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SOUTHLAND COASTAL HERITAGE INVENTORY PROJECT

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Introduction

The Southland Coastal Heritage Inventory Project was initiated with the aims of understanding the threats to Southland's coastal archaeological sites and of putting in place appropriate management policies and actions for the relevant agencies. It is a joint project that has as its partners Environment Southland (ES), the Department of Conservation (DOC), the New Zealand Historic Places Trust (NZHPT), the New Zealand Archaeological Association and the Kaitiaki Runaka of Murihiku through Te Ao Marama. It was initiated in response to the limited information available to allow the partners to undertake their respective functions and responsibilities for the protection and management of archaeological sites within the Southland Coastal Marine Area. The project grew out of a shared concern about the impacts of coastal erosion processes on archaeological sites observed by the authors. The coastal State of the Environment reporting undertaken by ES reinforced the need for the project.

The limitations included imprecise site locations and extents, lack of data about site condition and threats, limited and out of date information about land use, under-recording of historic sites, unsurveyed sections of coast, a consequent high level of under-recording generally and a poor understanding of how Maori used the area. The degree of coastal erosion observed at a number of sites indicated that there was a narrowing window of opportunity to record sites, carry out conservation measures and preserve information.

The land surveyed is of mixed tenure with DOC, ES, local authorities and private owners all having management or ownership roles. Unlike most public archaeological work in New Zealand this project was not carried out in response to a development threat and there was no "user" who could be expected to pay

for it. This meant that special funding was required – and this was provided by DOC, ES, NZAA (as part of the national Site Recording Scheme Upgrade) and NZHPT. The project was carried out by Southern Pacific Archaeological Research, with a large degree of voluntary labour in the field parties. Survey included all sites within the area of coastal influence – this meant that tidal estuaries were included, along with large sand dune complexes. A final report on survey was completed in April 2008 (Brooks, et al. 2008), and is to be made available on the web sites of the partners in the near future.

Method

Through a review of existing records, excluding find spots and burials, a total of 274 recorded sites were identified as being in the coastal marine area and to be included in the survey work. The survey encompassed the area of administration of Environment Southland, but excluded Fiordland National Park, beginning at Waiparau Head in the east and ending at the mouth of the Rowallan Burn in the west – a coastline of around 400 kilometres (Figure 1). Over a two year period as much of the coast as possible was walked with the aims of revisiting previously recorded sites and searching for and recording new ones. The only areas not searched were steep and rough sections where sites were unlikely to be found in any case. Teams of two people carried out the survey, with each team including at least one experienced archaeologist. Participation of tangata whenua representatives was encouraged, and many non-heritage staff from each of the partner agencies were also involved.

As well as addressing the information limitations listed above, the survey had a number of additional objectives, as follows:

- to identify high value sites for increased statutory protection;
- to identify sites under extreme threat and requiring protective/remedial work and/or rescue excavation;
- to update and add new records to the NZAA Site Recording Scheme;
- to establish baseline condition records of sites to enable long term monitoring to be carried out;
- to identify threats and causes of previous damage; and
- to improve awareness and understanding of archaeological heritage.

To facilitate monitoring of erosion rates, aluminium rods 8 mm in diameter were placed in the ground to provide datum points. These can be relocated in the future using GPS and a metal detector. Where sites were not able to be relocated information was recorded about the extent of searching and the survey conditions so it was possible to determine if the site should be searched for again. Information was captured on field recording forms designed to ensure none of

the required data was overlooked during a site visit. The forms were based on those used by DOC for the Auckland Islands expedition of 2003 (Dingwall, et al. 2009), with improvements and modifications to fit the specific requirements of the project. The condition, threat and management fields used ideas from work done by the Auckland Regional Council using a "pressure, state, response" model (Mackintosh 2001). Field data was entered into an electronic database for analysis and storage. Drawings, maps and plans were scanned, and stored on CD-ROM, along with digital photographs.

