

Researching, preserving and promoting Kimberley rock art.

Annual Research and Activities Report 2017

This report relates to KFA funded research and activities from 1 July 2016 to 30 June 2017

> Researching, preserving and promoting Kimberley rock art www.kimberleyfoundation.org.au

There is growing momentum around the importance of Australia's rock art heritage. For the past decade Kimberley Foundation Australia has been driving public appreciation of rock art and its significance while ensuring the scientific research that will show us how to preserve the art is undertaken.

CHAIR

LETTER

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IA MYERS AND IAN WAINA, DRYSDALE NATIONAL PARK PHOTO: MARK JONES

CHAIRMAN'S OVERVIEW

What began in 1997 as the Bush University, and then became the Wandjina Foundation and a few years later the Kimberley Foundation Australia, is 20 years old this year. There is much to celebrate. The clearly articulated vision, enunciated in 2007 and arising from the stated objects has been the basis for our actions and decisions. Our vision is to promote scientific research into the rock art of the Kimberley and, in conjunction with the Aboriginal people of the region, ensure it is preserved and recognised for its national and international significance. We believe the more the significance of the rock art is understood, the more likely it is to be preserved.

The strength of the KFA's connections and relationships with Indigenous organisations of the Kimberley has been achieved as friendship, cooperation and trust has grown. Three Indigenous board members have brought skills and contacts that have allowed KFA to become an accepted party in the Kimberley scene. Ranger groups working with KFA are opening new areas of collaboration. KFA-sponsored research working with the Balanggarra people has had another exciting and wholly satisfactory year as the University of Western Australia-led *Kimberley* Visions project and The University of Melbourne-led Dating project continue their findings. Applications for paleo-environmental studies in the Kimberley are being finalised and fresh approaches to examining problematic superimpositions in the rock art are before KFA's Science Advisory Council.

The support KFA receives from the public is making all of this possible. The Foundation is acutely aware of the responsibility it has to those who support it in whatever way they do. The Board understands that KFA is trusted to do well and to do truly what it has committed to undertake. We take that trust seriously.

In 2016-2017 more individual supporters than in any previous year have recognised in KFA a research cause they wish to support. This is at least in part because of the growing awareness of the importance of the Kimberley work for understanding Australia's deep history. Our newsletters keep KFA's followers up to date with details of the research findings and give readers an insight into the field trips in the very remote parts of the Drysdale National Park where both major projects are working with the Balanggarra people.

The 2016 annual public lecture, *Explorations in Time – the Kimberley Rock Art Dating Project* was delivered to a rapt audience in Perth in November by Professor Andrew Gleadow and was the fruit of many years work.

I feel immense gratitude to out two staff members: CEO Cas Bennetto and her assistant Gwen Allen, neither of whom is full time, for their continued highly competent contribution. The Board has remained hard working and engaged to a degree rarely seen and is evidence of its commitment to KFA's goals.



Mang Mayers

Maria Myers AC Chairman

LETTER FROM THE CEO

Throughout this year considerable momentum has been building for KFA's 20th anniversary which will be celebrated in September 2017. It has been the essence of much of our fundraising effort over the last 12 months, a focus which continues into the 2018 financial year. It has also been the motivation for much of the Foundation's communication. It is a coming of age story where the potency of what KFA does and represents has taken root on a broader scale. We are the sole foundation supporting academic research in the rock art universe in Australia. We have a unique funding model for funding research where the drivers are both the Aboriginal traditional custodians and the general public all seeking to understand and protect the cultural and historic significance of Australia's Indigenous legacy.

We are involved with the research at inception, at the grant level including funding submissions to other foundations as well as to the Australian Research Council, and then through the provision of administrative and logistical support throughout the life of each research project. There has been a move from trying to show the art is amongst the oldest in the world (which it may well be) to asking questions about what are the broad patterns and how did people live in the landscapes of the Kimberley. KFA's Science Advisory Council group is looking to answer questions based on sound science. This has led to a push to see a Chair in Archeological Science established at The University of Melbourne which is well on the way to becoming a reality.

In FY 2017 we've had two multi-million dollar scientific research projects on the go in the Kimberley involving Traditional Owners and around 40 scientists from multiple universities including researchers from France, Mexico and Chile. A rewarding experience for me was a 3-day visit to the Barking Owl field camp set up by the *Visions* and *Dating* team researchers in the Drysdale River National Park. Attending an archeological dig in the remote Kimberley with attendant explanations from Australia's elite rock art archaeologists and a leading French geomorphologist was a first. The opportunity to have hands-on involvement in the research and observe our dedicated scientists in the field was enormously satisfying. KFA is indebted to the support provided by Dunkeld Pastoral Company particularly but not exclusively in relation to the KFA-sponsored research field trips and logistical support.

Research sponsored by the Foundation has attracted considerable publicity in national and interstate media including The Australian, The Guardian, The Good Weekend, Radio National and ABC news. A press conference in Perth in November with Prof Andy Gleadow, KFA Director and Chairman of the Science Advisory Council was held with then WA Premier The Hon Colin Barnett.

We held five dedicated fundraising events in the year including our first cocktail party in Brisbane, a special evening at Allens Linklaters in Sydney and a booked out fundraising party hosted by KFA patrons Andrew and Nicola Forrest in Perth.

The response from our donors continues to be an inspiration for KFA. Their commitment and generosity drives us forward.



Cal Sermation

Cas Bennetto CEO



VISION

Our vision is to promote scientific research into the rock art of the Kimberley and, in conjunction with the Indigenous people of the region, ensure it is preserved and recognised for its national and international significance. 10N SASH FIGURES, DRYSDALE NATIONAL PARK PHOTO: PAULINE HEANEY

MISSION

Mission Statement

The Foundation supports and encourages integrated scientific research into the rock art of the Kimberley region for the purpose of increasing our knowledge of the earliest Australian people, their art and cultures and their relationship with a changing environment. We recognise the importance of traditional knowledge and support the presentation of it alongside the scientific.

