

VIRTUSHERITAGE



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VIRTUSHERITAGE

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Editorial

Welcome to the first edition of our 2019 newsletter. We have had a very busy start to the new year in a period of continued growth for our company, we welcome a new Senior Archaeologist, Elle Lillis who has been assisting our team on projects.

Our newsletter provides an update on the results of excavations completed in 2018 in the Hunter Valley and Northern Rivers of NSW, some information about cultural heritage mapping services and a precis of recent achievements and publications.

I am very proud of our team's ongoing community projects in ground penetrating radar and cultural heritage, including for the Baryulgil Aboriginal Land Council, which was featured in recent national media. Research publications in international and scientific archaeological journals for our ground-breaking works on Mapoon mounds and cemeteries project is also a testament to some wonderful community collaborative work with Mapoon families and partners.

We have many more digs, training and research projects moving forward this year, with an increased focus on opportunities to assist Indigenous communities with capacity building for identifying and managing cemeteries and unmarked graves as well as archaeological and legislative cultural heritage training workshops. Workshops which have already rolled out this year with Office of Environment and Heritage and Hunter Local Land Services.

Thank you for taking the time to read our newsletter and I look forward to your comments and working together in the future.

Mary-Jean

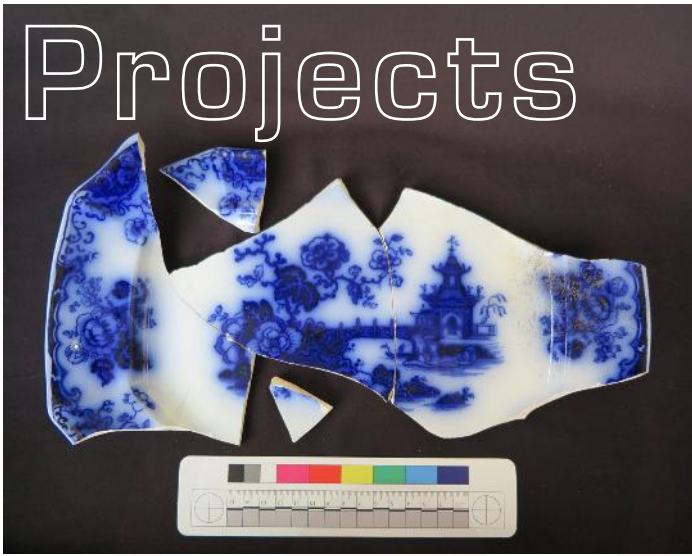


Acknowledgement

We acknowledge the Traditional Owners of the lands we work within, the Bundjalung people (northern NSW), Wonnarua (Hunter Valley), Awabakal (Newcastle and Lake Macquarie), Biripi and Worimi (Taree/Manning Valley/Great Lakes) and many other Traditional Owner groups throughout New South Wales and Queensland. We pay respect to Aboriginal Elders past, present and future and acknowledge the privilege to work on country with Elders and families



Projects



Ceramic and glass artefacts retrieved during excavation.

St Aubins Arms nineteenth century rubbish pit, New England Highway Bypass of Scone Project, NSW

NSW Roads and Maritime Services

Virtus Heritage was engaged by GHD Pty Limited (GHD) on behalf of NSW Roads and Maritime Services (RMS) to undertake archaeological investigations for the New England Highway Bypass of Scone Project in Scone, NSW. As part of these investigations a nineteenth century rubbish pit was identified near a dam at the rear of the locally listed St Aubins Arm Hotel.

The St Aubins Arms is the oldest surviving building in Scone, being completed in 1837. It is also the scene of a famous incident which took place on 21st December, 1840 when a bushranger raid by the 'Jew Boy Gang', with seven men led by Edward Davis, resulted in the murder of John Graham, a local settler.

