTER OF THE REGION

The immediate coastline and adjacent shifting dune system are rich in open archaeological sites, features and material representing the Earlier, Middle and Later Stone Age. The active movement of dune sand opens and covers sites and material on a daily basis. In recent years alien vegetation invaded most of the dune system and covered the sand and prevented the exposure of sites.

Earlier Stone Age

Although no hominid remains dating from the Middle Pleistocene have been discovered, handaxes and cleavers from this period were found scattered throughout the coastal region, most often mixed with Middle and Later Stone Age material (Fig. 6).The best known locality for the occurrence of Earlier Stone Age artefacts is in the dunes on the farm Geelhoutboom on the coastal foreland behind the Klasies River Caves. A large collection of Earlier and Middle Stone Age arefacts made by Laidler (1947) are housed in the Albany Museum.

Handaxes and cleavers are also common in the dunes east of Thysbaai. Only a few handaxes, however, were observed in the dune system between Oyster Bay and St Francis Bay.

Middle Stone Age

The most important occurrence of Middle Stone Age occupation not only of this region, but also in the world comes from the well-known Klasies River Caves 1 and 5 (Singer & Wymer 1982; Deacon 1995). The main site also yielded the world's oldest remains of anatomical modern people and possibly the oldest evidence for marine food exploitation (Deacon & Schuurman 1992).

Middle Stone Age stone artefacts are also found in the dune fields in the region. A few kilometres east of Geelhoutboom, in the Brandwynskop dune field, are large numbers of stone tools, but there is no other material associated with them. The Middle Stone Age sites in the dune field between Oyster Bay and St Francis Bay, however, are also associated with faunal remains. One such site is situated some two kilometres east of Oyster Bay. Here a large assemblage of fossilized bone and brown hyena coprolites were found in assossiation with Howieson's Poort stone tools (Carrión *et al.*2000) (Figs 7 & 8).

At the eastern end of the dune field were remarkable Middle Stone Age 'factory' sites which consisted of large circular piles of flakes and cores. Most of the flake piles represent unique 'moments in time' where large numbers of flakes were produced from a single core (Fig. 9).

As mentioned earlier, old vlei areas are exposed between the dunes as hard dark grey floors. These floors acted as firm surfaces for camp sites in the past and also as catch-

Fig. 7. Faunal remains associated with Howieson's Poort stone tools in the dunes near Oyster Bay.

Fig. 8. Brown hyaena coprolite associated with Howieson's Poort stone tools in the dunes east of Oyster Bay.

Fig. 9. Middle Stone Age 'moment in time' in the Goedgeloof dune area.

ments for archaeological material deposited on the dunes. The continual movement of dune sand exposes and covers these floors and the material situated on them (Figs 11, 12 & 13). Unfortunately, the continual movement of sand not only exposes sites (or protect them from the elements), but also destroys them slowly (Fig. 14).

Fig. 10. Shell midden on the edge of a vlei in the Goedgeloof dune area, some 5 km from the coast.

Later Stone Age

The majority of the archaeological features were located within a few hundred metres of the highwater mark, but a large number of shell middens were also situated some five kilometres from the coast in the shifting dune bypass system between Oyster Bay and St Francis Bay (Fig. 10).

THE LATER STONE AGE COASTAL PROJECT

Research approach

As mentioned earlier, the coastal project initially started as a rescue operation in 1981. At first a small number of damaged and threatened shell middens were excavated sampled and dated. However, this approach yielded limited information and it was decided to convert the venture into a research project. This resulted in the addition of 22 new radiocarbon dates to the existing seven for the region.

In order to do a systematic archaeological study of the open-air shell middens of the area, eight zones according to concentrations and geographical location of archaeological features (Figs 2 & 3) were identified along the Cape St Francis coast and adjacent shifting dune area. The archaeological features in each of the zones will be discussed elsewhere.

In the investigation of the archaeological sites along the Cape St Francis coast I devised the following research strategy. Firstly, on a macro-scale, open air shell middens along the shore zone (within 300 m from the coast) were investigated and contrasted with those further inland (up to 5 km from the coast). The same strategy was followed with cave and shelter sites. Secondly, on a micro-scale, selected shell middens which displayed distinctive features such as the presence or absence of pottery, or the absence of formal stone artefacts were investigated and sampled to establish possible economic and social patterns. Thirdly, also on the micro-level, individual shell middens at different ecological settings along the coast were investigated and sampled to gain insight into collecting strategies and possible distances travelled to collect shellfish. The results of this study will be discussed elsewhere (Binneman in prep.).