We work with the assistance of local Aboriginal people and we are committed to sharing and using this knowledge to ensure the ancient rock art is recognised and promoted for its national and international significance and protected and preserved accordingly.

Mission Aims

The Foundation raises and allocates funds with the following aims:

- To foster scientific research into the rock art and its chronological, cultural, ecological and climatic contexts
- To promote research outcomes to ensure the broadest possible appreciation of the national and international significance of Kimberley rock art
- To collaborate and share knowledge with Aboriginal groups, the public, academic institutions and museums
- To closely involve local Aboriginal people in field research and training
- To encourage new young scientists into these fields of research
- To encourage protection and preservation of Kimberley rock art

With respect to all the objects, the Foundation respects the sensitivity of Aboriginal people to their cultural beliefs.

Mission Progress

Kimberley Foundation Australia has:

- Brought Kimberley rock art into Australia's public consciousness
- Influenced Australian universities to focus on Australian archaeology
- Changed the landscape for Australian students to study Australian rock art
- Collectively supported more than 10 new PhD students, 9 Honours students, 15 post-graduate students & fostered the work of more than 40 researchers across 10 Australian universities
- Underwritten 4 major Kimberley-focused Australian Research Council projects
- Collaborated on projects with 5 Aboriginal communities
- Developed a nationally accredited Rock Art Recording course
- Trained 33 Aboriginal participants in the scientific method of rock art recording
- Established a Chair in Kimberley Rock Art Research at the University of Western Australia. This Chair is now part of the worlds' leading rock art research hub – the Centre for Rock Art Research + Management
- Presented an annual multi-disciplined Kimberley scientific research workshop for 11 years.
 Supported more than 120 researchers to participate in the workshop
- Annually presented a public lecture series promoting research findings in 5 cities

Kimberley Foundation **Promotion &** Engagement 2017

Kimberley Foundation Ian Potter Chair in Rock Art at the **University of Western Australia**

Prof Peter Veth took up the position of the newly created Kimberley Foundation Ian Potter Chair in Rock Art in February 2013. The Chair sits within the University of Western Australia's Centre for Rock Art Research + Management (CRAR+M; www.uwa.edu.au/rock-art). At present there are two Kimberley Foundation Australia Directors on the CRAR+M Advisory board.

The Chair is funded in perpetuity by the Kimberley Foundation Australia through gifts from The Ian Potter Foundation (\$1.5 Million) and INPEX (\$500k) with matched funding of \$2 Million from the University of Western Australia.

Thanks to the vision and generosity of the above organisations Prof Peter Veth is able to provide national and international leadership to the study and teaching of Kimberley Rock Art as the Kimberley Foundation Ian Potter Chair in Rock Art. Since taking up the position he has contributed significantly to research, teaching and public outreach initiatives. He has established collaborative partnerships between industry, Aboriginal communities and academia including the successful securing of major ARC Linkage projects.

2016-2017 was an intensive and productive period with a combination of multi-disciplinary appreciation of Kimberley Rock Art at regional, national and international levels. The research of Prof Veth and his team is helping to improve understanding about the production, composition and significance of the Kimberley's diverse and unique collection of Rock Art.

A cohort of four PhD candidates is now working on issues of Kimberley rock art style, identity, dating and spatial analysis. The first Forrest Scholarship in the Humanities and Arts has been awarded to Ana Motta, an Argentinian scholar with a Masters from University College London. An ARC PhD scholarship has been awarded to Marine Benoit, a French scholar with a Masters from the Sorbonne. They will both work on the Kimberley Visions project led by the Chair and funded by the Kimberley Foundation Australia and the ARC.

Fieldwork and research is contained in the Research section of this report.

Public engagement, media and promoting outcomes

In his role as Chair Prof Veth has delivered addresses in the United Kingdom, Germany, France, the Netherlands, Argentina, USA and throughout Australia highlighting the significance of Kimberley rock art. Workshops have been

delivered to government planners and regulators, industry and professional heritage bodies. Outreach has included schools, public interest groups and academic forums with an active interest in the cultures, environment and landscapes of the Kimberley.

Filming has been carried out with Arte France, the ABC and other media outlets. These have helped to increase understanding of the role and importance of rock art and cultural heritage to Kimberley Traditional Owners and the wider community.

Partnerships with Indigenous corporations and arts bodies such as Balanggarra Aboriginal Corporation, Dambimangari Aboriginal Corporation and Mowanjum Arts Centre produce tangible outcomes for these communities and the public. Academic publications and reports profile recent significant research using both new data and legacy collections.

KFA Annual Science Advisory Workshop

The eleventh annual KFA Science Advisory Council (SAC) Workshop was held on 16 November 2016 at the University Club, University of Western Australia. The conference, Researching and Preserving Kimberley Rock Art, was attended by 14 KFA Directors and staff and 39 scientists and researchers making it the biggest workshop held to date.

The scientists come together at the multi-disciplinary workshop to report on progress and present and share their research findings with each other and with members of the KFA Board. It was heralded by all present as the best yet. This was no doubt due to the fact that many projects have now delivered results and the progress of many others has been significant.

High quality publications, completions and near completions of PhDs (the next generation of scientists) is very positive and will help drive success in new funding for research. The success of the science continues to attract new contributors, new kinds of analysis and organisations. This year scientists from Griffith, La Trobe and The University of New South Wales contributed talks and ideas.

