VIRTUSHERITAGE

NEWSLETTER ISSUE 2

Editorial 2

Projects 3

Byron Bay Bypass, Historical Heritage 3

Armidale to Koolkhan and Kempsey Transmission Lines 4

Aboriginal Shell Midden Salvage, The Entrance Bridge 4

Papua New Guinea War Graves GPR 5

Yarrabilba Balance Lands, Artefact Analysis 6

Community 7

Ethno-history and GPR, Mapoon 7

Ethno-history and GPR, Fingal Head Cemetery 9

Services 11

Australian Heritage Strategy 12

Noticeboard 14

Feature: What Lies Beneath? 15

VIRTUSHERITAGE
http://www.virtusheritage.com.au/
PO Box 101 Pottsville NSW 2489
Email: virtusheritage@gmail.com
Phone/fax: (02) 6676 4354
Like us on Facebook at https://www.facebook.com/virtusheritagensw

Editorial

Welcome to the second issue of our newsletter, our biannual forum to communicate with our clients, community members, agencies and other technical partners and collaborators on our projects. In this issue, we provide a review of the recently announced Australian Heritage Strategy and some insight and solutions to the difficulties of assessing floodplains and disturbed landforms with poor ground surface visibility for archaeological potential within the cultural heritage legislative context in both Queensland and New South Wales.

Our capabilities in meshing history, community consultation and archaeology with ground-penetrating radar investigations have developed with several projects completed in Australia and overseas. The results of Stage 3 of the Unmarked Graves and Cemeteries Project, Mapoon, Queensland and the investigation of two World War II Cemeteries in Papua New Guinea for the Office of Australian War Graves (our first international project!) are featured in this edition.

We continued our commitment to community projects in this edition, contributing to the community within which we reside and operate as a business, with our voluntary archaeological and ground-penetrating radar investigation of the Fingal Head Cemetery, Fingal Head, NSW. We are continuing to assist the Tweed-Byron Local Aboriginal Land Council to obtain funding for future investigations.

In addition, we also outline some of our recently completed projects over the last six months ranging from historical heritage assessments to artefact analysis of an Aboriginal rock shelter in the Gold Coast hinterland.

We were privileged over the last six months to undertake diverse projects that have provided some new challenges and in some cases, significant scientific and historical research results, which we are now writing up for publication in the coming months.

We hope you enjoy reading this issue and welcome your feedback.

Mary-Jean

Projects

Railway Water Tower, in SHR Byron Bay Railway Station Precinct

Byron Bay Bypass - Historical Heritage Assessment

GHD and Byron Shire Council

Byron Shire Council is proposing to construct a town centre bypass in Byron Bay. The bypass consists of the upgrade of Butler Street, construction of a new road within the Butler Street road reserve to the south of the existing Butler Street, a new level rail crossing, a new section of road from the rail crossing to Jonson Street, two new roundabouts and upgrade of the existing Shirley Street, Lawson Street and Butler Street roundabout.

GHD was engaged to prepare the concept design and an environmental impact statement (EIS) for the proposed bypass. Virtus Heritage has had the opportunity to prepare a Historical Heritage Assessment, including a Heritage Impact Statement, as part of the EIS.

Byron Bay Police Station and Courthouse Precinct

Norfolk Pines, Police Station and Courthouse Precinct

The assessment identified and assessed the known and potential historical heritage values of the project impact area and the potential impacts of the bypass on these values. Historical research, searches of the relevant heritage databases, and a site inspection identified a number of historical items within and adjacent to the project area; including the Byron Bay Railway Station Precinct; the Byron Bay Police Station and Courthouse (and Norfolk Pines); the Burns Street (residential) Precinct; and the Former Norco Butter Factory.

Mitigation measures and management recommendations included an exemption application for proposed works in the Byron Bay Railway Station Precinct, archival recording of a potentially impacted Norfolk Pine, vibration monitoring, dilapidation and condition reports, and surveys of several adjacent heritage items and structures.

Due Diligence Assessment of two 132kV Transmission lines, Armidale to Koolkhan and Kempsey, NSW

TransGrid

In August 2015, Virtus Heritage was selected as member of the TransGrid Heritage Panel and in August and September undertook Due Diligence Assessments of two of TransGrid's 132kV transmission lines for the purpose of remediation works at selected low spans. These lines run from Armidale to Koolkhan and Armidale to Kempsey, through some magnificent country and close to several national parks and reserves including Oxley Wild Rivers National Park. Searches of local, State and national heritage databases indicated that there were a number of heritage sites that are located in the vicinity of the transmission lines, but not directly impacted. Several of areas with potential for archaeological deposits were identified in addition to a number of previously unrecorded Aboriginal archaeological sites. These sites mainly consisted of artefact scatters with silcrete, chert and quartz flakes and retouched flakes. We have provided management recommendations to protect these sites in collaboration with the local Aboriginal communities and TransGrid. TransGrid through proactive environmental planning have redesigned some proposed works areas to avoid Aboriginal and historical archaeological sites and areas of Potential Archaeological Deposit.

