explored. While Barker's (1996) model of greater marine specialisation in the late Holocene remains relevant, the correlation between declining discard rates of stone artefacts and sea level change could also be significant to modelling changing technologies and stone artefact distribution over space and time in the Whitsunday region.

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A WEB SITE FOR THE BOWEN BASIN ABORIGINAL CULTURAL HERITAGE PROJECT: TOWARDS A STRATEGIC REGIONAL APPROACH TO RESEARCH AND MANAGEMENT

Scott L'Oste-Brown
School of Human and Environmental Studies, University of New England, Armidale, NSW 2351, Australia

Luke Godwin
Central Queensland Cultural Heritage Management, 16 Moren St, North Rockhampton, Qld 4701, Australia

The Bowen Basin Aboriginal Cultural Heritage Project is a multi-disciplinary and integrated approach to regional cultural heritage management in the Bowen Basin, Central Queensland. Although initiated in 1995 (as Stage 1, see L'Oste-Brown et al. 1998a), the current stage (Stage 2, see Godwin et al. 1999) commenced in mid-1998 and was funded for three years under the Australian Research Council and Department of Employment, Education, Training and Youth Affairs' SPIRIT collaborative grants scheme. The project is being undertaken by the School of Human and Environmental Studies at the University of New England and is a joint initiative of industry, Aboriginal groups, educational institutions and Government.

One component of the Project has been the development of a web site. It is important to note that this site is not a simple narrative of the stages and outcomes of the project in an alternative publishing format. Instead, what we have sought to do is provide a facility that offers a range of resources and tools that can be rapidly refined, enhanced or removed as circumstances dictate. As it currently stands (and it should be noted that the site is constantly being revised and enhanced), the web site has four broad areas posted. By way of introduction to the resulting web site these areas are briefly outlined in the following sections.

Cultural Heritage and Native Title Mapping Tools
The Bowen Basin Project has developed a comprehensive Geographic Information System (GIS) containing information on several thousand places that contain Aboriginal cultural heritage values (L'Oste-Brown et al. 1998a, 1998b). This was originally designed with three main objectives in mind: to be a powerful proactive analytical and educational tool that could facilitate informed and responsible management of the Aboriginal cultural heritage of the Basin; to facilitate the effective integration of Aboriginal cultural heritage within broader land management planning at the regional level; and to be provided to Aboriginal groups to use in their own land management planning for country. At face value at least the establishment and initial use of the system was successful in making the achievement of these objectives a viable proposition.

The existence of such a powerful tool containing such a diverse and extensive range of information about Aboriginal cultural heritage places and values from across a vast region has however, also seen the emergence of a complex range of issues. It was clear that these needed to be addressed and resolutions found before the system could be used for the purposes for which it was created. In the early days these issues primarily revolved around security and confidentiality of the information within the system and flowing from that, control, maintenance, dissemination, access and format of both the cultural information housed within the system and of the system itself.

As time went on however, a range of more subtle and complex issues arose which derived from but were linked to these initial concerns and were also directly related to the rising appreciation and understanding of the implications of Native Title and Native Title processes for Aboriginal cultural heritage information. These included: concerns of possible disempowerment through the existence of such regional planning tools; legal implications deriving from the existence of databases containing Aboriginal cultural heritage information; and the very nature of information itself (L'Oste-Brown et al. 2001 for further discussion of these issues).

After extensive discussions examining a range of possible solutions extending over a period of almost two years
principally with the Aboriginal groups involved in the project, two prototype interactive real-time web-based mapping applications were developed as one aspect of a multi-strand approach. It was from the production, demonstration and discussion of these tools that the web site as it stands today evolved.

As currently posted, these two interactive mapping tools are simple point and click applications that allow the user only three basic functions - zoom in and zoom out in order to navigate around the Basin and to undertake a simple query over an area determined by the user. The first tool allows for queries of currently known places containing Aboriginal cultural heritage values while the second provides the user with information on currently registered Native Title Claims and access to relevant contact details of representatives for these claims. Query results are presented as generic summaries located on the map, re-drawn to show the search area. The map and summary can then be printed for future reference. It should be noted that at no time is any raw data (dots on maps, boundaries, etc) presented on the maps.