Communications

The Foundation distributed four quarterly e-newsletters to 2000+ email subscribers which is a 30% increase on last year's subscribers. An additional six e-newsletters promoting public lectures were targeted to state-specific subscribers. The End of Financial Year Appeal email was sent to 2.282 subscribers.

A revised Who We Are, What We Do and Why brochure was updated and printed for distribution at KFA events. The Rock Art Styles of the North and Central Kimberley flyer, originally produced in 2014, is a sought-after document by Kimberley tour operators and had its 3rd re-print (2000 copies). The annual KFA Winter Newsletter, a 6-pp full colour document was printed and distributed in May 2017.

Events

During the year KFA presented 12 events. Five of these relate to the lectures and public talks (above). Five of the 12 events were supporter engagement / fundraising events and two events focused on profiling the Foundation, its mission and research.

Financial Year	2015	2016	2017
Public engagement & dissemination of research information	7	3	5
Fundraising events	2	3	5
Positioning & Profiling events	3	5	2

The first of these was a KFA Information session held in Derby, Western Australia during the Boab Festival when large numbers of Aboriginal people from remote communities come to town. KFA participated in the Derby Float Parade and hosted a light lunch at the Spinifex hotel. The second event was a Morning Tea with WA Premier Colin Barnett. The Premier was invited to a special briefing by the Science Advisory Council on 16 November at the University of Western Australia. The Premier in turn addressed the KFA Board and scientists and this was followed by a Morning Tea and KFA-hosted Media Briefing.

An end of year luncheon was held for Sydney-based KFA supporters on 22 November 2016, generously hosted by KFA Director Christina Kennedy. Chairman Maria Myers hosted a Christmas party at the Alexandra Club on 29 November in Melbourne attended by 72 of KFA's supporters. Dr Helen Green, a Post-doctoral geochemist specialising in Uranium Thorium dating spoke at the Christmas Party, explaining the dating technique and breakthrough in technological advances for dating rock art. For the first time in eight years the Foundation held a fundraising event in Brisbane generously hosted by Stuart and Joanna Tait. Badged as an introduction to the KFA, more than 60 guests attended a cocktail party at the Brisbane Club on 12 April 2017. A raffle ticket to the Bryon at Byron Resort generously donated by Lyn and John Parche raised \$1,470 on the night. The event generated five new donors and a commitment from KFA to return to Brisbane in 2018.

Allens Linklaters, KFA pro bono lawyers, hosted a cocktail party for the Foundation on 9 May 2017 at their office in Deutsche Place, Sydney. For the first time KFA charged guests to attend (to offset food and beverage costs) and provided an option to donate via the RSVP button on an electronic invitation. 22 donations were received over and above the \$25 ticket price. A special item, a Flynn Silver Bradshaw (Gwion) silver pendant and matching earrings, was auctioned on the evening by Paul Sumner CEO Mossgreen. A total of \$17,585 was raised.

The final fundraiser for the year was the highly anticipated cocktail party at Tukurua beach house in Cottesloe Perth, generously hosted and organised by KFA Patrons Andrew and Nicola Forrest. The invitation-only ticketed event (\$75 per ticket to offset costs) sold out. The event raised \$47,400 in donations.

Event Sponsorship and In-Kind Contributions

During the financial year the Foundation received \$53,332 of in-kind contributions. These relate to Allens for pro bono legal fees, KPMG for pro bono audit fees, the South Australian Museum for in-kind catering and venue, Voyager Estate for in-kind beverages and the Byron at Byron for providing the raffle prize at the Brisbane function. There was no event sponsorship during the year.

Fundraising

A campaign to raise the funds for an extended Rock Art *Dating* project '*RAD-2*' commenced. Although the funding period of the KFA-supported ARC Linkage Project formally ended on 30 June 2017, work will continue until the end of calendar 2017. A new application for the follow-on RAD-2 project was submitted to the ARC's Linkage Projects scheme in April 2017 with a final outcome expected in September 2017. KFA has committed \$500k to RAD-2.

Discussion and negotiations for a Chair in Archaeological Science have continued with The University of Melbourne and potential funders. The \$5Million required for a Chair in perpetuity at The University of Melbourne funds has now been secured with the announcement of the proposed Chair due to take place in September 2017.



Annual Public Lecture Series and KFA Talks

KFA's annual public lecture series is an important component of the Foundation's commitment to the dissemination of research information and public engagement. The 2016 annual public lecture Explorations in Time - the Kimberley Rock Art Dating Project was delivered by Prof Andrew Gleadow on the 15 November at UWA Auditorium with 250 people in attendance.

Prof Gleadow delivered the same lecture in Melbourne at the National Gallery of Victoria on 13 March 2017 and in Sydney at the Art Gallery NSW on 18 March. The Foundation partnered with the Art Gallery Society for the first time. Traditional Owner Ian Waina, one of the younger Aboriginal people partnering KFA on the project, addressed the audience about the importance of the dating research for his people.

KFA partnered with the South Australian Museum again in 2017 and Prof Veth gave a public talk on the *Kimberley* Visions project - Rock Art Dynamics of northern Australia on 17 May during Archaeology Week. Professor John Carty, Head of Anthropology, South Australian Museum introduced Prof Veth.

Cas Bennetto, KFA CEO, delivered a presentation on Kimberley rock art as the guest speaker at the annual Christmas Lunch at the Royal South Yarra Tennis Club Melbourne on 6 December 2016.

Media

The Foundation works hard to raise the profile of rock art and promote the work it is supporting. This is a fine balance of weighing up the desire to share and promote what we are doing as well as the impact of the research, and the scientists' need to publish their own findings prior to media pronouncements. The following is a list of principal media following the 2016 'dry' field trip season.