Aboriginal artefact scatter eroding from access track under transmission line

Salvage of Aboriginal Shell Midden, The Entrance Bridge, The Entrance NSW

Roads and Maritime Services, NSW

Since 2013, Virtus Heritage has been engaged by Roads and Maritime Services, NSW to prepare Aboriginal cultural heritage assessment and approvals for the surface collection and salvage of a shell midden beneath The Entrance Bridge. These approvals allowed Mary-Jean and members of the Darkinjung Local Aboriginal Land Council, Guringai Tribal Link and Kevin Duncan's stakeholder group to collect Aboriginal objects eroding out of the shell midden prior to the laying of geotextile to protect the midden before and after concrete replacement works to repair the bridge. The project has included two surface collections in June 2015 and September 2015, with 19 Aboriginal stone artefacts collected to date. The midden was identified partially intact underneath the existing bridge at The Entrance and is actively eroding by tides. This midden is extremely rare as it is has survived European settlement, the increased siltation of Tuggerah Lake and The Entrance and impacts of commercial, tourist and recreational development, partially due to the original bridge construction sealing part of the midden's deposits. The midden site contains several species of shell with charcoal, fish and mammal bones mixed in with stone artefacts. This site has further potential sub-surface archaeological deposit with research potential. No other known midden sites are recorded within close proximity to this site. However, it is likely that before European settlement and heavy development on the shorelines of The Entrance, as noted in Vinnicombe[1] that great numbers of oyster shell middens were present. These destroyed sites may have been connected to this surviving site.

The Entrance Bridge

Stone artefacts salvaged from the site including objects made of quartzite, basalt, weathered mudstone and tuff and included flakes, cores, broken flakes, retouched flakes and manuports. Reburial of the stone artefacts salvaged from The Entrance Midden will be undertaken in early 2016.

[1] Vinnicombe 1980

Lae War Cemetery, Papaua New Guinea

Ground Penetrating Radar Investigations of Commonwealth War Graves in Papua New Guinea

Department of Veterans' Affairs

In November, Virtus Heritage had the privilege of participating in Ground Penetrating Radar (GPR) investigations at two Commonwealth War Graves Commission War Cemeteries in Papua New Guinea; Port Moresby (Bomana) War Cemetery and the Lae War Cemetery. This project was commissioned by the Office of Australian War Graves who is responsible for managing and maintaining these sites, along with another in Papua New Guinea and 72 in Australia. The purpose of the investigations was to test the feasibility of using GPR as a method of identifying burials in PNG and to identify the exact location of graves and their relationship to surface headstones within the cemeteries. The results would then be used to assist in the horticultural and structural maintenance of the sites.

The Bomana War Cemetery was established in 1942 and is the largest War Cemetery in the Pacific Region, with nearly 4000 graves, nearly one fifth of which commemorate unidentified individuals. In many ways this site captures, through those burials, the history of the Papuan campaign of 1942 and later campaigns such as Bougainville in 1945. The Cemetery is the final resting place of servicemen originally buried in other war cemeteries such as Milne Bay, Brigade Hill, Soputa, Torokina, and Kokoda war cemeteries among others. There are also a number of burials for Papuan soldiers. The cemetery includes two Victoria Cross recipients; the grave of one was incorporated in the survey.

The Lae War Cemetery was established in 1944 and contains more than 2,819 burials including more than 400 Indian soldiers who were taken prisoner and brought to PNG by the Japanese. The cemetery also contains 442 graves of unknown soldiers and at least one WWI reinternment. This site differs from Port Moresby (Bomana) War Cemetery in that it provides pedestal and plaque for headstones rather than the striking white marble headstones visited by so many Australians.

Our field survey was highly successful and demonstrated how useful the GPR method is in the context of tropical sediments found in Papua New Guinea. We were able to identify individual burials and provide advice as to their exact location in relation to associated headstones. We were also able to show that different burial methods were used throughout the sites, including the use of full coffins (found in Bomana) as well as smaller containers and wraps (found in Lae), as well as being able to identifying the state of preservation of some of these caskets (collapsed or intact). The GPR method also allowed us to identify other types of sub-surface disturbances, old utilities and changes in stratigraphy at the sites. All of this data was used to provide spatial information and map the exact locations of graves in relation to associated headstones and their location in the cemeteries.

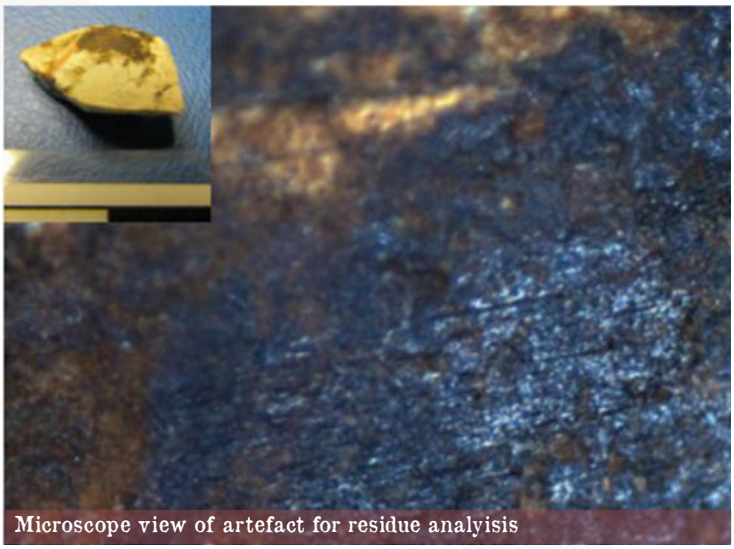
Data collection at Bomana War Cemetery

It was a great privilege to be involved in what is an important project, which will assist the perpetual commemoration of those that have served and paid the ultimate sacrifice; we would like to acknowledge these servicemen and their families.

Yarrabilba Balance Lands – Artefact Analysis Report

Jabree Limited and Lend Lease

Virtus Heritage was engaged by Aboriginal Cultural Heritage Body, Jabree Limited, on behalf of Lend Lease to undertake basic and detailed artefact analysis and some residue analysis of an Aboriginal cultural heritage stone tool assemblage from the Yarrabiliba Urban Development Area, Yarrabilba, Queensland (from within a rock shelter site complex located on a sandstone ridge). The analysis informed on the type of activities being undertaken within the rock shelter. These activities included knapping, blade production, and retouching of artefacts. The analysis also indicated that Aboriginal people were utilising local resources for stone tool manufacture with a preference for silcrete and quartzite raw materials, which indicates a possible local source of these materials close to the rock shelter.