Fig. 11. A recent exposed hard grey soil surface with bone remains.

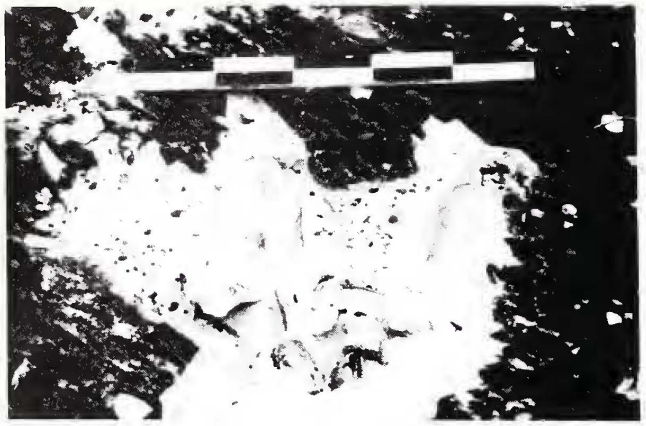

Fig. 12. Eland horns associated with Later Stone Age tools exposed on a soil surface in the Goedgeloof dunes.

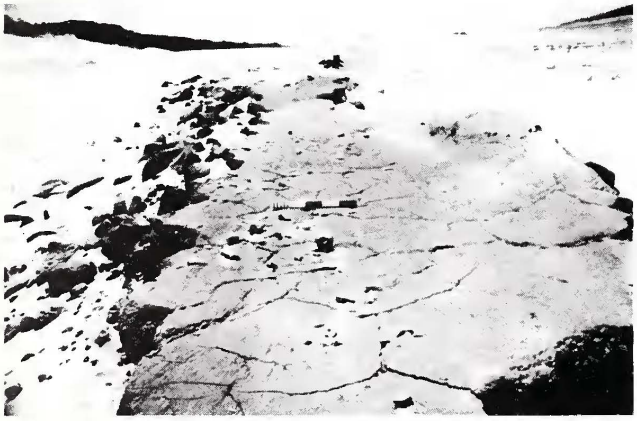

Fig. 13. Later Stone Age stone tools and bone situated on a recent exposed hard grey vlei soil surface.

To study the shellfish collecting patterns of the different groups, I divided the coast into five ecological habitats, namely sandy beaches, bench coasts, boulder coasts, wave coasts and high energy coasts. Material was excavated or sampled from all the different types of shell middens in the direct vicinity of each habitat. Observations were made within each of these habitats to establish which shellfish species were available and which could be collected at different tidal conditions.

Fig. 14. The damaging effect of wind and sand erosion on an exposed shell midden in the Goedgeloof dunes.

Sandy beaches

Long half moon sandy beaches, such as Slangbaai, Thysbaai, Seal Bay and St Francis Bay, are poor in *Donax serra* (white mussel). *D. serra,* the only important shellfish species found along sandy beaches, is only to be found in great abundance from approximately Jefferey's Bay eastward to Port Elizabeth. This species can easily be collected during all tidal conditions by either digging or by twisting ones feet into the sand and 'feeling' for them. *D. serra* contains a relatively high meat mass per individual and a large number can be collected within a few minutes The meat is soft and tasty to eat.

Bench coasts

Flat rocky areas exposed extensively during low tides (upper balanoid zone) support abundant *Oxystele* spp. in the numerous shallow pools. *Patella oculus* are also abundant and small to medium large *Turbo sarmaticus* are often found in relatively large numbers. Large *T. sarmaticus* and *P. longicosta* are present along the neap tide low zone. Most of the larger shellfish species occur along the lower balanoid zone which is exposed during spring and neap tide lows. The so-called *cochlear* zone is also exposed during this period for three to four days during low tide. As the name name indicates, *P. cochlear* are super abundant in this zone. *P. argenvillei* are also present in large numbers. Other species present are *Haliotis midae, H. spadicea, P. tabularis, P. barbara* and *T. sarmaticus*. Small fish are abundant and the occasional octopus may be found in the shallow pools.

Boulder beaches

Large round boulders with intertidal sand support shellfish species similar to those of the bench coast except that *Dinoplax gigas* are also present, often in fair numbers under the boulders.