- ABC Kimberley Interview with Dr June Ross: Wasp nests help to unlock secrets of WA's Aboriginal rock art
- ABC, Erin Parke: Aboriginal rock art mapped in Kimberley as surveys build database, chronicle life of 'the old people'
- RN live interview with Peter Veth: Old indigenous rock art of the Kimberley rediscovered
- ABC News: Researchers track down Aboriginal rock art
- The Australian, Vicki Laurie: Rock Art's 'global masterpieces' reveal deep secrets
- The Guardian: Kimberley's hidden world of Indigenous rock art revealed by researchers
- The Good Weekend (Candy Baker) story supported by WA Tourism Commission & APT: Why Scientists are intrigued by the Gwion Gwion rock art of the Kimberley
- All media including press articles, radio interviews, the DVD and the ABC's 7.30 Report story can be seen on the website www.kimberleyfoundation.org.au/news/



Rock Art Dating Project

Dating the Aboriginal rock art of the Kimberley region WA - landscape geochemistry, surface processes and complementary dating techniques (LP130100501), led by Professor Andrew Gleadow, The University of Melbourne. KFA's 3-year \$1 million *Rock Art Dating* project undertaken with the Australia Research Council ended at the close of 2017.

The *Rock Art Dating (RAD)* project was designed to include a multi-disciplinary approach that would enable multiple dating strategies to be explored in parallel. The project is led by Prof Andrew Gleadow with a substantial group of collaborating researchers from the Universities of Melbourne, Wollongong, and Western Australia and ANSTO, and is supported by the Australian Research Council, with the KFA, Dunkeld Pastoral Company Pty Ltd and Archaeaus Pty Ltd as Partner Organisations. KFA's commitment to this project has been honoured. There is a nil balance.

Driven by what has been learned in the 3-year *Dating* project – that we can date the art; that it is painfully time consuming; that the samples that yield the older dates are few; that the art is older than the 20,000 year minimum age is now being proven, funding for an extended *Rock Art Dating Project*, RAD#2, was announced at the end of 2017. RAD #2 is funded for four years – to 2021.

To learn about the 4 dating techniques visit our website www.kimberleyfoundation.org.au/research/currentprojects/

Overview

Researchers continue to make progress on understanding rock surface processes and laboratory work using Uranium-series, Radiocarbon, Optically Stimulated Luminescence and Cosmogenic Radionuclide dating methods. All samples have been collected with the permission of, and in collaboration with Traditional Owners.

During the last year, characterisation of the four previously identified mineral accretion systems relevant to dating has been completed and published in the *Journal of Archaeological Science*: Reports, along with a companion report in Data in Brief (Green et al. 2017a, 2017b). Research to establish the new Uranium-series dating methodology on phosphate minerals within these accretion systems, including a new approach to calibrating initial Thorium levels (iTh), has also been completed and submitted for publication in *Quaternary Geochronology* (Green et al. 2017c). This paper also details a Pleistocene age for a motif at Freshwater Cove. Additional papers are currently in advanced draft form or at earlier stages of active development. It is anticipated that a series of at least 12 papers will result from the project over the next year. Dr Helen Green presented a paper on her U-series work at the 35th International Geological Congress in Cape Town, in August 2016 and Gaël Cazes made two presentations at the European Geosciences Union General Assembly in Vienna in 2016 and 2017. Further presentations will be given at specialist conferences in 2017. Several overview presentations on the project were also presented to university and special interest groups by project members during the year. Project Leader Andy Gleadow delivered the Annual KFA Lecture on the project in Perth, Melbourne and Sydney. Progress in the various *RAD* sub-projects has been excellent, although much still remains to be done.

Fieldwork

During 2016-2017 a significant amount of time has been spent in the field collecting samples and observing rock surface processes important to the dating methods.

July-August 2016

- 5-week field season in the Drysdale River National Park and King George River area
- 148 mineral accretion samples were collected, including
- 91 samples 'on art' collected on a range of art styles, as indicated below



- 57 samples collected to target detrital Thorium calibration
- 69 samples have been pre-screened using laser ablation trace element mapping

April 2017

- 2-week wet season field trip out of Theda Station
- 100 portable Fourier Transform Infrared Spectroscopy (FTIR) analyses were made at several shelters in the Drysdale River National Park (DRNP) to ascertain the suitability of this method for screening samples. The results are currently being processed
- 20 additional mineral accretion samples collected for dating and iTh calibration

June 2017

- 3 week field season in the DRNP
- 100 mineral accretion samples numerically the most successful sampling season to date, particularly in relation to Gwion motifs, indicated below



Radiocarbon dating of mineral accretions

In December 2016, 30 mineral accretion samples were screened using laser-ablation trace element mapping and milled for oxalate rich layers at The University of Melbourne with the aim of applying radiocarbon dating methods to the collected material. 30 samples were prepared and processed at the radiocarbon chemistry laboratories at ANSTO by Helen Green and Damien Finch, using new methods developed to specifically target carbon bearing minerals. 12 rock art associated accretions were identified as containing sufficient carbon to progress to dating analysis, primarily providing maximum ages on the associated motifs. The radiocarbon ages of the accretions underlying Kimberley rock art spanned between 25,398 and 1,910 yrs BP with some individual maximum ages significantly recasting our understanding of the antiquity and chronology of the art styles. Further sampling is required to be able to build a cohesive picture but analyses of samples collected in the 2017 field season should provide sufficient data for a stand-alone publication on the application of radiocarbon dating to these materials.

Uranium series dating of mineral accretions

The challenges surrounding the constraint of initial Th contamination are still being addressed by the researchers. Over 100 uranium-series dates have now been determined, many for off-art materials, but an increasing number now for under or over-art materials.