Microscope view of artefact for residue analysis

The analysis indicated that the rock shelter was a location of return or continued Aboriginal occupation over a long period of time. Residue analysis on a select number of artefacts within the assemblage, identified resins and ochres possibly associated with the hafting of stone tools, and the cutting and wood working of resinous woods.

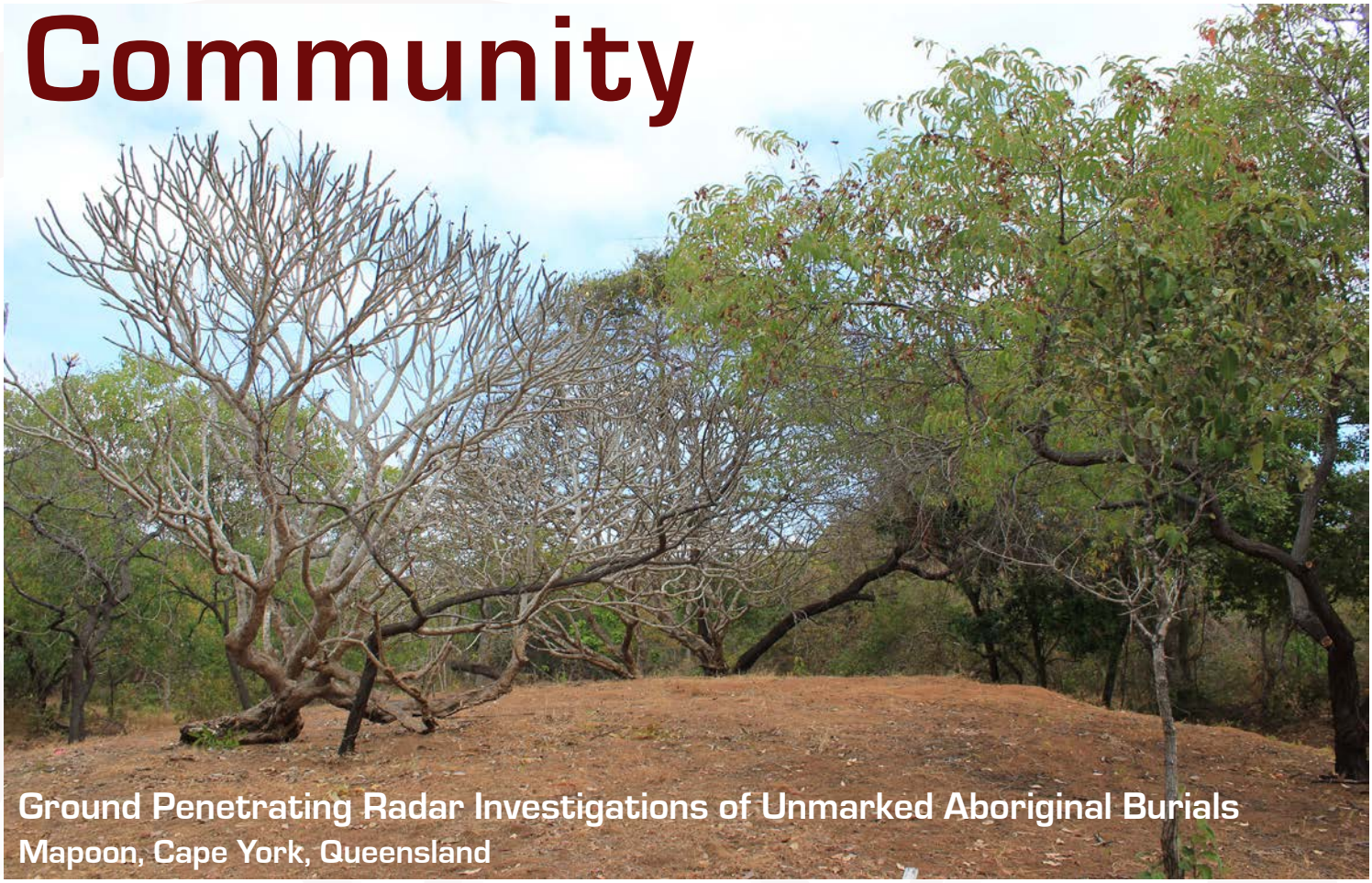
Disturbance from European previous land use history was also notable within the assemblage of Areas and Test Pits analysed. It is unclear the impact of this disturbance on the artefact assemblage over time contained within these deposits. It is unclear if the artefact assemblage analysed is biased by this previous land use history and perhaps only a much lower indicator of the extent and use of Aboriginal occupation within the Areas and Test Pits analysed over time. Further, artefact analysis and archaeological research would need to be undertaken to get a deeper understanding of Aboriginal occupation at these sites.

A selection of artefacts from Yarrabilba

Further detailed research into the archaeology of the local Yarrabilba area and region, the locality of Mt Tambourine, and the locality surrounding the Albert River and Logan River catchments and for possible stone artefact sources/quarries is required for further interpretation to be made in order for the lithic analysis of this study to be compared to other known assemblages and sites.

Further research could also include a greater understanding of the geology, hydrology, geomorphology, and flora and fauna resources within the locality and region to further assist in understanding potential raw material, and other resource sources. This may help in understanding trade networks and distribution patterns within this important cultural landscape.