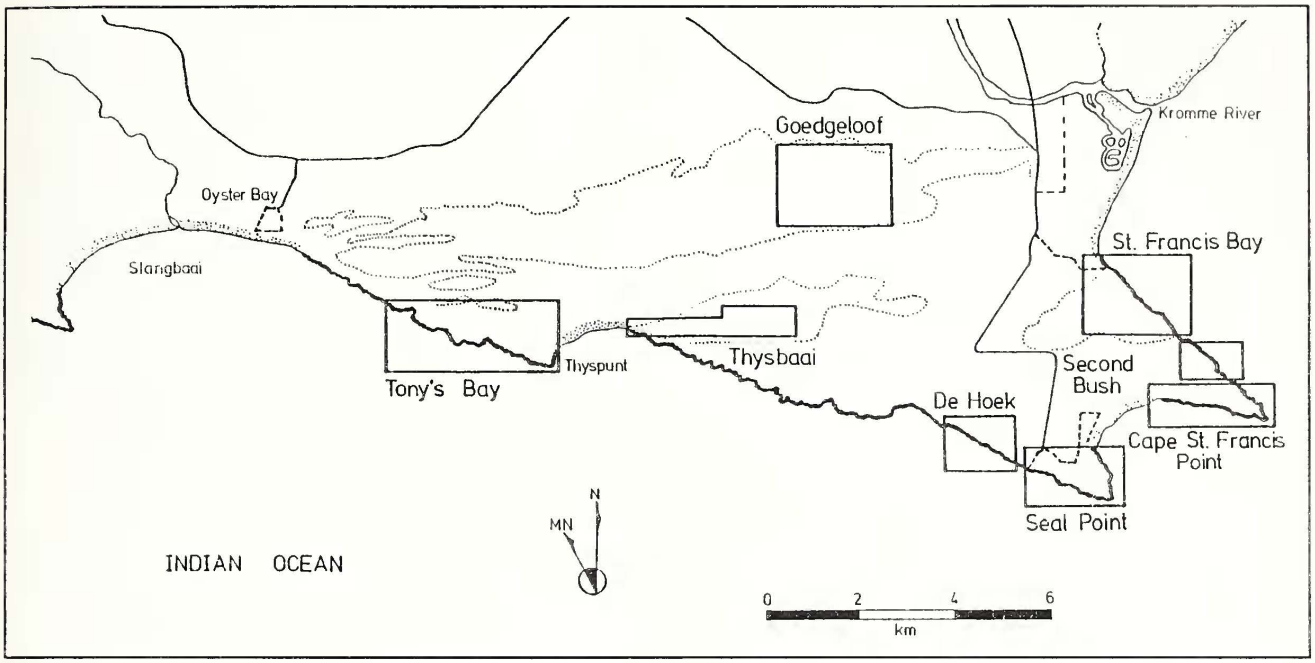

Fig. 15. Map of the different locations sampled along the Cape St Francis coast.