The major challenges facing the application of uranium series dating to Kimberley mineral accretions included: uranium concentration and distribution, the reliable closed system behaviour of targeted mineral layers and initial Th content. These have been addressed both by adaptations in the laboratory methodology and very significant improvements in sampling procedure and field identification of suitable material. As a result, we can expect a much higher proportion of the samples collected in the most recent field seasons to provide reliable dates for the associated motifs.

Researchers continue to refine the laser ablation ICP-Mass Spectrometer screening and targeted micro-milling application to address the issues surrounding initial Th content and have expanded the collection of additional thick, 'off art' layered samples from inland sites that can be used to characterize the distribution of iTh concentrations across time and space. Once fully constrained the correction value can be applied to both new samples and samples for which we already have preliminary data.

Optically Stimulated Luminescence (OSL) dating

Suitable large mud wasp nests suitable for OSL dating are much rarer than other dating materials, but a very successful sampling of 22 such nests, all with a clear relationship to rock art, was made by Prof Bert Roberts of the University of Wollongong with assistance from other *RAD* specialists in July 2016. These samples are still being processed, but results are expected shortly.

Radiocarbon dating of mud wasp nests

Highlights of the radiocarbon dating project being carried out by Damien Finch over the last year have included the following:

- Total of 142 samples pre-treated for radiocarbon dating
- 97 samples radiocarbon dated (45 were too small/failed)
- Development of pre-treatment protocol to reduce anomalous results
- UoM Earth Sciences Radiocarbon Pre-treatment facility established
- Wet Season 2017 Fieldwork; modern nest composition
- Drysdale 2017 Fieldwork; a record 162 new samples collected
- Statistical methodology to generate age estimates for art styles
- Mineralogical analysis for two papers (Green et al 2017)

Of the 142 samples pre-treated, a total of 97 samples contained enough carbon for AMS measurement. This includes 29 age estimates on modern wasp nest samples as part of the work to establish the inbuilt age of charcoal in newly constructed nests. Most of the other 68 dates were from nests under or over paintings. A 'reliability score' has been developed for each measurement to reflect a range of sample attributes, pretreatment and analytical factors. Ages obtained so far range from modern to just over 20,000 years (cal BP).

While the development of pre-treatment methods in the last year appears to have removed or explained the type of anomalies encountered previously, a new type of anomaly occurred in two new samples. Work is continuing to understand the root cause. Progress with radiocarbon measurements was significantly impeded by protracted outages on more than one of the AMS machines at ANSTO in 2016, with the impact flowing into 2017.

Wet Season fieldwork greatly increased our understanding of how mud wasp nests are constructed and the range of mud sources used. Fresh mud was sampled for further testing as earlier results on modern nests established that some included charcoal can be more than 1000 years old at formation, adding a new source of uncertainty to measurements on old nests. Samples collected this year will be dated to determine an average age for charcoal in new nests. This average will then be employed in the statistical model to be used to determine estimates for main rock art styles.



Cosmogenic Radionuclide (CRN) Dating:

The ANSTO-Wollongong project team have now completed their study of average erosion rates across 27 river catchments in the central and northern Kimberley based on 10Be and 26Al concentrations in stream sediments. These reveal basinwide erosion rates from 2-9 mm per thousand years, which are amongst the slowest rates ever recorded, despite the high monsoonal rainfall over the area. The faster rates are associated with higher bedrock slopes and especially escarpments.

The significance of these results is that they confirm the great stability on the landscape over the time that indigenous people have been living there and the likely longevity over tens to hundreds of thousands of years of many of the rock art shelters. The same methods applied to carefully selected samples associated with shelter-forming and sheltermodifying rock slab falls are also providing new constraints on the timing of rock art.

Five rock art sites have been dated so far by this method with ages ranging from 9.8±1.9 ka to 181±22 ka. All of these provide maximum ages for the rock shelters except the youngest, which represents a fall within the rock art sequence, thus giving both a maximum and minimum age for different motifs present. Samples from other rock art related sites are still being analysed.



Kimberley Visions Project

Kimberley Visions: Rock Art Style Provinces of North Australia (LP150100490) led by Prof Peter Veth, The University of Western Australia.

Kimberley Visions is a 5-year Australian Research Council Linkage Project. The project total is \$1.3 million in direct funding with a total of \$2.4 million including in-kind support.

Project partners include the Kimberley Foundation Australia (principal funder), the Western Australian Department of Parks and Wildlife, Dunkeld Pastoral Company and the Universities of Melbourne, Monash and UWA. Balanggarra Aboriginal Corporation and the Kimberley Land Council are the key Indigenous Partners. International collaboration is enabled through Frances Centre for Scientific Research (CNRS) and the University of Savoie, France.

Kimberley Visions is a major scientific push to connect different art periods and map Australia's earliest human footfall across the northern landscape. It focuses on the emergence of rock art styles in northern Australia and how the art bodies we describe as Kimberley and Arnhem Land came to exist through time. There are known similarities and differences particularly in the earliest visible Kimberley rock art paintings forms (often depicting humans, animals and plants) and these have increased through time.

Fieldwork

The expert archaeological teams, along with Balanggarra traditional owners, completed a three-month survey July-September 2016. The researchers worked across elevated rock plateaus and caves at Drysdale, Forrest and King George Rivers in the Kimberley. The expedition found 250 new sites in areas covering four times the size of Tasmania.

Peter Veth (UWA) and Bruno David (Monash University) led three excavations at Wanjina Rock shelter and at another site with more than 1,000 cupules. John-Jacques Dellanoy from the French National Centre for Scientific Research carried out geomorphic interpretations of the formation history of the shelter and helped direct excavation towards recovery of wall fragments, possibly with art on them. A rich record of flaked and ground stone artefacts, grinding slabs, ochre and hearths have been recovered with samples being submitted for dating.