The rubbish pit revealed during archaeological investigations contained mostly imported fill and European artefacts (predominantly glass and ceramic). The pit was near circular in shape and approximately 2.2 metres in diameter. The contents of the pit were salvaged and a final depth of 3.1 metres was achieved. Material within the pit appears broadly consistent with use of the nearby St Aubins Arms hotel in terms of the range of artefacts found (high proportion of fragmentary alcohol bottles, tumblers and tableware) and its period of operation (mid to late-nineteenth century). In total, 235 kg glass and 27 kg ceramic and 9 kg of stoneware were salvaged, with some bone material (identified as bovine in origin) and assorted small finds (a button, stirrup, leather straps, a utensil handle and the like) contemporary with the use of the hotel in the bushranger period of mid nineteenth century. Some ceramics and glass are also indicative of earlier settlement of the area by William Dumaresq, one of the first Scone settlers.



St Aubins Arms rubbish pit

Amongst the excavated assemblage were personal items such as tonics, tinctures and hair pomades and treatments and aromatic schnapps bottles. These items are indicative of the dependence on 'quack' medicines and treatments common during the nineteenth century. These 'remedies' arose due to difficulties of accessing qualified doctors and a general distrust of hospitals. Hospitals during this period were greeted with suspicion due to incredibly high morbidity rates (50% and over) and were often only frequented as a last resort.

These fragments of a hair treatment bottle excavated from St Aubins Arms are an example of **Tricopherous for The Skin and Hair**. The treatment was developed by Alexander Barry, a former wig maker based in Brooklyn, USA. The most active ingredient in Barry's Tricopherous for The Skin and Hair was a tincture of cantharides. Cantharides came from the dried, crushed bodies of the blister beetle or Spanish fly. When threatened, the beetle produces a caustic irritant called cantharidin. Barry believed that the substance would stimulate blood supply to the scalp, which in turn would promote hair-follicle growth. Cantharidin, however, is today recognised as a toxic substance that can cause severe gastrointestinal disturbances if ingested, sometimes leading to convulsions, coma, and possible death. Still, Barry's formula was sold well into the 20th century. Even today, a search of the Internet yields sites selling modern versions of Barry's Tricopherous hair tonic, marketed as "based" on the original formula.

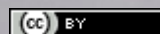


Virtus Heritage is finalising analysis of the salvaged material and a selection of the historical artefacts have been set aside to be delivered for display at the Scone Museum (which is also the location of the Scone and Upper Hunter Historical Society Inc.). Another small selection has been set aside to be retained by Virtus Heritage to be used as teaching materials. The remainder being donated to This is Not Art/Newcastle Art Space.

In an innovative venture, Virtus Heritage is also collaborating with local artists to develop a children's story book which presents the bushranger history of St Aubins Arms and the results of the investigations commissioned by RMS, which is targeted specifically for primary school children.



Barry's Tricopherous for the Skin and Hair advertisement
Boston Public Library



Baryulgil Cemetery GPR

Baryulgil Local Aboriginal Land Council

In November 2018, funded by the Office of Environment and Heritage (OEH) *Heritage Near Me* grant program, Baryulgil Local Aboriginal Land Council (LALC) working in partnership with Virtus Heritage, carried out investigations using ground penetrating radar and drone photography to identify unknown burial sites in and around the historical Baryulgil Cemetery in Northern NSW near Grafton. The newly discovered sites included an area that reflects traditional, pre-European settlement burial practices. With Aboriginal families living in the area long before European settlement, the new sites show a change in the burial practices of local Aboriginal families as well as European influence such as moving away from sealed or wrapped burials to the introduction of wooden caskets.



Aerial photograph of Baryulgil Cemetery

GPR technology is recognised by Elders as being culturally sensitive as it does not involve disturbance of the site. Dr Sally Babidge and University of Queensland student researchers volunteered to collect oral history from local Elders for the project. Baryulgil LALC CEO Ross James said the research project combined state-of-the-art technology and oral history to show the strong social, spiritual, historical and cultural value of the site without invasive testing or disturbing the land. Chair of the Land Council, Scott Monaghan also indicated that the ability to have been able to determine the location of burial sites, after grave markers have long been moved or destroyed, was incredibly important to the community to identify and protect the resting places of our old people.

