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Archaeological Survey of the Proposed Rosendaal Dam

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Introduction

Participants

The South African Museum was commissioned by the Department for Water Affairs and Forestry to conduct an archaeological survey of the area to be flooded by the proposed Rosendaal Dam. The project was sponsored by the Citrusdal Irrigation Board. Fieldwork was undertaken in collaboration with the Archaeology Contracts Office of the University of Cape Town by A.H. Manhire, G. Anderson and K. Sadr.

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Objective and Method of Survey

The primary objective of the survey was to locate, identify and plot on maps any archaeological or historical sites in the area of the proposed dam. It was anticipated that sites or artifacts from the Early, Middle and Later Stone Age periods could occur in the proposed development area.

The survey consisted of a detailed examination of existing records in the South African Museum and the Contracts Office, University of Cape Town, for archaeological or historical sites. This was followed by a comprehensive survey, on foot, of the proposed dam area. Figure 1 shows the extent of the area and indicates the positions of the sites located.

Background to the Nature and Importance of Archaeological Sites

For the reader's convenience, brief background information on the nature and importance of archaeological sites is provided in Appendix A.

Archaeological Sites Within the Proposed Rosendaal Dam Area

Summary of Survey Results

Ten stone artifact scatters characteristic of the Middle and Early Stone Age were located within the area affected by the proposed Rosendaal Dam. These were documented using standard site recording methods (foot survey) and the site locations are shown on the accompanying map. Of these ten sites, eight were marginal occurrences with extremely low artifact densities. The remaining two were sufficiently dense to warrant further attention. The only buildings of historical interest were located on the west side of the survey area.

Although no rock art sites were located within the area, two sites are known to exist on the high ground to the west of the proposed dam. One of these was discovered during the survey and the other recorded during a previous visit.

The term "Middle Stone Age", as used in this report, refers broadly to the period between 30,000 years and 200,000 years ago. Similarly, "Early Stone Age" refers to material older than 200,000 years.

Results

Stone Artifact Scatters and Historical Structures

Site ROS A

A very diffuse stone artifact scatter on the high ground above the Olifantsrivier. There appeared to be no specific focus for the scatter which consisted of occasional quartzite flakes and blades probably attributable to the Middle Stone Age.

Research potential: low.

No mitigation is necessary.

Site ROS B

This site consisted of a few stone artifacts on the low ground below the proposed dam wall. Similar in nature to ROS A.

Research potential: low.

No mitigation is necessary.

Site ROS C

This site lies in the fields on the western edge of the survey area. A few artifacts were located, mainly quartzite flakes which are probably of Middle Stone Age

origin.

Research potential: low.

No mitigation is necessary.

Site ROS D

A single, roughly-shaped hand axe was located. This is probably attributable to the Early Stone Age and may be part of the nearby ROS E site.

Research potential: low.

No mitigation is necessary.

Site ROS E

This site lies in the fields on the western edge of the survey area. A few artifacts were located including a quartzite chopping tool and a cleaver which are probably of Early Stone Age origin.

Research potential: low.

No mitigation is necessary.

Site ROS F

A few stone artifacts are present on the high ground above the tributary stream joining the main river near the proposed dam wall. Artifacts were mainly quartzite flakes and chunks similar in form to previous sites.

Research potential: low.

No mitigation is necessary.

Site ROS G

A more substantial scatter of Middle Stone Age artifacts situated at the extreme northern tip of the survey area and consisting mainly of quartzite flakes and blades. This differs from the previous sites in having a greater density of artifacts concentrated within a relatively small area.

Research potential: medium.

A detailed sampling programme or surface collection of the artifacts would probably be justified at this site.

Site ROS H

A local concentration of artifacts on the high ground between the Olifantsrivier and the tributary stream leading towards the proposed dam wall. The scatter is positioned on a level terrace and is composed of quartzite flakes, chunks and cores. All the material is highly patinated, fairly crude technologically and is probably Early Stone Age in origin.

Research potential: medium.

Early Stone Age sites are not common in this area and the site should be mapped and systematically collected before any development takes place.

Site ROS I

Ephemeral scatter of stone artifacts including quartzite flakes which are probably Middle Stone Age in origin.

Research potential: low.

No mitigation is necessary.

Site ROS J

A few stone artifacts located in the fields between the road and the river. Similar to previous sites.

Research potential: low.

No mitigation is necessary.

Site ROS K

The most interesting historical structure was the stone walling located close to the road on the western side of the survey area. The walling was constructed from local sandstone and was rectangular in plan form. Similar structures have previously been recorded in the Koue Bokkeveld and are thought to relate to the early colonial period settlement. Pieces of willow-pattern transfer ware ceramics found at the site suggest that it dates to early last century.