At Oomarri on the King George River Traditional Owner Ambrose Chalarimeri and the Balanggarra Indigenous Protected Area Rangers oversaw and participated in an excavation program at a major site complex on a lake and adjacent to a rich rock art locale. Covering several hectares this occupation site was excavated to below 2.20 metres revealing intact hearth stone arrangements, flaking floors and implement production areas. Optical stimulated Luminescence (OSL) and 14C samples were taken. Another excavation was carried out in a smaller shelter with art as well as dating of crusts and mud wasp nests. Over 150 new sites and complexes were recorded at Oomarri and surrounds.

The UWA team returned with staff from Universidad de Tarapacá, Chile and La Trobe University to complete the third month of fieldwork during September 2016 in the Forrest River catchment. They surveyed areas for rock art and occupation sites with Rangers and Traditional Owners using helicopter, boats and on foot.

In May 2017 Sam Harper, Research Fellow, Centre for Rock Art research + Management at UWA accompanied Balanggarra rangers on their annual fire walk, advising on managing rock art and heritage sites. A joint UWA-Balanggarra paper was presented at the Australian Archaeological Association annual conference in December and awarded the Waikato Prize for Best Paper.

KFA has committed \$100,000 a year for five years. A balance of \$300,000 remains.

Past Indigenous Subsistence Practices in the Kimberley

Past Indigenous Subsistence Practices in the Kimberley: a comparative approach led by Prof Richard Cosgrove Latrobe University, and Dr Judith Field and Assoc. Prof Adelle Coster – University of NSW.

The project initially examined plants in both subsistence and in artistic representations. A key to understanding the role and importance of plants in past subsistence practices is their representation in the rock art. Recent research has shown numerous depictions of geophytes and fruits in the Kimberley rock art repertoire and that these formed an important source of nutrition for Aboriginal people.

This project has a nil balance.

Research Publications resulting from KFA-sponsored research

Rock Art Dating Project / Kimberley Visions Project

Green H., Gleadow A., Finch D., Hergt J., and Ouzman S., 2017a. Mineral Deposition Systems at Rock Art Sites, Kimberley, NW Australia-Field Observations. Journal of Archaeological Sciences: Reports 14, 340-352.

Green H., Hellstrom J., Gleadow A., Ouzman S., and Veth P., 2017c. A new approach to the uranium series dating of mineral accretions associated with the rock art in the Kimberley, NW Australia. Quaternary Geochronology, QUAGEO-2017-62. In Review, submitted 11 June 2017.

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Lifeways of the First Australians Project

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Kimberley Foundation Australia Governance 2017

Researching, preserving and promoting Kimberley rock art www.kimberleyfoundation.org.au



Board of Directors

Chairman - Maria Myers AC

Maria Myers is Chairman of the Kimberley Foundation Australia and director of the Australian String Quartet, McClelland Sculpture Park and Gallery and Dunkeld Pastoral Company Pty Ltd. She is also a member of the State Library of Victoria Foundation Council, Loreto College Ballarat School Council and a member of St Mary's College Council, University of Melbourne. Maria joined the Board in 2001. In 2016 Maria was awarded a Companion of the Order of Australia for the advancement of the understanding of Indigenous rock art and for her service to the community through philanthropic leadership.

Deputy Chairman - Laurie Brereton

The Hon Laurie Brereton is Chairman of Beelgara Estate (Australia) Pty Ltd, Wine Insights Pty Ltd & Cumulus Wines Pty Ltd and is Director of Airbus Group Australia Pacific Limited & John Curtin House Limited. In 2004 Laurie retired from public life after a distinguished parliamentary career spanning 34 years in the New South Wales Legislative Assembly and the Australian House of Representatives. Laurie joined the KFA Board in 2006.

Director/Treasurer - Brenda Shanahan

Brenda Shanahan has served in senior executive and board roles in Australia and overseas, primarily in stockbroking, funds management and investment consulting. She was appointed Director of DMP Asset Management in 2010. Brenda is a former member of the Australian Stock Exchange, partner of May Mellor Laing & Cruikshank, principal of Investment Consulting and worldwide partner at WM Mercer. Brenda is currently the Chair of St Vincent's Medical Research Institute and a director of Challenger Limited, Clinuvel Pharmaceuticals Ltd and Bell Financial Group. Brenda joined the KFA Board in 2009.

Director – Susan Bradley

Susan Bradley has lived in the Kimberley for 47 years. In 1994/95, at the request of four Ngarinyin Aboriginal elders, she established 'Bush University'. From this developed Friends of the Ngarinyin, and with fellow KFA Director Christina Kennedy she formed the Wandjina Foundation in 1997. In 2002 The Wandjina Foundation was renamed the Kimberley Foundation Australia. Susan has been a KFA Board member since. Susan has held many prominent public and private board positions, primarily relating to northern Australia. She lives on a pastoral property in the North Kimberley and manages three cattle stations. She is involved with many Aboriginal communities and is a member of the Commonwealth Regional Development Council.

Director – Julian Burt

Julian is director/owner of Metzke Pty Ltd and MJW Rail Pty Ltd. He is also a director of Margaret Court AO Community Outreach Foundation and West Australian Opera. Julian is Chairman, Finance Committee, Liberal Party of Australia (WA); Member of Chapter and Governor of St George's Cathedral in Perth; National Gallery Foundation Directorship and Patron; and West Australian Football Hall of Fame. Julian joined the KFA Board in 2014.