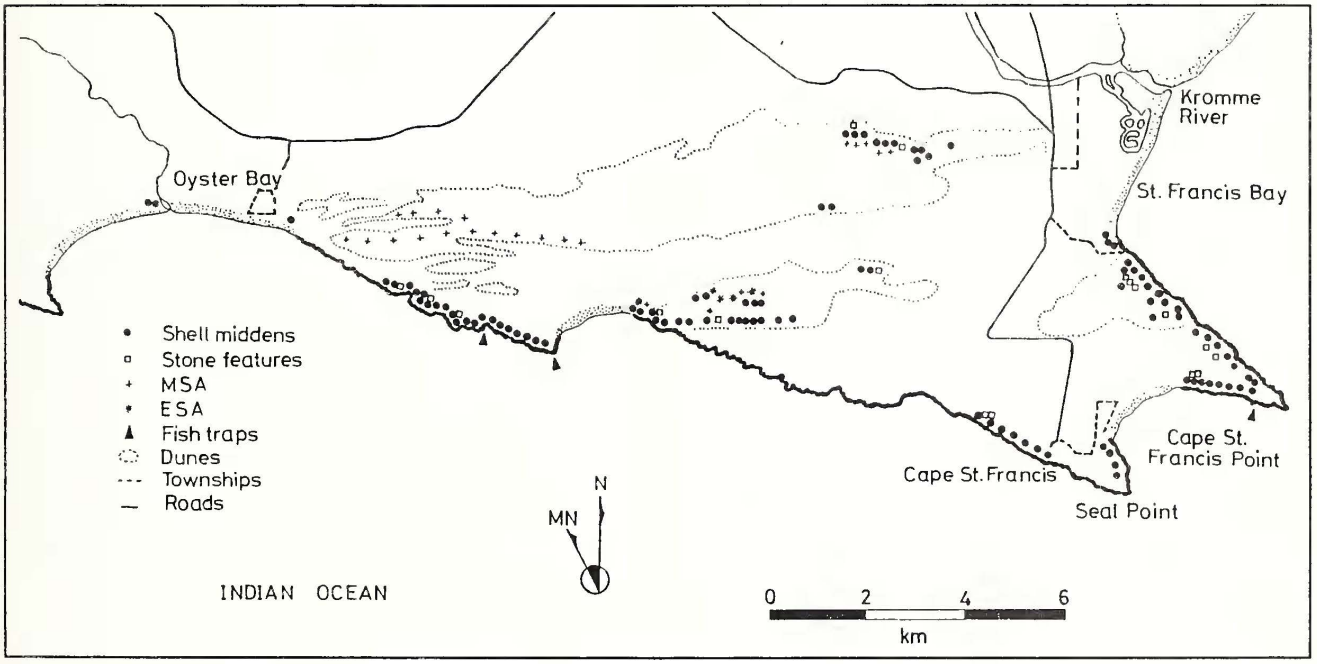

Fig. 16. Map of the distribution of archaeological sites along the Cape St Francis coast.

Wave coasts

Rough stepped rocky outcrops in sheltered bays usually rise from a few metres of deep water to a few metres above the spring high level. Waves constantly break over the rocks and pools during high tide. *Perna perna* is often found here in large quantities along the high water level. *Oxystele* spp. and *P. oculus* are present in the pools and *Burnupena* spp. may also be present in fair numbers. The *cochlear* zone is exposed during spring tide low, but it is dangerous to collect shellfish from this zone because one can be washed from the rocks.

High energy coasts

Rugged rocks several metres above the water face the open sea in some places. Huge waves constantly break fiercely against the rock walls and numerous deep gullies with a brisk wash action. These coasts are extremely dangerous for collecting shellfish and one can easily be

Table 1. Ranking of shellfish species (modern day collection in terms of mean size, total mass, meat mass and ERR.

Shellfish species	Mean size/mm	Mean total mass/gr	Mean meat mass/gr	% EER
Haliotis midae	121	258	141	55
Solen capensis	114	33	21	64
Patella tabularis	90	98	19	21
Patella barbara	90	80	17	21
Turbo sarmaticus	74	130	26	20
Patella oculus	70	33	8	24
Patella longicosta	70	30	6	20
Patella argenvillei	66	42	11	26
Perna perna	66	20	7	35
Patella miniata	63	24	6	25
Haliotis spadicea	58	39	23	59
Patella cochlear	57	16	3	19
Donax serra	51	24	10	42
Oxystele spp.	32	12	2	17

washed from the rocks. *P. perna* and *Patella* spp. are usually abundant along these coasts.

Collection of samples and methods of analysis

Shell middens were sampled by means of column excavation, grab samples and surface collecting. Columns were excavated in units of square metres or parts thereof, aimed at sampling the total range of archaeological remains. Grab samples consisted of one bucket (0,01 cubic metre) *in situ* material and was aimed at obtaining a representative sample of shellfish and/or other food waste or cultural material. Surface sampling consisted of either one bucket of slope material to obtain a representative shellfish sample or manual collections of bone remains and stone tools.

The shellfish remains from each midden, layer and feature were sorted into species (divided into left and right in the case of bivalves), counted and measured. This was done to convert shell size to meat mass. The different shellfish species were identified, counted and measured within the framework described by Maggs & Speed (1967) with some adjustments for my own requirements. Measurements on highly fragmented shell, for example, *Perna perna* followed Hall (1980). One of the points of the coastal study was to investigate the shellfish collecting strategies employed by the different groups in the different ecological habitats and whether distance from the resource area played an active role in the species collected. In order to investigate these aspects, wet shellfish mass (shell and meat), size and meat mass were chosen as criteria rather than measures such as energy (Joule). The reason for this choice was, as the ethnographic studies clearly indicate (Bigalke 1973; Meehan 1982), people do not collect and transport energy. There are specific reasons for collecting specific species, such as taste, ease of collecting, size and abundance. People collected and transported shell and meat mass as wet shellfish, which may be an important consideration when it had to be transported over long distances. To establish meat mass for the different species and the total collecting weight, the shell of modern day species was measured, shell with the meat weighed and then only the meat. From this exercise it was possible to establish which shellfish species were the most 'economical' to collect in terms of shell mass *versus* meat mass. In other words, what percentage of the total collected mass of a species is edible (Table 1). I refer to this percentage as the economic return ratio (ERR).