Our team led by Dr St Pierre found that the number of new burial sites was conservative and it was possible there were more burials that had deteriorated and were unable to be definitively identified with GPR. There are at least 75 burial sites now identified within Baryulgil Cemetery including those identified from drone imagery and 45 grave sites from existing headstones. Some of the graves are marked with formal concrete lawn markers, headstones and simpler wooden crosses, as well as informal markers including star pickets and river cobbles.

The community is currently working to source further funding to update and maintain the cemetery for the continued use by local families. Virtus Heritage was also pleased to be able

to develop an educational tool kit and donate educational resources for school children at Baryulgil Public School with assistance from GHD as an educational outcome for this project. The project and the work of the Baryulgil LALC and community in identifying and protecting the Baryulgil cemetery also featured in an SBS NITV article and other national media.

To read more, go to:

<https://www.sbs.com.au/nitv/article/2018/11/19/unknown-burial-sites-discovered-community-cemetery>



Dr Emma St Pierre and Bill Evenden during GPR survey

Cultural Heritage Training

Office of Environment and Heritage

Virtus Heritage was pleased to partner with the Worimi Local Aboriginal Land Council (LALC) on Monday 4 February 2019 to deliver cultural heritage training to approximately 30 officers from the Office of Environment and Heritage's Newcastle based floodplain management, planning, compliance, community engagement, regulation and ecosystems and threatened species teams.

Following the Welcome to Country delivered by an Elder, Dr Mary-Jean Sutton and Senior Archaeologist Julian Travaglia took the group through theoretical components of the training including Aboriginal cultural heritage and archaeology in Australia, Aboriginal site types and sensitive landforms and stone artefact recognition. The team also discussed due diligence requirements and legislation with the group collaborating on scenarios involving proposed works which may impact on recorded Aboriginal artefact scatters and middens.

In the afternoon, Worimi LALC officers, National Parks and Wildlife Services and Virtus Heritage senior archaeologists, Julian Travaglia and Elle Lillis, accompanied the group on country to Birubi Beach to take part in the practical application of the skills learnt, including the identification of Aboriginal objects, PADs and cultural landscapes and the importance of correctly understanding site boundaries and the interrelationship with the requirements of OEH's (2010) *Due Diligence Code of Practice* and Aboriginal Heritage Information Management System (AHIMS) site card records.

Cultural Heritage Training

Hunter Local Land Services

Across 2018 and 2019, Virtus Heritage has been working together with NSW Hunter Local Land Services (HLLS) to deliver services aimed at further strengthening the capacity of HLLS teams in relation to the management of Aboriginal cultural heritage in the Newcastle-Hunter region. The package of services has incorporated the delivery of customised training by Virtus Heritage to HLLS officers in Scone and Taree across March 2019 about Aboriginal cultural heritage and archaeology, due diligence requirements, navigating the Aboriginal Heritage Information System (AHIMS) and dealing with the discovery of Aboriginal objects and places.



Virtus Heritage is also currently collaborating with HLLS on a range of other opportunities for capacity building in the region including the development of reference materials for field staff and Indigenous cultural heritage workshops in partnership with representatives of the Wonnarua peoples.

Virtus Heritage has significant experience in customising and delivering induction and heritage awareness training packages for a range of private organisations and state and local government agencies seeking to skill staff, site workers and planners to better manage heritage sites and objects and meet legislative requirements. If we can assist with a custom designed training package for your organisation, please get in touch.



Hastings Point Headland

Hastings Point Excavation

PWC Constructions

Virtus Heritage was engaged by Paul Wolfe Constructions to undertake archaeological works under Aboriginal Heritage Impact Permit (AHIP) #C0003718 as part of a proposed subdivision and partial residential development at Hastings Point, NSW.

The necessity to obtain an AHIP from the Office of Environment and Heritage (OEH) was due to the identification of the project area within a registered Aboriginal midden site (AHIMS 04-2-0066).

Existing archaeological research in the greater Tweed area indicated that the project area is within a landscape steeped in cultural significance, and with high sensitivity for previous Aboriginal occupation. The project area is also in proximity to known rich cultural sites including bora grounds/ceremonial grounds, fish traps in the nearby creek, burials, cultural places, story places, middens, artefact scatters, isolated finds, scarred and carved trees.