Director – Bruce Cameron

Bruce Cameron is a graduate of Monash University and holds a Bachelor of Jurisprudence and Bachelor of Laws. He is a commercial lawyer with around 30 years' experience in the law and business. Bruce is a senior member of a boutique commercial law practice he established with others in Melbourne in 1986. Bruce assisted KFA for several years on a pro bono basis on matters concerning Aboriginal rock art and culture. He is a director and trustee of a number of private companies and trusts which are involved in matters of business and the care of others. Bruce joined the KFA Board in 2010.

Director – Rona Charles

Rona Charles is a Nyikina/Ngarinyin woman belonging to the Nikina/Mangala and Wilinggin people of the North Kimberley in Western Australia. She is based in the Yumurlun (Pandanus Park) Community and Mowanjum Community of WA. Rona is a leader in teaching young people about learning and maintaining junba dance and stories, and how these practices relate to country, incorporating junba practice in her work as a ranger and anthropological and conservation consultant. Rona joined the KFA Board in October 2016

Director – Professor Andrew Gleadow AO

Andrew Gleadow is an Emeritus Professor of Geology and former Head of the School of Earth Sciences at the University of Melbourne. In 2017 he was awarded an AO for distinguished service to the earth sciences and to education, as an academic and researcher in the field of thermo- chronology and landscape evolution, and to professional geological and scientific societies. Professor Gleadow has researched and published widely on the development and application of radiometric dating techniques, particularly in fission track analysis and thermochronology. His work has included dating of hominin fossil sites in East Africa. Andy is a Fellow of the Australian Academy of Sciences and a former President of the Geological Society of Australia. He was appointed Chair of the Science Advisory Council in November 2013 and joined the KFA Board in 2014.

Director – Nolan Hunter

Nolan Hunter is CEO of the Kimberley Land Council, an organisation representing Traditional Owners in the Kimberley. Nolan is a Bardi man with strong links to his people and culture across saltwater country in northern Western Australia. He spent 14 years with various Commonwealth agencies specialising in Indigenous affairs, and has worked with Indigenous communities in Australia. Nolan is Chairman of the National Native Title Council as well as an Indigenous Leader representing the Kimberley in Empowered Communities, a group of Indigenous Leaders informing policy development to the Department of Prime Minister & Cabinet, Indigenous Affairs. Nolan was appointed to the KFA Board in 2014.

Director - Christina Kennedy

Christina Kennedy and fellow KFA Director Susan Bradley established KFA in 1997 and together remain the longest serving members. Christina is a physiotherapist and operated a private clinic in Sydney for 25 years. She is now a farmer in Bodalla NSW. She is a director of a number of private companies and a former Director of Film Australia and The Institute for Professional Practice in Heritage and the Arts. She is a member of the University of Western Australia's Centre for Rock Art Research + Management Advisory Board.

Director - Wal King AO

Wal King holds a Bachelor of Engineering, a Master of Engineering Science and an Honorary Doctorate of Science from the University of New South Wales. Wal has worked in the construction industry for over 40 years and was CEO of Leighton Holdings Limited from 1987 until December 2010. He is Chairman of Sundance Resources Ltd; Deputy Chairman of UNSW Foundation Ltd; a Director of Coca-Cola Amatil Ltd, and a Senior Advisor to CITIC Mining International Ltd. He is an Honorary Fellow of the Institution of Engineers Australia, a Foundation Fellow of the Australian Institute of Company Directors, and a Fellow of the Australian Institute of Management, the Australian Institute of Building and the Australian Academy of Technological Sciences and Engineering. Wal joined the KFA Board in 2008.

Director – Sam Lovell AM

Sam Lovell lives in Derby in the Kimberley. He has been employed by Aboriginal Economic Development (AED), Department of Industry and Resources as an Aboriginal Tourism Project Officer since 1995 and works as an indigenous consultant for Western Power. Sam has a background in tourism and established his own business 'Kimberley Safari Tours' in 1981. A tourism award in his name is presented annually by the Kimberley Tourism

Association. Sam is regarded as the 'father' of Indigenous Tourism in WA and is affectionately known as 'Mr Kimberley'. Sam is also a musician and travels across the country to Queensland every year to play at the Tamworth Music Festival. Sam joined the KFA Board in 2009.

Director - John Mullen

John Mullen is the Chairman of Telstra and until recently was the Managing Director and Chief Executive Officer of Asciano Ltd. He has worked for more than two decades in a multitude of senior positions with different multinationals in the logistics industry. John is passionate about maritime exploration and the Kimberley WA. He spends his spare time diving for colonial shipwrecks and is an avid collector of historical material from early maritime voyages to the Pacific.

Directorships of listed companies (past three years) and other directorships/appointments: Director, Asciano Ltd (2011-2016), Brambles Limited (2009-2011). Other: Member, Australian Graduate School of Management (from 2005) and Councillor of the Australian National Maritime Museum (from 2016). John joined the KFA Board in 2016.

Director – Deidre Willmott

Deidre Willmott is Chief Executive Officer of the Chamber of Commerce & Industry WA.

Deidre holds law degrees from the University of Western Australia and a Master of Laws from the University of Melbourne. She has been a senior executive at Fortescue Metals Group Ltd and Chief of Staff to the Premier of Western Australia. Deidre joined the KFA Board in 2010.

Patrons

KFA Patrons: Andrew Forrest AO & Nicola Forrest

Andrew and Nicola Forrest are philanthropic leaders and strong community and arts supporters. They believe a collaborative approach encompassing the arts, education and health is essential to build sustainable empowerment in individuals and communities. They are passionate about the Kimberley's rock art and support KFA's goals to research and protect it. Nicola is CEO of the Minderoo Foundation which she and Andrew established in 2001.