Research potential: medium.

The structure should be fully mapped, measured and photographed before any development takes place. Archival research in the deeds office should be carried out to determine the exact age of the settlement.

Site ROS L

A number of buildings of historical interest are situated on the western side of the survey area close to the present-day school. These include the remains of an old house partly composed of mud bricks and a barn made from sandstone blocks.

Research potential: medium.

As with the stone walling described above, the buildings should be fully investigated and recorded before any development takes place.

Rock Art Sites Close to the Rosendaal Dam Area

ROSENDAL 1

A medium sized cave with sloping floor located in kloof above the western part of the survey area. The rock art includes a line of bichrome antelope, eland, hand prints and finger dots. The cave contains an archaeological deposit as well as stone artifacts and pottery.

Research potential: high.

Although the site lies well outside the area to be flooded by the proposed dam the paintings and associated archaeological material are obviously important and should be protected.

ROSENDAL 2

A small site above the cottages on the western part of the survey area. A fairly exposed rock face has paintings of eland as well as ochre crayon lines.

Research potential: medium.

As with the previous site, this should be protected in the event of flooding.

Conclusions

A number of archaeological sites occur within the survey area. All the sites of archaeological interest located within the survey area are either very old or belong to the recent colonial past. The lack of any recent or Later Stone Age sites is probably a reflection of the low-lying terrain and marshy conditions as seen today. These would probably not have been attractive areas to recent hunter-gatherer populations. In the distant past, however, climatic and environmental conditions would have been very different and this would account for the presence of the several Middle and Early Stone Age sites.

The archaeological importance of some of the occurrences (ROS G, ROS H, ROS K and ROS L) is such that they would warrant detailed study should the dam be built.

Recommendations

- 1) Should the proposed dam be constructed, the stone artifact scatters ROS G and ROS H would require a second phase operation (more-detailed archaeological study for which funds would need to be budgeted). Similarly, the historical structures, ROS K and ROS L, would need to be fully investigated and recorded.
- 2) Any change to existing infrastructure (e.g. access roads, provision for quarries, etc.) should also be preceded by an archaeological survey and any mitigatory work that might prove to be necessary.
- 3) A local Management Plan should include protection of the surrounding artifact and rock art sites if public access to the area is contemplated.

Appendix A

The Importance of Archaeological Sites

In the southern African context archaeological evidence provides the only information on the existence and activities of prehistoric indigenous peoples. Archaeological evidence also supplements the scanty documentary information which was recorded by the early explorers, travellers and colonists from 1488 onwards and the effects of colonization on indigenous peoples.

Coastal sites are important as sources of information on some of the earliest contacts between European navigators and the indigenous peoples of South Africa. In addition to sites at which people lived and left remains of their equipment, huts, fireplaces and food debris, human burials are often found in the coastal dunes. Such skeletal remains are important in our ongoing search for a better understanding of the biology and life-styles of the indigenous peoples of the region during the various phases of their socio-cultural development.

Archaeological sites, whatever their nature, together with the artifacts and other information they contain, are a finite and non-renewable cultural resource and are part of our heritage.

All prehistoric archaeological sites as well as certain proclaimed cultural-historical sites and shipwrecks from a designated period are protected by the National Monuments Act, No.28 of 1969 as amended. Archaeological sites preserve only the durable parts of the activities that took place on them. Variable conditions have led to different components being preserved in each. In view of this every site has the potential to make a contribution to knowledge and should be assessed carefully before its destruction can be contemplated.

Archaeological sites are sensitive and, once exposed or subjected to increased human pressure resulting from development, can be rapidly destroyed. Controlled, systematic investigation or preservation of such sites is therefore important if we are now, and others in the future, to obtain a better understanding of how the multi-cultural past of South Africa has contributed to the present and may do so in the future.

We need to preserve archaeological sites. Unfortunately, however, the continued and increasing demand for land developments of various kinds, particularly along the coast, results in the large-scale destruction of such sites.

- There are, however, relatively few archaeologists in South Africa and their research time is limited. Some institutions and individuals undertake archaeological contract work to address this
- The problem is often compounded since forward planning by many developers lacks an archaeological component, thereby placing undue pressure on archaeologists to react swiftly at a late stage
- This problem may be further exacerbated if, as happens in many cases, development commences before archaeologists are advised or consulted. Sites are then destroyed before any meaningful research can be carried out or by intervening archaeologists are accused of disrupting progress.

Early Stone Age (approximately 2 million to 200,000 years ago)

Early Stone Age sites, usually represented only by stone artifacts and debris and very rarely with preserved bone. It should be noted that one of the most important Early Stone Age/fossil bone occurrences in Africa is in Middle to Late Pleistocene sands in the vicinity of Langebaan (Singer & Wymer 1968; Klein 1978). A problem in the study of Early and Middle Stone Age occurrences in particular is the difficulty in distinguishing between human activity and food remains and bones left on a surface by larger carnivores or scavengers, both of which can occur on the same surface over time (Avery 1988).