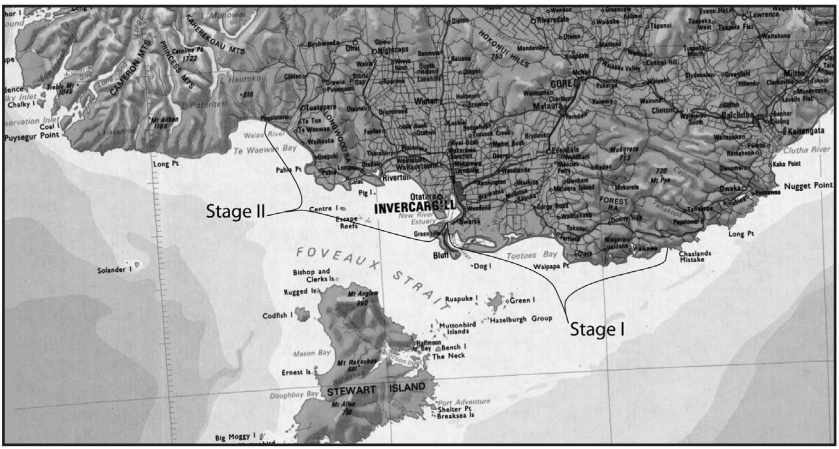

Figure 1. Study area showing coastal strip surveyed.

Results

Out of the 274 sites which were searched for fewer than half (118) could be found. A total of 109 sites not previously recorded were found. Of those sites assessed during the project 48% were newly discovered.

No. of sites	
Number of previously recorded sites	322
Number of recorded sites eliminated from project	48
Number of sites searched for	274
Number of sites searched for and found	118
Number of sites searched for but not found	155
Number of new sites found	109
Total number of sites assessed including new sites	227

Table 1. Numbers of sites searched for and assessed during survey.

Condition

Only 23% of sites were assessed as being in good condition, and only 14.5% were assessed to be largely complete with no loss or modification. Of the sites where the rate of deterioration could be estimated (i.e. where there was sufficient information from previous recording) only 9.6% were considered to be in a stable state. Out of the 229 sites visited a total of 61 were recorded as being affected by coastal erosion. A range of other impacts, such as vegetation, animals (especially pugging by cattle), land use and visitors were also recorded as affecting a large number of sites.

Recommendations

The Southland Coastal Heritage Inventory Project has clearly identified and improved understanding of a number of issues facing archaeological sites in the coastal marine environment in Southland. It has also resulted in recommendations for further work. The project partners are continuing to work together to implement these. Funding has been provided by the partners to begin that work in the current financial year, and a key task is to complete a strategy document to prioritise the recommended work. This will be used to seek ongoing funding and to guide the work programme itself.

Emergency salvage and investigation work

Nineteen sites were identified through the field work as being of high value and under extreme threat, with a recommendation for some kind of emergency salvage work. The highest priority site, G47/128, was the focus of University of Otago archaeological field school excavations in February 2009 (Figure 2). In November 2009 staff from DOC and Te Ao Marama, along with tangata whenua representatives, visited the second highest priority site, G47/8, a site in Waikawa Harbour with evidence of moa hunting (Figure 3). University of Otago students and SPAR staff made a detailed map of the site and carried

out an augering programme to determine its extent. This will inform a sensible management approach to the site. In December 2009 the partners will revisit the remaining seventeen sites to evaluate relative priorities and finalise action plans.

Figure 2. Field school excavations underway at the Kahukura site (G47/128) in February 2009.

Ongoing monitoring

The need for ongoing monitoring of sites was always anticipated as this will be the only way to understand change in condition over time. Each site was assessed in terms of the appropriate frequency of monitoring visits; yearly, five-yearly or ten-yearly. Local iwi representatives are keen to take part in or lead monitoring in their respective areas. Te Runanga o Ngai Tahu has provided funding for Te Ao Marama to support monitoring of sites by local iwi. Monitoring programmes for some sections of coast will be implemented in 2009/10 in partnership with local iwi representatives. Over time it is hoped to have monitoring along the whole study area on the same basis. The monitoring methodology will include protocols for responding to discoveries of koiwi

tangata, artefacts or new sites, and also to instances where erosion accelerates or new impacts are observed.