Community



Ground Penetrating Radar Investigations of Unmarked Aboriginal Burials
Mapoon, Cape York, Queensland

Mapoon Aboriginal Shire Council and the Western Cape Communities Co-Existence Agreement – Northern Sub-Regional Trust

In August 2015, the Virtus Heritage archaeological team with Professor Lawrence B. Conyers (University of Denver) undertook a Ground Penetrating Radar (GPR) project at Mapoon, Cape York. The field work focussed on the unmarked graves of Mapoon Elders' family members, located near former homes and camps and was part of a larger project of ethnographic and archaeological investigations into the unmarked graves and cemeteries within Mapoon, in collaboration with Mapoon Aboriginal Shire Council (MASC), as well as Mapoon Rangers, Elders and families.

It has been a long term aspiration of Elders and Mapoon Aboriginal Shire Council to identify and protect the unmarked graves of family members. In 2010, these graves were visited by Mary-Jean with Mapoon Elders during her PhD research documenting the cultural history and values of the mission time. Later in 2010 Mary-Jean assisted Prof Lawrence B. Conyers in spot checking locations using GPR. As GPR is a non-invasive method for locating unmarked burials, it is considered culturally appropriate by Elders. The initial 2010 results indicated a far greater number of burials than expected in remembered locations, and further funding was sought to identify the extent of unmarked graves in these areas. Mapoon Aboriginal Shire Council successfully obtained funding from WCCCA for a third stage of GPR and ethnographic research, which was undertaken in 2015.

Julian sets up a grid for GPR at Shadforth-Luff's grave

Uncle William Busch and Cultural Heritage Rangers, Jason Jia and Dianne Nicholls Pitt assisted our team with fieldwork. Prior to the GPR fieldwork, six sites were cleared by Julian and Chris with Uncle William, the Cultural Heritage Rangers and a team from MyPathways.

The GPR study was directed by Prof Conyers, and carried out by Julian and Emma. After field work concluded for the day, several hours of rigorous data processing was undertaken to analyse the results of the survey. A massive number of unmarked graves were identified at the larger sites, and areas needing protection were established.

Consultation with Mapoon Elders

Additional graves were identified in some locations than remembered in living memory, including the identification at two locations of burial mounds within sand dunes that are culturally constructed and may include some form of burial platform, as indicated by the results of the GPR and ethno-historical investigations. These burial mounds included 'traditional', potentially pre-contact burials and later post-contact, casket burials. One mound contained at least 27 burials in a location remembered to only have had one or two mission time burials.

Emma and Prof. Conyers spot check graves

The results of these investigations show that Mapoon people have a long continued attachment and connection to these burials that pre-dates the mission time of 1891. Further GPR investigations are required to check other sand mounds for burials and to find the extent of burials in the two locations containing burial mounds in the sand dunes.

This project allowed for temporary fencing to be erected without disturbing the underlying burials, protecting the graves until permanent fences can be constructed. The temporary fencing was put up by Virtus Heritage archaeologists, Cultural Heritage Rangers and MyPathways. MASC are currently organising permanent fencing.

Brolgas in flight near Mapoon

Pilot Ethno-historical and Ground Penetrating Radar Investigations of Fingal Head Cemetery, Fingal Head, NSW

Tweed-Byron Local Aboriginal Land Council

Virtus Heritage and Prof. Lawrence B. Conyers of the University of Denver carried out a voluntary initial pilot project using ground-penetrating radar to understand the location of potential unmarked graves within and potentially outside the demarcated boundary of Fingal Head Cemetery, owned by the Tweed-Byron Local Aboriginal Land Council. This project was undertaken with Elders and families from the Fingal community and the Tweed-Byron Local Aboriginal Land Council on Friday, 21 August 2015. The School of Social Science, University of Queensland also provided voluntary assistance with oral history during fieldwork.

Fingal Head Cemetery is located off Letitia Spit and east of Sponsors Lagoon. The cemetery is connected to a broader cultural landscape to Aboriginal families. Wollumbin/Mount Warning, an important Aboriginal cultural place can be seen to the west standing within the centre of the Fingal Cemetery.

A massacre site and locations of other known Aboriginal sites including burials, caves used for occupation and burials, significant cultural stories, artefact scatters, middens and soaks are all within seven hundred metres of the Cemetery. Records from Oxley in 1829, note the presence of at least 200 Aboriginal people living at Fingal Head near the Tweed River at this time. Fingal Head Cemetery (as currently fenced and demarcated) was granted as part of a successful land claim to Tweed-Byron Local Aboriginal Land Council in 1996. However, the Cemetery has a much greater antiquity and connection to Aboriginal families in Fingal Head/Tweed region.

The Fingal Head Cemetery was known prior to its gazettal as a Cemetery in circa 1860 as a burial ground prior to European contact[2]. Cane[3] also notes many accounts of memories within families passed down generations of burials in the Cemetery (and surrounding areas of Letitia Spit and in caves) prior to European contact and that the actual boundary of the original burial area is unknown. Therefore, the current fenced formal boundary of the Cemetery is not the extent of the original burial ground.