It is clear from Table 1 that the largest shellfish species or the most abundant or easy to collect are not always the most economical species. Although species such as *Patella tabularis* are large and contain a relatively high meat mass per individual, they contain a relatively low percentage of edible meat (21%) in comparison to the total collecting weight. The reason being that the species has a thick, heavy shell. In contrast, *Donax serra*, while being half the size of *Patella tabularis*, also contains half the meat mass but double the percentage of edible meat mass per total weight (42%). Ethnographic observations (Bigalke 1973; Meehan 1982) indicate that people tend to collect the largest available species. Where distance was not a factor total collecting weight may not have played a role. However, weight may have been an important consideration when shellfish had to be transported over large distances. These aspects will be discussed when the shellfish from different sites are analysed.

Table 1 indicates that the most economical shellfish species in terms of the ERR proved to be *Solen capensis* (64%) followed by *Haliotis spadicea* (59%), *Haliotis midae* (55%), *Donax serra* (42%), *Perna perna* (35%), *Patella argenvillei* (26%), *Patella miniata* (25%), *Patella oculus* (24%), *Patella barbara* (21%), *Patella tabularis* (21%), *Turbo sarmaticus* (20%), *Patella longicosta* (20%), *Patella cochlear* (19%) and *Oxystele* spp. (17%). No attempt has been made to estimate the composition of other food

Fig. 17. Stone feature and midden capping a dune at De Hoek.

Fig. 18. Excavation of the circular stone 'floor/platform' in Figure 17. Note the large number of fire cracked stones and charcoal.

resources to the diet (*cf.* Buchanan 1988) because this seems to be a dubious procedure (Wilson 1990).

A problem encountered early in the study was how to distinguish between true pastoralist and non- pastoralist sites dating within the past *ca* 2000 years BP. In order to distinguish between the different shell middens the following system was used.

> Pastoralist occupation refers to open-air shell middens which contained small numbers of stone flakes and a 'convincing' number of individual domesticated animals (with or without ceramic remains).
>
> Non-pastoralist sites, also referred to as 'ceramic' occupation in the study, refer in general to groups which seem not to have possessed stock, but possessed pots (with or without small numbers of stone tools).These groups may have been;
>
> > pastoralists dispossessed of their stock,
> >
> > pastoralists living at the coast but keeping their stock somewhere else,
> >
> > hunter-collector-fishers (HCF) who lived at the coast and possessed pots or acquired the skills and knowledge to make pots (see below),
> >
> > or hunter-collector-fishers and pastoralists living together as a group, with or without stock (see below).

Fig. 19. Stone feature/fire place in the Goedgeloof dunes.

In addition to 'convincing' numbers of domesticated animals, shellfish species found in the sites were also used to establish origins. This distribution may not be a true reflection of reality, but it did help to categorise the middens.

FEATURES

During the study several classes of features could be identified.

Large stone features

Circular and irregular stone features were abundant along the coast and adjacent dune fields. Goodwin (1946:4) describes several features from near the Slang River Mouth (Oyster Bay), which he refers to as "fire places" for cooking food. Similar stone features were also reported from Pearly Beach along the south-western Cape coast (Avery 1974). These stone features comprised of fire cracked stones and were usually associated with large