The general location of the project area is a favourable place for a midden as Aboriginal people could have drawn on the food resources from the open beach, the tidal estuary of Cudgera Creek, and the rock platform around the headland. Aboriginal human remains cannot be dismissed from middens as being of potential. Aboriginal human remains can be found cremated and buried in middens and sandy soils dating to pre-contact, and an Aboriginal child's tooth was discovered nearby.

Subsurface testing was undertaken at two areas of potential near natural surface (PAD) within the block. In total sixteen 50cm x 50cm pits were investigated, and two artefacts were recovered from the subsurface investigations during AHIP works. Both were broken silcrete flakes. No evidence of intact shell midden AHIMS site 04-2-0066 was located in any of the test pits, and the entire project area appeared to be in significantly disturbed ground.

All Aboriginal objects are culturally important. The project area was identified as a place where Aboriginal people lived repeatedly or intensively in large family groups all year round; the project area is part of a broader cultural landscape of the Greater Tweed region which is steeped in cultural significance.



Excavation of a test pit



Shell midden identified at Lions Park

Lions Park Upgrade, Kingscliff

Tweed Shire Council

Virtus Heritage was engaged by Tweed Shire Council (TSC) to prepare an Aboriginal Cultural Heritage Assessment (ACHA), including an Aboriginal Heritage Impact Permit (AHIP) application, for the proposed refurbishment of Lions Park in Kingscliff, New South Wales. The ACHA was triggered due to potential harm from proposed refurbishment works to an Aboriginal shell midden and a stone artefact identified during services trenching. The park also lies within a previously registered AHIMS site 04-2-0224, an Aboriginal Cultural Heritage Story Place, which was registered for intangible heritage values. The proposed works area is an existing operating parkland, and the refurbishment is part of the next stage of the Kingscliff Foreshore Revitalisation Project.

Despite being impacted from previous land use history including sand mining, park and foreshore landscaping and development, the project area still has some potential for extant evidence of Aboriginal occupation. The identified midden and isolated artefact's integrity and research potential are potentially compromised due to the impact from previous land use history across the project area, however, the project area has potential for more midden and occupation deposit and the proposed future works has high potential to impact these deposits if still extant. A methodology to mitigate these impacts was developed by our team, including Bernadette Allen and Dr Mary-Jean Sutton in consultation with registered Aboriginal parties after a geomorphological assessment of the parkland was under-

taken by Dr Peter Mitchell and allowing improvements to park safety and functionality to proceed.

The effectiveness of cultural heritage inductions to all site workers (provided by the Tweed Byron Local Aboriginal Land Council for this project area) was demonstrated at Lions Park, with Tweed Shire Council construction site workers identifying



Stone artefact identified at Lions Park

the shell midden deposit and implementing stop work measures to mitigate harm. The park also provides a unique opportunity for public education, as culturally appropriate signage can be installed within the park grounds to inform park users of the significance of the Aboriginal story place and shell midden, and their importance to Aboriginal people as a continued connection to country.

We work closely with many Aboriginal communities to develop and implement such educational tools and it is also a recommendation we provide to many clients where appropriate and practical and endorsed by the local Aboriginal community.



Lions Park site area



Cultural Heritage Management Plans

A Cultural Heritage Management Plan (CHMP) is an approved agreement between the sponsor of the plan and Aboriginal parties about how a project or an area is to be managed to avoid harm to Aboriginal cultural heritage and to the extent that harm cannot reasonably be avoided, to minimise harm to Aboriginal cultural heritage. A plan can have any form or structure agreed between the parties and is intended to address the assessment and management of Aboriginal cultural heritage in relation to land use activities of the area. CHMPs are a tool used to guide the management of Aboriginal cultural heritage values but they do not replace the need for Aboriginal Heritage Impact Permits (AHIPs) in any case where harm to Aboriginal objects is known, or likely to occur.

Virtus Heritage has been pleased to be able to facilitate a number of CHMPs recently with respect to Aboriginal cultural heritage and connection to country, including commencing the development of the Hastings Point Headland Aboriginal CHMP. Virtus Heritage, working in partnership with GHD, also delivered a CHMP for Mapoon Cemeteries and Unmarked Graves, funded by the Western Cape Communities Trust (2018).