GPR was very successful in detecting unmarked burials and to understand the sub-surface ground conditions. There is at least double the remembered number of graves in the grid area based on initial processing of the radar data collection on 21 August 2015 at Fingal Head Cemetery. A number much greater than the 47 names remembered in earlier studies

View of Mount Warning from Fingal Head Cemetery

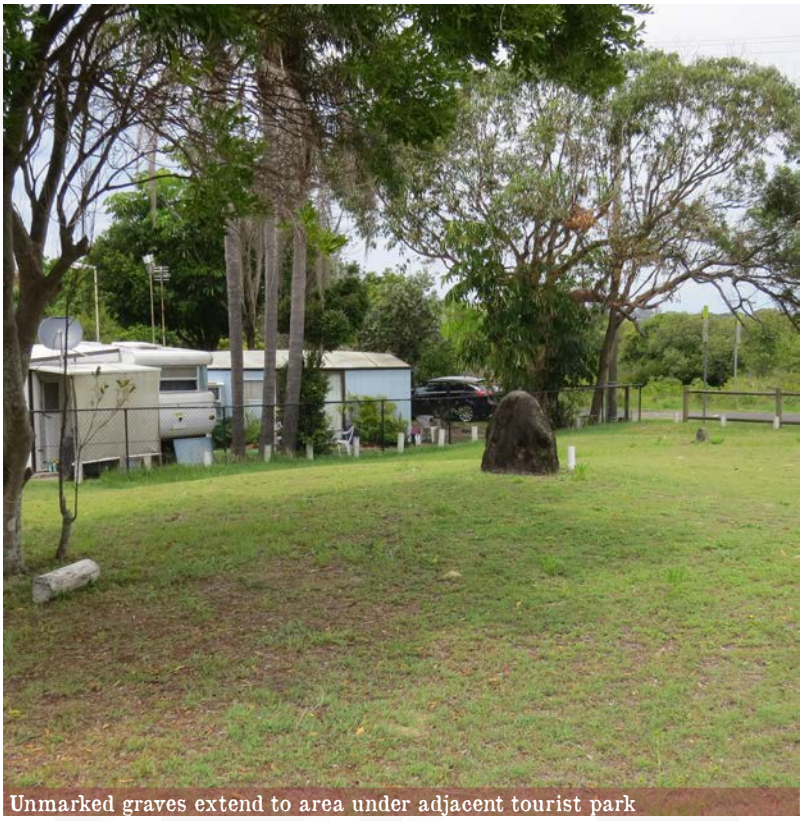
[2] Babidge et al. preliminary report 2015:2

[3] Cane (1989:27)

for the entire Cemetery, indicating that the Cemetery and surrounds has much greater potential for a larger known number of unmarked graves.

A number of different grave types were visible in this study, with some very strong reflections from more recent burials and deeper and lower graves likely to be older burials.

Initial GPR results support Elders' oral histories that burials from Fingal Head Cemetery are not contained within the Tweed-Byron LALC's property boundary and extend within the Fingal Tourist Park and also to the south-east along the fenced property boundary and to the north and east.


Unmarked graves extend to area under adjacent tourist park

These burials are of mixed mortuary practices and potential ages of internment. There is evidence of Christian style casket burials and more traditional mortuary practices as noted in Haglund's (1976) Broadbeach excavations. Initial results indicate that there are burials of traditional mortuary practices. These initial results also support the continued connection of families to the Fingal Head Cemetery as documented in oral histories over time, with the presence of recent and much later burials with different forms of mortuary practices potentially visible in the initial results to date. The presence of different types of burials and mortuary practices also indicates that this Cemetery has some antiquity. The number of graves already detected in this pilot study is much greater than remembered and may increase with further analysis and data collection.

We are now assisting Tweed-Byron LALC to find and obtain additional funding for further GPR investigations and exploring the option for heritage listing nominations for the State Heritage Register and National Heritage List due to the potential state and national values of the Cemetery. We are also working with OEH and the Tweed-Byron LALC to assist with further advice on the management and identification of unmarked graves at Fingal Head.

Data collection at Fingal Head Cemetery

Prof. Conyers, with Dr. Emma St Pierre (Virtus Heritage), explains GPR to Fingal Head Public School children

Services

Artefact analysis

Aboriginal stone tools have a story to tell. They are the product of human intention and are the most prevalent material culture of early Aboriginal peoples within Australia. The analysis of Aboriginal stone tools can assist with understanding past human activities within Australia, and can offer insight into cultural practices within a specific region, locality, or individual site. Examining targeted attributes on each artefact within an assemblage can inform on a range of Aboriginal activities such as where stone resources were being sourced and their availability, how artefacts were being produced, and how these artefacts were being used and to what extent. Patterns can also be identified which may inform on trade practices and/or local and regional networks. Virtus Heritage have experienced staff proficient in the identification, recording, analysis, interpretation, and curation of Aboriginal stone artefacts. We also have access to laboratories and equipment to undertake more specialised recording and analysis techniques (such as residue analysis), which further informs on Aboriginal cultural practices and provides greater value to our clients.

Summary Reports

Over the past few years, Virtus Heritage has prepared plain English digital reports directed at informing interested parties on our heritage jobs and projects. These reports aim to summarise and present scientific data so that the results of our projects are clear, and not lost in a sea of jargon. Using Adobe Indesign, we produce high quality short documents with a more visual focus, but with concise information for our projects. We aim to provide context for the work we do, information on the history or prehistory of our projects and to highlight the significance that heritage work holds for local communities and other stakeholders.

Australian Heritage Strategy

(https://www.environment.gov.au/heritage/publications/australian-heritage-strategy)

On 9 December 2015, the Australian Government released the Australian Heritage Strategy, a strategy that outlines the Australian Government's "priorities" and "actions" to "support and promote" natural, historic and Indigenous heritage (Hon. Greg Hunt MP, Media Release, 9 December 2015). The Australian Heritage Strategy provides details of new potential funding sources for heritage, including a potential lottery system, similar to that currently operating in the United Kingdom, the Heritage Lottery Fund, which invests 375 million pounds a year in heritage and archaeological projects and research (www.hlf.org.auk/about-us; Heritage Lottery Fund website, accessed 15 December 2015). The Strategy provides focus on three heritage domains: natural, indigenous and historical heritage, with some recognition of the complexity of heritage values and the overlapping of these domains. The Strategy also provides focus on stronger partnerships between private sector, philanthropists and NGOs to assist with funding heritage projects and engaging communities through organisations such as the Green Army to protect and manage heritage places. The Australian Heritage Strategy is an important positive step to provide a national strategic direction to heritage management and protection.