The availability of these two mapping tools allows for the accomplishment of two basic but fundamental tasks. Firstly, it alerts the user (developers, planners, researchers, etc) of the scope, nature, presence or otherwise of currently known places containing cultural heritage values in any particular area of the Basin at the earliest stages of a planning process. Secondly and most importantly, it provides information on the appropriate Aboriginal people they will need to make contact with to initiate consultation and negotiation.

Protocols and Agreements

One of the major aims of Stage 2 of the Bowen Basin Project has been to formally structure processes associated with various elements of pure and applied research relating to Aboriginal cultural heritage, its investigation and management, in the region. This has been collaboratively undertaken in an applied sphere with Aboriginal groups involved in cultural heritage research and management projects as they were working through the complex raft of issues with researchers and development proponents. This has also directly led to the development of proactive consultation, consultation and engagement protocol documentation that can be provided by Aboriginal groups to precede their involvement in any research or management program.

A major impetus in this regard has, of course, been developments in Native Title, their influence on the conduct of Aboriginal cultural heritage investigations and the implications of these for those asserting Native Title. For instance, the need to consider the implications of Section 39 of the Native Title (Amendments) Act, 1998 and arbitrated resolutions in the context of Section 29 notifications makes vital the formal process and suitably broad definitions of Cultural Heritage. Similarly, proposed changes to Queensland’s Aboriginal cultural heritage legislation (Department of the Premier and Cabinet 1999), and the strict timelines that are likely to adhere in striking agreements between the principals (development proponents and Aboriginal groups), also seem to demand that some general structure and conditions be set as tools that are available to both parties to assist them in developing timely agreements.

These web pages contain information on and access to, a variety of the protocols and agreements as developed, implemented and refined throughout the Bowen Basin Project. The very fact that the material presented here has been developed in the context of actual development and research programs has meant that they have already benefited from the consideration and comment of a broad range of interest groups, notably legal practitioners, with an interest in such matters. Moreover, the investigation and management structures developed have also been tested in the context of legal proceedings.

The documents attached in this section of the web site are presented very much as generic statements intended to spark consideration about a range of issues and as such are available for download and modification. In making these available, it has not been the intention to advocate a ‘cookbook’ approach. While people should feel free to borrow any wording that seems useful, it should not be lost that such documentation is much about setting some general structure and direction for negotiations between the principles to such agreements. Our real intention is to provoke thought on what we have seen as key issues within structured processes that have worked well on the ground in Central Queensland.

Bowen Basin Collection

Over a period of some 130 years much has been recorded about the Aboriginal groups of the Central Queensland region – principally by Government and its various instrumentalities. While some of this (commonly of a limited and recent nature) is held within the region by these agencies, by far the majority is still centrally held in Brisbane or in some cases, in centres even further afield such as Canberra, Sydney and Adelaide. This has provided one of the major hurdles facing Aboriginal groups trying to locate and obtain information on individuals, their families and their cultural heritage as recorded by others. The disparate nature of these sources has also made it difficult

| Central Queensland Aboriginal Trackers (1929-1934) | Tindale Cherbourg Notebook (Group Listings) |
| Central Queensland Collections in Overseas Museums | Tindale Palm Island Notebook (Family Listings) |
| Death Register Extract (1911-1926) | Tindale Palm Island Notebook (Group Listings) |
| John Oxley Library Photograph Collection (CQ) | Tindale Woorabinda Notebook (Group Listings) |
| Queensland Museum Skeletal Collection (CQ) | Tindale Master (Family Listings) |
| Queensland Museum Material Culture Collection (CQ) | Tindale Master (Group Listings) |
| Removals List Extract (1900-1970) | Tindale Photograph Collection (Qld) |
| Tindale Cherbourg Notebook (Family Listings) | Woorabinda Marriage Register |

Table 1  A selection of relation cultural heritage databases created for inclusion within the Bowen Basin Collection and for which further information is provided on the Project's web site.
more generally to gain an appreciation of what information is in existence, its location and how to obtain it.