Middle Stone Age (200,000 to approximately 30,000 years ago)

Middle Stone Age sites are also usually represented only by stone artifacts and debris but are occasionally associated with fossilized shells and animal bones (Mabbutt *et al.* 1955; Klein 1976; Volman 1978). Such sites are most often in the open but they are known to occur in rock shelters in other parts of the province (Schweitzer 1970; Singer & Wymer 1982). Again, it is possible that subsurface sites containing important information may be exposed during construction work.

Later Stone Age (approximately 30,000 to 300 years ago)

Later Stone Age sites are more recent and their state of preservation is often not as poor as with earlier sites. They are generally numerous because they are on or near the surface and therefore tend to be more visible. These may occur in different forms:

Shell Middens. Shell middens are the most obvious archaeological remnants on the coast. Shell middens are heaps of food and artifactual debris left by people (Parkington 1976; Robertshaw 1978, 1979; Schweitzer 1979). Shell middens may vary in size from less than one metre in area to more than 0,5 hectare in extent. Most middens contain bone, stone artifacts and pottery as well as marine shell and are usually the most highly visible sites. Their size and frequency are greatest near the shore, particularly in the vicinity of rocky intertidal zones. When examining shell middens, it is also necessary to consider the surrounding areas in which people lived and conducted everyday activities, including features such as huts and fireplaces. Unless this is done the information that can be obtained from such sites may be biased. Because shell middens are usually associated with beaches or dune fields which are unstable they are often exposed by wind. Where conditions in the past were suitable middens may extend almost continuously over long distances of coastline.

Tidal Fish Traps. Fish traps are artificial tidal pools constructed of boulders in the intertidal zone of rocky shores (Avery 1975). In the recent past some examples were rebuilt and used by local landowners.

Burial Sites. Graves are often found in or near shell middens, but can be expected almost anywhere. They are sometimes marked by a cairn of rocks, though this may only occur where the depth of soil was insufficient for adequate burial.

Grave goods are rare, and it is consequently of great importance to record them and their exact context since they can provide information on aspects of past behaviour which are not otherwise available.

European Contact and Colonial Periods (from AD 1488)

These include shipwrecks, survivors' camps, early and later dwellings and structures relating to colonial lifestyles and expansion and evidence, often in Later Stone Age sites, of contact with indigenous peoples and the effect this had on their lifestyles.

The solution lies in adequate forward planning and consultation with archaeologists to assess localities and to do any archaeological research that proves to be necessary.

Housing and recreational developments introduce increasing numbers of people to an area. This occurs firstly, during the construction stage and secondly, with the arrival of the new inhabitants. Increased population heightens the pressures on archaeological sites over a wider area than that covered by buildings or individual properties. The negative result of construction and mining is obvious. On the other hand some important archaeological sites have been exposed during construction work. Provision should be made for the study of such discoveries, however, or their potential is nullified. Careful forward planning, including the pre-construction involvement of archaeologists, and control during the construction stage can limit the extent of damage to archaeological sites with minimal delay, if any, to private companies.

After completion of the development the potential danger to archaeological sites may still remain and strict management controls may be required over the longer term. Recreational activities such as braais and the increase in the number of people introduce new hazards. In areas such as the West Coast where the natural vegetation is sparse, and where the sand is mobile if exposed, the short-term threat to archaeological sites is greatly increased by uncontrolled movement of people and the effect on vegetation cover of trampling and of veld fires which can result from their presence. Preservation of vegetation cover and provision of controlled access from housing to recreational areas will help to maintain stable dunes and to reduce the danger of wind erosion which rapidly exposes and destroys archaeological sites.

Site Visibility and Predictability of Site Location

Because of their stabilizing effect on the sandy substrate, as well as their humic content and moisture-retentive quality, archaeological sites, and shell middens in particular, are likely to become vegetated. As a result, not all archaeological sites are readily visible to the observer, since the density, height and type of natural vegetation can effectively mask the presence of surface archaeological sites. Drift-sand areas and dune fields often contain sites because sand movement and erosion remove overlying sediments and expose underlying archaeological sites.

Generally, sites are located at a convenient distance from available resources such as food or water or a source of raw material for the manufacture of artifacts. This distance, which can be up to 10 to 12 km or more, is also governed by such factors as the availability of shelter, prevailing wind, aspect or visibility. However, since environments have changed over the millennia, the present-day availability of resources cannot always be used to predict the location of archaeological sites. Exceptions exist, but in the light of what is known about the distributions of sites it can be predicted with reasonable certainty that archaeological sites will occur near outcrops of intertidal rocks, in caves or rock shelters or where rocky outcrops provide shelter and wherever there are Middle and Upper Pleistocene calcretes and ferricretes. These factors should be borne in mind when contemplating development or mining.