Figure 3. Deflated oven on beach at Waikawa Harbour site G47/8.

Other work

A range of other management tasks are recommended by the project report, and will be considered in developing the strategy document. Improved legal protection was recommended for 91 sites, and there is a need to prioritise these as well as determine the protection mechanisms most suited to each situation. Remedial conservation work or physical protection was recommended for 23 sites, and improved stock management for 10 sites. In some instances this may only require improved fencing, or a change to stocking regimes where leased crown land is involved, and can be implemented as part of usual land management processes. In other cases more extensive conservation work may be required. Research was recommended for some sites, either to determine what

they actually are in the case of some historical sites, or to assess their research potential. This research will also be prioritised by the strategy document.

Discussion

The absence of suitable baseline data on the condition or precise location of archaeological sites in the study area prior to the current project makes it impossible to reliably assess the effects of the various impacts at the present time. For example, the rate of erosion observed through the project may not be new, but rather the continuation of a long term process. It is possible that for every site that is being eroded by the sea there is another site that is being protected by a new deposit of windblown sand. Whatever the reason, however, the results suggest that the balance of effects overall is tending strongly towards a net loss of sites. Well under half of the sites searched for were found and, although 109 new sites were found, 37% of these were historic. The 155 lost sites, most of which were Maori sites because of research interests during the period of most past recording, were balanced by the discovery of only 65 new Maori sites. This is in spite of the fact that the whole habitable coastline was systematically surveyed during this project. Coastal erosion effects are directly implicated in the loss of 61 of the sites that could not be found. As to the question of whether coastal erosion of archaeological sites is increasing over time, that will have to await the results of the recommended monitoring programme.

A very important outcome of the project is that the partnership has strengthened relationships between key groups with a concern or mandate for heritage in the region, and this will serve as a good platform for further cooperative heritage protection and management work. This will be a key to success over the coming years as the recommendations that arose from the project are put into action.

Conclusions

The Southland Coastal Heritage Inventory Project has gone a considerable way towards addressing the information shortcomings outlined at the beginning of this paper. It has also provided a model for possible application elsewhere. Although it is not yet possible to determine whether any of the factors that damage coastal archaeological sites are increasing in intensity, it is clear that sites are being lost at an alarming rate. Changing land use – especially coastal subdivision and dairy conversions – and acceleration of natural processes will lead to further site loss.

It seems unlikely that the coastal processes observed to be impacting archaeological sites are unique to Southland. The degree to which they are

affecting sites in other parts of New Zealand may not be as high; however, even if the statistics from the Southland case study were applied in a conservative way across the whole country the scale and rate of loss would be of great concern.

It is an unfortunate paradox that, although some of the most important sites in Southland (and probably the rest of New Zealand) are situated in the Coastal Marine Area – the very area that will come under greatest threat from ongoing sea level rise (some 125 mm averaged for New Zealand between 1900 and 2000) – there is often no direct threat that would lead to a salvage excavation. Similarly it is often difficult to identify an obvious "user" who should pay for such work. It is only through projects like the one described here that we can at least begin to quantify the problem.

It is not clear if the coastal erosion processes observed are something new or a continuation of a long term natural pattern. Equally the underlying causes of the coastal processes are not clear, and are undoubtedly complex. It has recently been suggested that climate change induced sea level rise will destroy a significant part of New Zealand's archaeological heritage over the next half century or so (Campbell and McGovern-Wilson, 2009.). What is clear from the Southland Coastal Heritage Inventory Project is that the loss is already occurring and that waiting for even a few years is not an option if important information is not to be lost forever.

Acknowledgements

The authors acknowledge the central role of the partners to the Southland Coastal Heritage Inventory Project: Environment Southland, Department of Conservation, New Zealand Historic Places Trust, New Zealand Archaeological Association and the Kaitiaki Runaka of Murihiku through Te Ao Marama. They also acknowledge the assistance of the many people who volunteered their time to assist with this project.

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