The creation of the Bowen Basin Collection originated as a response to this. Information within the collection largely (but not solely) derives from material amassed throughout the nearly seven year course of the Bowen Basin Project. As the Collection took shape, major gaps in the information held and the incomplete nature of others were identified. Where possible and practical we have sought to address these gaps. More recently significant portions of the information held have derived from the private collections of individuals and families (Aboriginal and European) from throughout the region. While much of the information within the Collection comes from archives, libraries and the like, it also contains a great array and volume of primary information collected as part of the Bowen Basin Project.

All information that forms the Collection has been systematically organised, in some instances collated/synthesised and turned into relational databases (Table I) and is held in a single place within the region for access and use by a range of researchers. Protocols and procedures governing access to and use of the collection are in the final stages of development and implementation.

Listings of information and databases held within the collection are available on the web site in four main categories: Archival Information; Cultural Heritage Databases; Oral History Tapes and the Photographic Collection. These listings are primarily provided to alert people to the range of information held within the region that is available for review and research and to provide 'metadata' regarding the creation, structure, contents, and access status of various elements of the collection.

Project Research Areas, Progress Snapshots and Papers and Publications

These areas of the web site provide snapshots of the variety of research areas pursued within Stage 2 of the Bowen Basin Project that have underpinned many of the above specific developments. This includes aspects of the Project’s fieldwork program, training and capacity-building aspects of the Project, and student research projects that have been undertaken. Details on a number of specific sub-projects such as community-based land management and GIS workshops, Gangulu traditional associations with the Dawson and Callide valleys and virtual cultural tourism as a cultural heritage management strategy are also provided on these pages.

Also available for review are summaries of the various publications and papers that have derived from the Bowen Basin Project. This includes unpublished conference and workshop papers and in the case of the Project’s GIS and movement to web-based mapping applications, project discussion papers as further background to these areas of the web site. Where appropriate, full versions of these have also been provided for further inspection or download.

Where?
The Bowen Basin web site can be found at www.bowenbasin.com

References


NEW ABOX AMS-14C AGES REMOVE DATING ANOMALIES AT PURITJARRA ROCK SHELTER

M.A. Smith
Research and Development section, National Museum of Australia, Canberra, ACT 2601, Australia.

M.I. Bird
Research School of Earth Sciences, Australian National University, Canberra, ACT 0200, Australia.

C.S.M. Turney
Centre for Quaternary Research, Geography Department, Royal Holloway, University of London, Egham, Surrey TW20 0EX, United Kingdom.

L.K. Fifield, G.M. Santos, P.A. Hausladen and M.L. di Tada
Research School of Physical Sciences and Engineering, Australian National University, Canberra, ACT 0200, Australia

A robust site chronology generally requires a large series of age determinations, preferably using a range of dating methods and with sufficient dated samples to allow internal corroboration of the age of individual layers. One of the handful of Australian archaeological sites to meet these criteria is Puritjarra rock shelter in central Australia. The chronology for this site rests on a published series of 31 radiocarbon assays on charcoal and nine luminescence dates on sediments (Smith et al 1997) together with ten radiocarbon dates that have become available subsequently.

The history of research at this site highlights the potential weakness of site chronologies that rely on only a handful of radiocarbon determinations to establish the age of late Pleistocene units. Extensive work on the chronology of Puritjarra since the preliminary reports (Smith 1987, 1989) has shown that levels initially dated to 22,000 BP are in fact much older: –27,000-32,000 BP (14C) or 35,000 years ago (TL). By the early 1990s the age-depth relationship at this site was better understood and the overall trend of the radiocarbon series was