There are several missed opportunities within the Strategy as it stands, particularly with devolution of responsibilities for heritage management from the Commonwealth to State and local government. Funding for protection and management of heritage places is also still problematic and limited in the existing Strategy. NGOs, private sector and philanthropists as well as State and local governments and academic institutions are listed as potential sources of funding and partnerships in most elements of the proposed actions in the Strategy. Many of these sources are already financially constrained with depleted funding and support. Grant funding through the Australian Government in recent years is substantially constrained, particularly with the abolishment of AIATSIS Research Grants and Community Grant funding in recent years, the source of many Indigenous archaeological and community heritage program funding and the replacement of the Commonwealth's Indigenous Heritage Program funding with the Indigenous Advancement Strategy. This is especially the case for Indigenous heritage, where Australia has culturally and scientifically significant World Heritage and archaeological sites with great antiquity and diversity.

The establishment of a heritage lottery may assist with funding additional heritage management and conservation projects, however, at this time, it is unclear how this funding will be allocated or distributed. There are some commitments in the document to specific funding for Port Arthur Historic Sites Management Authority and to the Great Barrier Reef, however there is no specific commitment made to Indigenous heritage places or many of the other range of places and landscapes mentioned in the overarching themes of the Strategy. The lack of funding commitments from the Australian Government to these heritage places and landscapes does not mesh with the overarching intent and objectives of the strategy and undermines the commitment to the protection and management of the diversity and values of Australian heritage. As the Australian Heritage Strategy recognises in its opening text, heritage is integral to well-being and identity, the desecration and destruction of heritage places and landscapes has a substantial personal and economic impact to communities and governments. More specific funding commitments are necessary by the Australian Government to attempt to meet the strategic vision set out in this Strategy and the objective of National Leadership.

We agree with the Australian Government on the importance of engaging community and developing partnerships locally to manage and protect heritage places and landscapes. However, we share ICOMOS concerns and several other public submissions, with the stressing of this document of the use of the Green Army Programme as one stop gap to manage and protect National and World Heritage places. Training and quality management of workers to undertake management and protection of National and World Heritage places is critical and in many cases, requires the place of skilled and experienced expertise.

As a company, we embrace engaging with community to identify and protect cultural heritage places and landscapes and have continued this commitment in line with the Australian Heritage Strategy's objectives of engaged communities and strong partnerships. Our commitment is reflected in our continuing projects in Fingal Head Cemetery with the Tweed-Byron Local Aboriginal Land Council; cultural heritage and ethno-historical investigations in Mapoon collaborating with Elders and their families and Mapoon Aboriginal Shire Council; conducting children's activities to engage with archaeology during National Archaeology Week; our team's various personal commitments and affiliations and academic institutions for research and community projects; and our publication and presentation record. We also have experience working on National and World Heritage places and landscapes and in the nomination process. National Heritage List nominations for the assessment period 1016-2017 are also advertised on the Australian Government's Department of Environment, website with a closing date of 18 February 2016 (https://www.environment.gov.au/heritage/places/nominating-heritage-place). For enquiries on National Heritage nominations email heritage@environment.gov.au

Noticeboard

Welcome to Nina Kojovic, Research Assistant

I visited Fingal Cemetery earlier this year and met with members of the Virtus Heritage team. This experience sparked an interest in the area of heritage consultancy. Having studied a dual Bachelor of Arts and Social Science degree at the University of Queensland, I was ready and rearing to head out into the workforce but unsure where I could find my niche. After meeting with Virtus I was fascinated by their work and have now joined the group as a Research Assistant. This position will enable me to learn about the many projects that Virtus is involved with and build my skills in data collection, management and application of research techniques from my studies in anthropology.

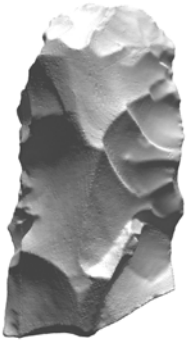
My name is Nina and when I am not studying I am committed to volunteering in Brisbane with both the Queensland Greens and Orange Sky Laundry, which delivers a mobile laundry service to homeless friends on the street. Through my involvement with these organisations I have learned a lot about working with people and fine-tuning service delivery to meet people's needs. It has also inspired me to continue my passion for art and photography.

Throughout 2015 I have also been involved with the UQ chapter of 180 Degrees Consulting, a student lead organisation committed to providing research and reports for local social enterprise and not-for-profits seeking assistance. These experiences, paired with my knowledge and training in anthropology, lead me to explore consulting as a possible career path. While continuing with Anthropology Honours next year, I will turn my focus to how cultural heritage management and sustainability relate to peoples sense of place and ownership over land. I will also be able to apply the teachings from this research directly to my work at Virtus and hope to continue on the path of cultural heritage management and historical research.

Ground Penetrating Radar

Virtus Heritage now owns a ground penetrating radar unit, GSSI SIR-3000 system with survey wheel to undertake geophysical investigations overseas and within Australia. This system is fully insured for domestic and international travel and has excellent detection for unmarked graves and other forms of sub-surface heritage sites and ground disturbance).

Chris Jennings PhD Commencement



3D Laser scan of adze preform

Chris Jennings has commenced a PhD at the University of Queensland. His research will investigate the prehistoric quarrying practices and adze manufacture technology used by the earliest Polynesian settlers of New Zealand. Stone adzes are ubiquitous throughout Polynesia, and in New Zealand are widely distributed in early archaeological sites. Chris intends to investigate pre-European archaeological sites and museum collections, employing a number of innovative techniques, such as 3D laser scanning, to learn more about how master stone artisans helped explore and colonise New Zealand.