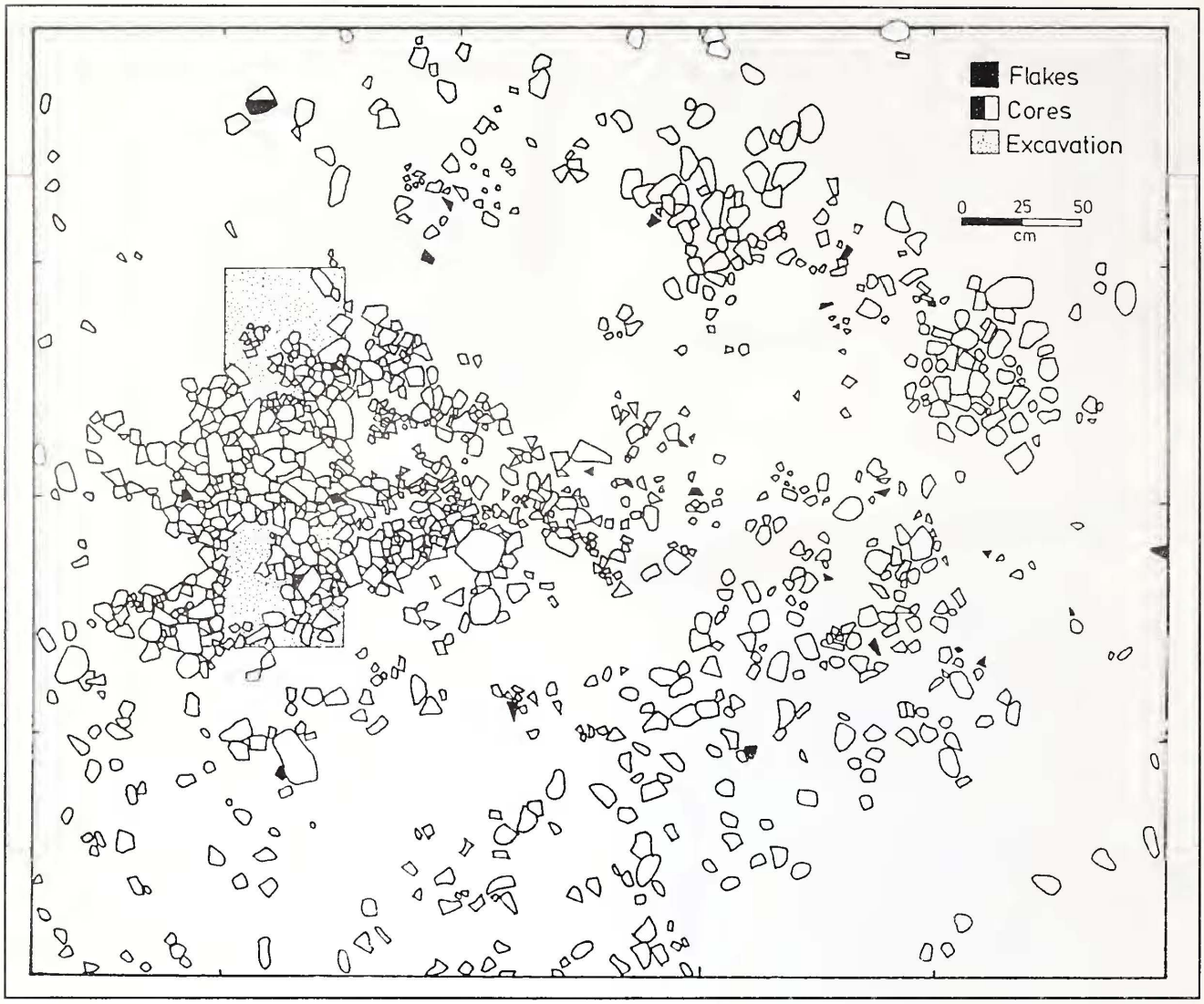

Fig. 20. A cluster of stone features at St Francis Bay.

amounts of charcoal and small quantities of shellfish and fish remains (see also Cairns 1975) (Fig. 17). One of these features was excavated and dated to 290 ± 50 BP (Pta-3908) (Fig. 18). Although some of these features contained pottery, they were also associated with other cultural identities *i.e* Kabeljous Industry (see below).

They were found in large clusters or as single features (Figs. 19 & 20) and may represent cooking platforms for shellfish. It may be speculated that the shellfish were cooked or smoked on top of the hot stones to prevent the meat from gathering sand.

Several tidal fish traps were also observed along the coast. The largest complex was situated between Oyster Bay and Thyspunt (Goodwin 1946) (Fig. 21), and is similar to those discussed by Avery (1975) along the Gansbaai/ Cape Agulhas coast in the south-western Cape.

Shell middens with pottery and domesticated fauna and those with pottery only.