Types of Sites and Chronology

The prehistory of southern Africa is conventionally divided into three Stone Age periods: Early, Middle and Later. The Iron Age, which relates to settlement by black agriculturalist peoples in the eastern and central regions, does not occur in the western Cape. Sites relating to these periods can occur in many forms and states of preservation.

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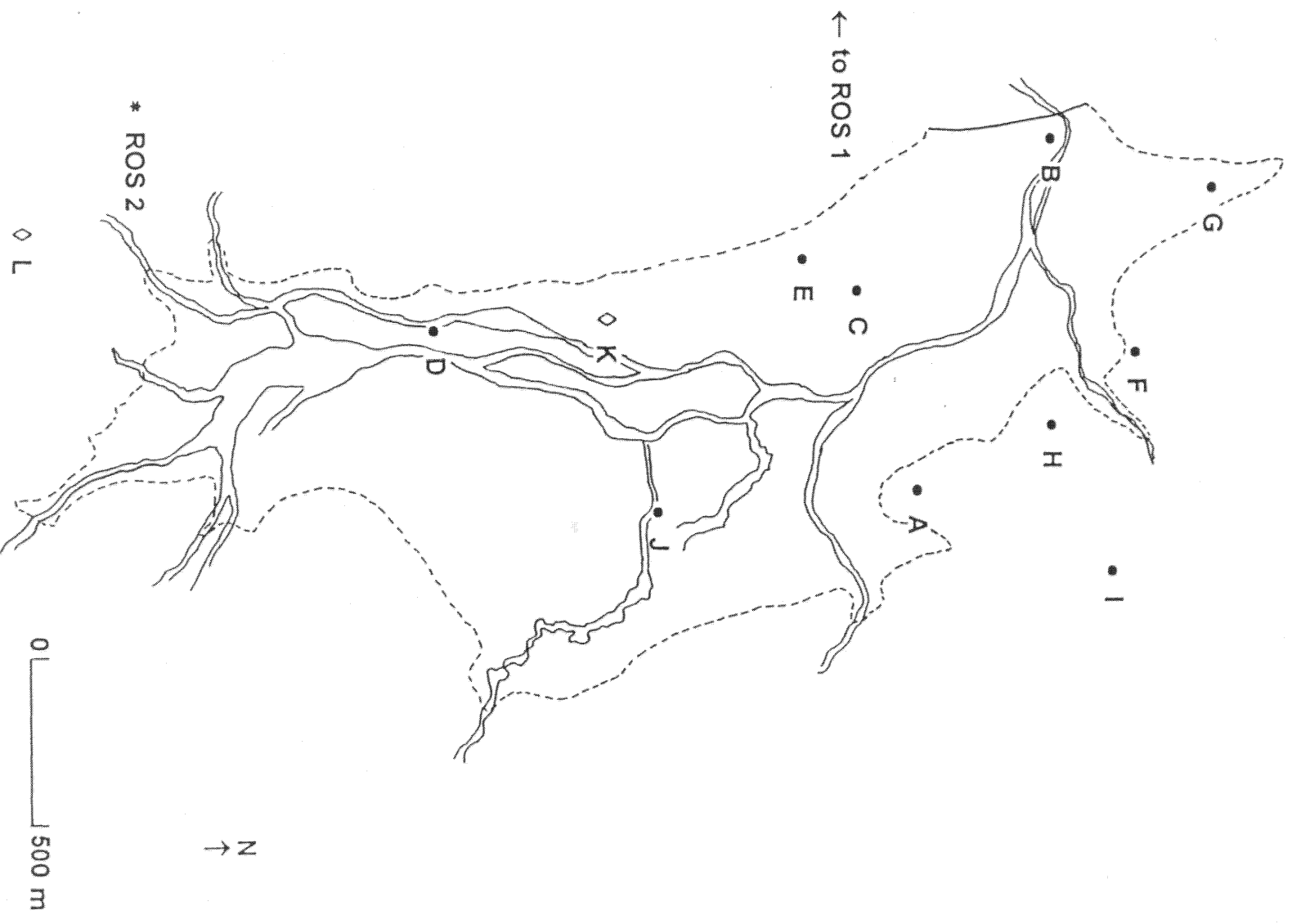


Figure 1.

Distribution of archaeological and historical sites located in the area of the proposed Rosendaal Dam. • Prehistoric Remains; * Rock Art; ◇ Historic Remains; --- Area to be Flooded