Feature

What lies beneath?

The challenges of assessing disturbance and archaeological potential in landscapes and some tools to assist project managers, community and clients

As archaeologists, a critical part of our role in the heritage assessment process is determining and identifying archaeological potential (often referred to as Potential Archaeological Deposits - PADs) within a landscape as part of the environmental impact assessment for a proposal. Identifying archaeological potential for Aboriginal objects and historical relics is difficult and often hampered by a lack of ground surface visibility from vegetation and long grass, overlying deposits or in some cases buildings or structures. Unfortunately archaeologist's do not possess the powers of x-ray vision to see what lies beneath. In this article, we discuss the history of PAD, the challenges of assessing PADs, the legal requirements for harm in New South Wales and Queensland, sensitive landforms for PAD and our tips to avoid common traps and challenges in the assessment process.

About PAD

The term 'Potential Archaeological Deposits' (PAD) first came into use as a term by Patricia Vinnicombe's work on rock shelters in the Gosford region (1978). Vinnicombe was assessing the potential for rock shelters as having stratified Aboriginal occupation deposit within the subsurface deposits of shelter floors (for example, shell midden deposits, Aboriginal stone tools and hearths). Since that time, this term is subsequently used by archaeologists in Australia, (most often in Aboriginal cultural heritage management) to identify potential for Aboriginal occupation in a project impact area (predominantly in the use of deposits with Aboriginal stone artefacts or shell middens). Today, PAD is often utilised as a term to determine the potential of any Aboriginal object and not just those deposits that may have stratigraphic integrity (for example, are in intact and not modified by bioturbation or disturbance). PADs are also used by historical archaeologists to identify areas that may contain early European and other non-Indigenous cultures in Australia's historical occupation deposits (for example, house deposits, convict site deposits, Chinese gold mining camps etc). However, in this article, our focus is on an Aboriginal heritage context.

Defining Potential

PAD boundaries are often defined by archaeologists by the extent of existing ground disturbance (including natural disturbance from erosion), landform boundaries, cultural information, soil or geological landscapes and the extent of a proposal's impact. In broad terms, Australia itself as a continent could be classified as one large PAD, because Aboriginal peoples lived throughout Australia in diverse environments. There are few places within Australia, that archaeologists can confidently argue have no PAD. For example, it is not impossible for Aboriginal stone artefacts and sites to be present in quarries, open cut mines, road easements or car parks. We have had several experiences of artefacts and intact Aboriginal sites, for example grinding grooves, surviving in these contexts. Aboriginal objects (stone artefacts in many cases and other types of

sites) are found in highly disturbed environments, most often erosion scours, tracks and areas where topsoil or sand is at least partially modified. Aboriginal objects exposed by erosion and disturbance are usually only surface markers of what is visible and do not indicate the extent of Aboriginal occupation or use within the broader landscape. Long grass in project areas and environments with floodplains are often problematic as they hide potential sub-surface Aboriginal occupation deposits.

Legal Requirements – Queensland and New South Wales

In New South Wales, under the National Parks and Wildlife Act, 1974 (2010 amended) (NPW Act), the presence of one Aboriginal object within a project impact area, that may be harmed, legally requires an Aboriginal Heritage Impact Permit to be sought for consent from the Office of Environment and Heritage, in consultation with the relevant Aboriginal community organisations/families. As part of this requirement, an accompanying Aboriginal Cultural Heritage Assessment and Archaeological Survey report completed by qualified and experienced archaeologist is necessary. This is a consent process that can take between three to six months to complete (although in one recent emergency situation, we have obtained an AHIP within six weeks). Identification of Aboriginal object/s in a development or ground disturbing activity during construction or works without an AHIP in place to salvage the object and an adequate ACHA to assess, mitigate and manage object/s, leads to major delays in projects with shut down costs and lengthy delays to timing. Recent ancillary provisions to the NPW Act, 1974, provide substantial penalties, both financial and imprisonment for harm or desecration of Aboriginal objects or failure to identify and notify OEH of the location of Aboriginal objects (maximum penalty corporation, $1.1 million and $550,000 and 2 years imprisonment for an individual for known harm and maximum penalty of $220,000 for a corporation and $110,000 for an individual for unknown harm).

Similarly in Queensland, the Aboriginal Cultural Heritage Act, 2013 and The Duty of Care Guidelines provide caution that in some areas "previously subject to significant ground disturbance, certain features of the area may have residual cultural heritage significance". These Guidelines then detail landscapes with high potential for occupation sites, for example artefact scatters, and the requirements for Aboriginal or Torres Strait Islander consultation to meet the duty of care. Failure to meet the duty of care causing unlawful harm to Aboriginal and Torres Islander cultural heritage leads to fines of up to $117 800 for an individual and $1.178 million[1] for a corporation.

As a company, we are finding that with the current economic climate, clients and potential clients coming to us with fee proposals are under increased time and cost constraints with projects. In some cases, clients and project managers are either limiting their scope for Aboriginal consultation and Aboriginal cultural heritage assessment and management or 'cutting corners'. As a result some problems arrise which include clients finding themselves in trouble because they have engaged unqualified 'archaeologists' or 'heritage consultants' to prepare due diligence assessments which are inadequate to statutory requirements. Other issues arrise when clients or project managers have undertaken an AHIMS or other heritage register search themselves, not followed the OEH Due Diligence Code of Practice for the Protection of Aboriginal Cultural Heritage correctly or in Queensland the Duty of Care Guidelines. This leads to the assumption that no Aboriginal objects were present due to previous land use history or lack of visible Aboriginal objects and then Aboriginal objects are revealed at a later date during ground disturbance works which partially destroy an Aboriginal place or site.