Both types of sites usually yielded few stone tools and apart from pottery, contained little other cultural material. The pastoralist middens contained, or were dominated by shellfish species that yielded relatively high meat mass per individual species, for example, *Solen capensis*, *Perna Perna* and *Donax Serra*. 'Ceramic' middens on the other hand, contained high frequencies, or were dominated by shellfish species from the upper balanoid zone, notably *Oxystele* spp. and *P. perna*. Species from the lower balanoid zone were as a rule not well represented. The oldest radiocarbon date for pottery in the south-eastern Cape was 1770 ± 50 BP (Pta-9311), and the oldest date directly associated with sheep and cattle remains was 1560 ± 40 BP (Pta-5982).

Shell middens, without pottery, associated with a quartzite stone industry

For convenience in future discussions this quartzite industry is referred to as the Kabeljous and is probably what Rudner refered to as "A Late Mossel Bay industry (?) with giant cresents" (Rudner 1968:536).This industry contains

Fig. 21. Fish traps between Oyster Bay and Thyspunt.

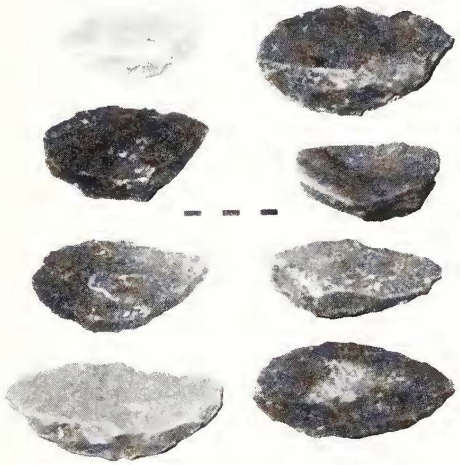

Fig. 22. Large quartzite segments found on shell middens along the Cape St Francis coastal region.

a number of quartzite cobble stone tools, for example, hammer stones, bored stones, grindstones, rubbers, cores, cobble adzes and scrapers, flakes and large segments (Fig. 22). Sites with this industry date from 4700 BP. The large segments seem to be restricted geographicaly. They have only been found along the coast from Klasies River Mouth in the west to the Fish River Mouth in the east, but they may extend further east. They date between approximately 3000 and 1800 years BP. In general, these sites were also dominated by *P. perna* (it is the most abundant shellfish species in the research area) and *Patella* spp. Species of the lower balanoid zone were usually also well represented. The people responsible for this industry are referred to as hunter-collector-fishers (HCF) or Kabeljous groups. These were mobile groups who lived permanently on the coastal foreland.

Shell middens, without pottery, associated with a silcrete or quartz microlithic Wilton Industry.

The people responsible for this Wilton Industry are referred to as hunter-gatherers (HG) or Wilton groups. These were mobile groups presumably from the adjacent

Fig. 23. An example of damaged shell middens in a residential area at Kabeljous River Mouth. Sampled 1982.

Cape Fold Belt mountains (CFB) who visited the coast occasionally. Wilton deposits in caves and open-air shell middens contained high frequencies of quartz or silcrete microlithic stone tools similar to those found in the adjacent mountains. Segments, however, were absent from the open-air middens that also contained silcrete. The open-air silcrete sites date between 5180 BP and 1900 BP. The shellfish species in these sites are similar to those represented at sites of the Kabeljous Industry.

DISCUSSION

This paper introduces and describes the archeological landscape of the Cape St Francis coast and adjacent shifting dune field during the early 1980s. Furthermore, it illustrates how this landscape has changed since then and the effects this had on the archaeology of the area. The initial rescue exercise (for example Fig. 23), and the research which followed, has been a relatively successful venture in terms of data collection. Unfortunately, today there are no archaeological sites left between the Kromme River and the small nature reserve at Cape St Francis Point (Fig. 15). The same is true for the Seal Point area (St Francis Bay Resort) and Tony's Bay is under threat from the possible construction of a nuclear power accelerator. The Thysbaai and Goedgeloof dune areas are slowly being suffocated by invading alien vegetation.

The second part of the paper outlines the research approach followed during the study; how the different archaeological features were categorised, what groups of people were associated with these features and the study areas. A focus of the study was to investigate the shellfish collecting strategies of the different groups (outlined above), living in the open and in caves and rock shelters. Another was to investigate the distribution and age of the quartzite industry labelled in this paper as the Kabeljous Industry. The results of this study and other information from the study will be presented elsewhere (Binneman in prep.).

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