Science Advisory Council

The Foundation established a Science Advisory Council (SAC) in 2006 which celebrated its eleventh anniversary in FY 2017. KFA's relationship with tertiary and cultural institutions is vital as the Foundation continues to fund and initiate research centred on Kimberley rock art. The SAC is made up of a diverse group of eminent scientists from tertiary institutions across Australia who guide and shape KFA's long term research program. The Chair of the SAC is Professor Andrew Gleadow AO, FAA, Professor of Geology and former Head of the School of Earth Sciences at the University of Melbourne.

The SAC comprises ten members plus three ex-officio member organisations.

Members

- Chairman, Prof. Andrew Gleadow AO, University of Melbourne
- Deputy Chairman, Prof. John Dodson, previously ANSTO and currently at the Institute of Earth Environments of The Chinese Academy of Sciences (Xi'an)
- Mr. Kim Akerman, Adjunct Professor of Archaeology and member of the CRAR+M Advisory Board at The University of Western Australia (UWA)
- Prof. Jane Balme, University of Western Australia
- Assoc. Prof. Bruno David, Monash University
- Prof. Janet Hergt, University of Melbourne
- Prof. Simon Haberle, Australian National University
- Prof. Hamish McGowan, University of Queensland
- Ms Cecilia Myers, Dunkeld Pastoral Co
- Professor Peter Veth, Kimberley Foundation Ian Potter Chair in Rock Art, University of Western Australia

Ex Officio members

- West Australian Museum represented by Dr Moya Smith
- Kimberley Society represented by Dr Mike Donaldson
- UWA Centre for Rock Art Research+Management represented by Prof Jo McDonald

Alternate members

- Mr Jeff Gresham, Kimberley Society, alternate for Mike Donaldson
- Prof. Sue O'Connor, Australian National University, alternate for Jane Balme
- Assoc Prof Sven Ouzman, CRAR+M alternate for Professors McDonald and Veth
- Annie Carson, Western Australian Museum, alternate for Moya Smith

Members and alternates of the Science Advisory Council do not receive fees.

During the current financial year the SAC participated in the annual workshop (November 2016) and in three teleconferences. Formal agendas and minutes were recorded and kept.

Research Funding

Rock art research is central to answering some of the big questions about human migration. Kimberley rock art is a complex archaeological subject and KFA has responded by developing a research program that spans key scientific disciplines. KFA supports a broad range of scientists from the fields of archaeology, geology, palynology and related areas who work with Aboriginal communities to uncover Australia's earliest settlement history.

Project selection

The KFA's Science Advisory Council assesses each project proposal in the context of KFA's long-term research interests and with consideration of the interests and participation of indigenous communities, sustainable research outcomes and the wider academic discourse.

KFA provides seed funding for approved 'first stage' research particularly if the research has potential to become an Australian Research Council (ARC) linkage project with academic partners. KFA will then consider funding 'stage two' to support an ARC grant application. Selected projects are anticipated to produce research results that will inform both policies and practical measures, leading to better protection and preservation of Kimberley rock art. Findings will also contribute to measures to find an optimum balance between access and conservation, which is increasingly becoming an issue.

Research findings are communicated via professional journals, the media and a series of public lectures.

Research themes

The priority research themes reflect leading questions in Kimberley rock art research and guide KFA in identifying and funding research projects:

- 1. Reconstructing past climate and environments
- 2. The production, composition and conservation of Kimberley art
- 3. The antiquity of engraved and pigment art in the Kimberley and how we understand its variability across space and time.
- 4. The chronology of human occupation of the Kimberley in the context of archaeological and genetic data from Sunda (southeast extension of the continental shelf of Southeast Asia) and Sahul (part of the continental shelf of the Australian continent)

New funding

In FY2017 KFA approved funding of \$2,597,000

- \$500,000 was approved for Rock Art Dating-2, the extension of the Rock Art Dating project. The funding period for the current Rock Art Dating project formally ended on 30 June 2017. Work on the project will continue until the end of calendar 2017 and available project funds will be sufficient to cover this extended period. A major new application for the follow-on RAD-2 project was submitted to the ARC's Linkage Projects scheme in April 2017. The outcome is expected in September 2017. To support this application KFA committed \$500,000. The new funding will commence in 2018.
- Funding of \$20,000 was approved to provide assistance writing the grant to the Australian Research Council for the *Rock Art Dating-2* project. A balance of \$17,072 remains.
- Funding of \$30,000 was approved to digitise the Balanggarra rock art data records of the Takaraka Archive Database. A balance of \$9,815 remains.
- Funding of \$10,000 was approved for an extension of *Palaeoclimate* (Fitzroy Catchments Fluvial Systems) project. A balance of \$10,000 remains.
- Funding of \$17,000 was approved for a Radio Carbon Pre-treatment lab at University of Melbourne. A balance of \$17,000 remains.
- Funding of \$20,000 was approved for *Past Indigenous Subsistence Practices in the Kimberley: a comparative approach* project led by Prof Richard Cosgrove Latrobe University, and Dr Judith Field and Assoc. Prof Adelle Coster – University of NSW. A balance of \$0 remains.
- Funding of \$2,000,000 was approved for a Chair in Archaeological Sciences at Melbourne University.
 \$1,500,000 to come from Minderoo Foundation and
 \$500,000 from KFA. A balance of \$2,000,000 remains.
- Funding of \$27,200 previously approved (FY2016) for a pilot study of *High Resolution Records of Environmental Changes* led by Prof Jon Woodhead from the Dept Earth Sciences at the University of Melbourne will now go towards a combined Landscape Evolution project working alongside scientists from ANSTO and the University of Wollongong. A balance of \$27,200 remains.



V WAINA & DAMIEN FINCH, MELBOURNE UNIVERSITY LAB PHOTO: HELEN GREEP





KIMBERLEY FOUNDATION K AUSTRALIA

Researching, preserving and promoting Kimberley rock art.

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