Sensitive Landforms for PADs

In New South Wales and Queensland, if your activity is within a sensitive landform for Aboriginal heritage further assessment by a qualified heritage consultant/archaeologist and Aboriginal consultation is required. Landforms below are described following definitions from OEH's Due Diligence Code of Practice for the Protection of Aboriginal Cultural Heritage or in the Queensland the Duty of Care Guidelines.

1. Within 200 metres of waters (meaning the whole or part of: any river, stream, lake, lagoon, swamp, wetlands, natural watercourse, tidal waters (including the sea). Note the boundary of tidal waters is defined as the high water mark;

2. Foreshores and within a sand dune system (sand ridges and sand hills formed by the wind, usually found in desert regions, near a lake or in coastal areas. In areas of western NSW, windblown dunes can occur along the eastern edges of ephemeral lakes (called lunettes dunes). They can also occur along the banks of rivers);

3. Located on a ridge top, ridge line or headland; or

4. Located within 200 m below or above a cliff face; or

5. Within 20 m of or in a cave, rock shelter or a cave mouth

6. Rock outcrops;

7. Caves;

8. Permanent and semi-permanent waterholes, natural springs;

9. Particular types of native vegetation, for example for scarred trees;

10. Some hill and mound formations; and

11. Generally undisturbed landscapes.

Some tips to avoid common traps

In this article, we wanted to share some of our tips and insights to assist project managers, community and clients with this issue in an increasingly pressured work climate (some of this information is reiterated in the OEH Due Diligence Code of Practice for the Protection of Aboriginal Cultural Heritage or in Queensland the Duty of Care Guidelines):

1. Develop good relationships with local Aboriginal Land Councils and the approved native title claimants in your area or consult early to understand cultural sensitivities in the areas you operate or engage heritage consultants/archaeologists that have these relationships in place and can undertake this consultation for you;

2. In NSW, ensure that all heritage register searches undertaken are not just OEH AHIMS searches but also include the State Heritage Register and Inventory, Australian Heritage Database and local and regional planning instruments, which often contain Aboriginal heritage places and sites not on OEH AHIMS;

3. Similarly in Queensland, consult the Aboriginal Cultural Heritage Register and Database and Australian Heritage Database and other relevant local planning instruments or Aboriginal cultural heritage management plans;

4. Check OEH AHIMS extensive and basic site search results against the original AHIMS site cards and report (if possible) – similarly for the Aboriginal Cultural Heritage Database in Queensland – check original site cards and reports.
   In our experience, there are often errors on the search results, particularly relating to incorrect registered datum or transverse data entry errors (for example, in one recent project we identified over 44 AHIMS site errors in a project area, not previously identified by three other consultants);

5. Engage qualified archaeologists or heritage consultants to prepare due diligence advice and Aboriginal cultural heritage assessments (following OEH Code of Practice for Archaeological Investigations – at least two years professional experience in a similar project or assessment and a university qualification with Hon.s in Archaeology or related discipline) – this saves expense and time or redoing assessments if your consultant does not have the correct qualifications and you require an AHIP at a later date and ensures you have the right experience and expertise to develop appropriate mitigation strategies;

6. Check aerial photographs (use Google Earth or contact Lands Department) to understand previous land use history within your project impact area;

7. Check soil and geological landscape maps to understand the types of landscapes within your project impact area, for example colluvial and alluvial deposits are often archaeologically and culturally sensitive. We maintain partnerships with geomorphologists to assist in our assessments with projects that are likely to have archaeological potential at depth in these environments;

8. If your activity could harm an Aboriginal object or potentially sensitive soil landscape, consider redesign of impacts or in some cases, use of clean fill and geotextile or fencing to protect and mitigate against impact in consultation with OEH or DATSIP and relevant Aboriginal community groups/organisations to avoid harm and the requirement for an AHIP in some cases;

9. If you are time constrained and working in an area with sensitivity, consider obtaining an area based AHIP or Consent, which includes all of your proposed activities to ensure that any identified Aboriginal objects can be salvaged without the time and cost delays of shutdown costs.

We have successfully obtained AHIPS from OEH for emergency projects, such as bridge repair works in highly sensitive landforms where no Aboriginal objects were identified during initial assessment. During construction works, with the AHIP in place, twelve Aboriginal objects were identified and these objects were salvaged with no time delays or shut down costs to this client.

Some useful links:

Queensland

Department of Aboriginal and Torres Strait Islander Partnerships

Cultural Heritage Database and Register
https://www.datsip.qld.gov.au/people-communities/aboriginal-and-torres-strait-islander-cultural-heritage/cultural-heritage-database-and-register

Aboriginal Cultural Heritage Act 2003
http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/A/AborCultHA03.pdf

Torres Strait Islander Cultural Heritage Act, 2003
http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/T/TorresStIsCuA03.pdf

Aboriginal Cultural Heritage Act, 2003 Duty of Care Guidelines
https://www.datsip.qld.gov.au/resources/datsima/people-communities/cultural-heritage/duty-care-guidelines.pdf

New South Wales

The NPW Act Amendment Act and Regulations:
http://www.environment.nsw.gov.au/legislation/NPWamendmentAct2010.htm

The Code of Practice for Archaeological Investigation of Aboriginal objects in NSW includes requirements for expertise for archaeologists and heritage consultants and for Archaeological Survey Reports, site recording and other types of archaeological practice.

Below links to the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW.*
http://www.environment.nsw.gov.au/licences/archinvestigations.htm

Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW provides the requirements for Aboriginal cultural heritage assessments and links to:

- Aboriginal cultural heritage consultation requirements for proponents 2010
- Applying for an Aboriginal heritage impact permit: guide for applicants 2010

http://www.environment.nsw.gov.au/licences/investassessreport.htm