Hastings Point

Caring for country is part of the Tweed Byron Local Aboriginal Land Council's (TBLALC) cultural responsibility as the representative organisation for the Tweed Local Government Area. TBLALC was gifted funding from Warner Bros. after the company utilised Hastings Point Headland as a film location for *Aquaman* during 2016 to 2017, with the funding to be used

for cultural heritage initiatives. TBLALC has utilised this funding towards developing a cultural heritage management plan (CHMP) to manage the cultural heritage values of the Hastings Point Headland, as one of many headlands identified as culturally sensitive within the Tweed Shire Council's Aboriginal Cultural Heritage Management Plan for the Tweed Local Government Area (TSC 2018). The development of a detailed CHMP of this significant cultural feature by TBLALC is fulfilling their role of proactive management of cultural sites within the Tweed LGA and the promotion of cultural heritage.



TBLALC engaged Virtus Heritage and GHD to collaborate as partners in this project to provide expertise in archaeology, geomorphology, GIS mapping, environmental planning and management to assist with identifying, understanding and managing the complexities of both intangible (spiritual, social/cultural, natural and aesthetic values) and tangible (scientific and historic) heritage values of the significant cultural landscape.

The approach adopted for the CHMP combines oral history testimony, cultural knowledge and story-telling to map intangible heritage values with traditionally Western mapping and scientific techniques in environmental science/archaeology to document and interpret layers of Indigenous attachment and social and cultural values in the cultural landscape.

Virtus Heritage will make use of cultural mapping techniques to facilitate this process (see our article on cultural mapping). Whilst the collaboration to develop a CHMP for Hastings Point Headland is still in the early stages, our team has spent time with TBLALC at the headland capturing drone imagery. The use of drone imagery is an innovative technique with many

uses for archaeological and cultural mapping. In this instance a unique opportunity was provided to capture footage of Aboriginal fish traps (registered on AHIMS) and other coastal dune features. The use of the drone allowed us to take video and snapshots of these inaccessible features from vantage points which assist with full site recording.

To see all the wonderful work TBLALC's Cultural Heritage Unit is undertaking, visit their website at www.tblalc.com/aboriginal-cultural-heritage-management/ or call Maurice and Warren on 07 5536 1763 or 0407 643 349.



Cultural Mapping

Cultural mapping is a term used to describe spatially representing tangible (objects, sites and material culture) and intangible (stories, knowledge and memories) Indigenous cultural heritage and has traditionally been used in Australia as a term to describe mapping physical archaeological sites.

Approaches to cultural mapping incorporating cultural knowledge, pre- and post-contact land use, environmental and landform data and site and landscape connectivity achieve better outcomes for accurately assessing and mapping scientific and cultural values across landscapes. Virtus Heritage uses these methods for cultural mapping to assist in determining both cultural and scientific value of landscapes and provide information by generating predictive models of site locations as well as mapping known heritage to support decision making for the preservation and conservation of Aboriginal cultural heritage.

Virtus Heritage acknowledges that Aboriginal people are the primary source of information about the value of their heritage, how this is best protected and conserved and must control the way in which cultural knowledge is used. A true cultural value mapping exercise involves a partnership with Aboriginal communities on country to assess, designate and provide information about areas of cultural significance. Virtus Heritage is committed to consulting with Indigenous communities on all relevant projects and providing opportunities for community to be involved in fieldwork to provide cultural information on country. Our team is diligent in the recording and preservation of both tangible and intangible sites and recognition of the significance that these sites and landscapes hold to Aboriginal people as evidence of a continued connection to country.

Our team is able to provide comprehensive cultural mapping using GIS capabilities to assess and present geo-spatial data on landform and landscape information, physical archaeological site locations, areas of tangible and intangible cultural value and land use history.



Noticeboard

Team Announcements

Elle Lillis joined Virtus Heritage as a Senior Archaeologist in November 2018, having worked as a consultant in NSW and the ACT. Elle has a Bachelor of Arts from the University of Newcastle and a Master of Archaeological Science from the Australian National University, Canberra and also has expertise in GIS cultural mapping and data management. Elle has been involved in a wide range of Aboriginal cultural heritage and historical projects throughout NSW and ACT working with Indigenous communities in many different regions, including Newcastle and the Hunter region. Elle will be providing GIS support and will be involved in our projects throughout NSW.

Alison Lamond has returned to work in Newcastle on specialised projects and Dr Emma St Pierre returns to work from maternity leave on 20 May 2019.



Elle Lillis



HEI Community Heritage Seminar

We would like to thank the Hunter Environmental Institute (HEI) for the invitation to present an Aboriginal Cultural Heritage Seminar on 4 February 2019 in partnership with Peter Townsend, Cultural Heritage Officer, Awabakal Local Aboriginal Land Council (LALC) and Peter Leven, Traditional Owner and Director of the Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

The Awabakal People are acknowledged as the traditional owners of the Newcastle city area and areas to the south and west including Lake Macquarie and continue to play a significant role in shaping the environment of this region.



The seminar explored the Aboriginal community's approach to caring for their country and intangible heritage values including what is cultural heritage, how it's protected and what can be done to maintain this protection as well as debating the merits of the Aboriginal community consultation process and cumulative impact assessment in Newcastle. Discussion on the need for a Cultural Heritage Management Plan with detailed cumulative impact assessment was identified in urgent need for Newcastle with changes from recent developments in the CBD and its revitalisation. Dr Sutton also spoke about Virtus Heritage's experiences in the application of Ground Penetrating Radar and other methods for investigating culturally sensitive sites.

Australian Small Business Champion Awards

Virtus Heritage is delighted to announce its position as a finalist in the Professional Services category for the 2019 Australian Small Business Champion Awards.

The Australian Small Business Champion Awards is designed to support and recognise small businesses across Australia for the contribution they make to the local community in generating employment for millions of Australians, as well as their contribution to the Australian economy. Dr Mary-Jean Sutton and Rachael Mackay represented Virtus Heritage at the awards ceremony held at the Sydney Star Casino on 6 April 2019, which was attended by over a thousand small business operators from across Australia.



For more about the Australian Small Business Champion Awards visit:

<https://www.businesschampions.com.au/about>



the project area and surrounds occurred and provided crucial information to assist archaeologists and others in differentiating genuine Aboriginal coastal shell middens from other similar deposits that may occur as natural depositional features. Further, Dr Mitchell provided an on-site assessment as to the potential for midden deposit or human remains that may be extant in the project area, interpretation of the site, and provided advice to the TSC on options to avoid harm to midden deposit and future management of Lions Park.

Geomorphology Training

In November 2018, we held a geomorphology training session at Lions Park, Kingscliff in northern NSW attended by Virtus staff members, representatives from Tweed Shire Council (TSC) and members of the Tweed Byron Local Aboriginal Land Council. The Lions Park project is discussed further in our Projects section. Leading expert in this field, Dr Peter Mitchell (PhD geomorphology) flew in from Sydney to facilitate this session.

Dr Mitchell focused on the geomorphology of the local area, how and when the formation of the coastal dune systems of

The opportunity to attend this session was very well received by all participants, despite a heavy thunderstorm which blew in whilst the project area was being inspected, causing all to run for cover. An informative and animated question and answer session was held in the safety of a nearby cafe, in which Dr Mitchell relayed his knowledge and expertise of geomorphological processes to the group, which were site specific but could also be applied in other contexts.

Our thanks go out to Dr Mitchell and to all who attended and participated so enthusiastically.



Reconciliation Action Plan Launch

Virtus Heritage was proud to join with members of our Reconciliation Working Group, staff and partners to launch our Innovate Reconciliation Action Plan (RAP) September 2018 – September 2020 at the Pottsville Beach Neighbourhood Centre in November 2018.

The event was opened by Victor Slockee from the Bundjalung Nation who performed the Welcome to Country, ably supported by Russell Corowa on didgeridoo and beautifully catered by the First Food Co., established under the leadership of Dale Chapman, a Kooma, Yuwaalaraay woman from central Queensland.

The launch of our Innovate Reconciliation Action Plan represented a significant milestone for Virtus Heritage in its reconciliation journey and the ongoing commitment of our team towards reconciliation across the many facets of our business. Since its launch, we have delivered on many of our Innovate RAP commitments including facilitating cultural immersion and training opportunities between our team and some of the First Australian partners we work with, the development of terms of reference for our Reconciliation Working Group and the implementation of dedicated Welcome and Acknowledgement of Country protocols within our organisation.

We have also commissioned a plaque acknowledging country for our base office in Pottsville, NSW and are currently organising sponsorship activities for some of our Indigenous partners to join with us to present to forthcoming conferences.

We are also capitalising on opportunities to support and promote Indigenous owned and operated businesses throughout Queensland and NSW.

Virtus Heritage would like to pay particular thanks to the members of our RWG, who despite their busy schedules, have taken time across the past three years to talk to us about our RAPs and have been a key force of support for the work we do with community:

- Leweena Williams, CEO, Tweed Byron LALC
- Rob Appo, Community Development Officer, Aboriginal Community and Cultural Services, Tweed Shire Council;
- Jason Jia, Cultural Heritage Officer, Mapoon Land and Sea Rangers
- Aunty Dianne Nicholls, Elder, Tjundgunji Aboriginal Corporation (whose artwork again lifted the presentation of our document).

Our Innovate RAP can be found on our website at www.virtusheritage.com.au or you can request a copy through contacting r.mackay@virtusheritage.com.au.

Website and Social Media

We were pleased to go live with our new look website at the end of 2018. Our website now profiles our extended range of services and provides an access point for our resources, including our Reconciliation Action Plans and company newsletters.

You can also download or request a copy of our updated Company Profile, Capability Statement and brochures about Drone, Ground Penetrating Radar and other services through our website or email mj.sutton@virtusheritage.com.au.

Come visit us at www.virtusheritage.com.au
on LinkedIn at <https://www.linkedin.com/company/virtus-heritage>
like us on Facebook <https://www.facebook.com/virtusheritagensw/>
or follow us on Instagram <https://www.instagram.com/virtusheritage/>

Publications

Virtus Heritage has been pleased to partner with a range of specialists, our partners and Indigenous Elders to publish the results of our work in Mapoon, Queensland relating to the mapping of unmarked graves throughout this region. Four research papers are accepted in research journals, of which one is being finalised in press and three are currently published and accessible at:

Dissecting and Interpreting a Three-Dimensional Ground-Penetrating Radar Dataset: An Example from Northern Australia.

(Lawrence B. Conyers, Mary-Jean Sutton and Emma St Pierre)

Published in Sensors on 12 March 2019

Read it here: <https://www.mdpi.com/1424-8220/19/5/1239>

Integration of GPR and magnetics to study the interior features and history of earth mounds, Mapoon, Queensland, Australia.

(Lawrence B. Conyers, Emma J, St Pierre, Mary-Jean Sutton, Chet Walker).

Published in Archaeological Prospection, Volume 26, Issue 1 – January/March 2019

Read it here: <https://onlinelibrary.wiley.com/doi/10.1002/arp.1710>

Reimagining life and death: Results and interpretation of geophysical and ethnohistorical investigations of earth mounds, Mapoon, Cape York Peninsula, Queensland, Australia

(Emma St Pierre, Lawrence Conyers, Mary-Jean Sutton, Peter Mitchell, Chester Walker, Dianne Nicholls)

Published in Archaeology in Oceania, 12 April 2019

Read it here: <https://onlinelibrary.wiley.com/doi/10.1002/arco.5179>

As well as our recent publications, our work in Mapoon was featured in a range of ABC forums and international news including the BBC and the Daily Mail in the UK. To read more, go to:

<https://www.abc.net.au/news/2018-11-28/pre-european-burial-practices-in-rural-nsw-discovered/10559244>

<https://www.abc.net.au/news/2018-02-08/discovery-of-ancient-aboriginal-remains-confirms-burial-grounds/9404322>

<https://www.dailymail.co.uk/news/article-5351931/Mysterious-sand-mounds-ancient-Aboriginal-graves.html>

