

## Impact case study (REF3)

<b>Institution:</b> University of Central Lancashire		
<b>Unit of Assessment:</b> UoA 15 Archaeology		
<b>Title of case study:</b> <i>Using archaeology to empower Native American and other communities in California.</i>		
<b>Period when the underpinning research was undertaken:</b> 2007 - Present		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Dr David Robinson	Reader in Archaeology	1 Sept 2007 – Present
<b>Period when the claimed impact occurred:</b> 2013-2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<p><b>1. Summary of the impact (indicative maximum 100 words)</b></p> <p>Historical processes of genocide, colonialism and exclusion have disenfranchised Native Californians from their own ancestral past. Through archaeological research and capacity building work with landowners and Indigenous communities, Robinson's research has contributed to redressing this intergenerational trauma by directly reconnecting Native communities to their lost ancestral sites and material culture. This research also enables landowners and museums to better manage resources and deliver new educational programs. Innovative collaborations using virtual reality technology and film making techniques have empowered Native Californians to engage with their own heritage resources in new ways, providing skills that enable them to become stewards and storytellers of their own heritage.</p>		
<p><b>2. Underpinning research (indicative maximum 500 words)</b></p> <p>The 100,000-acre Wind Wolves Preserve (WWP) is a unique part of the interior landscape of California. It has long been an archaeological blind spot, as research has previously focused on the surrounding coastal marine and valley lacustrine environments. Divorced from these ancestral lands and denied Federal recognition until 2012, the Tejon Indian Tribe has struggled to reconnect to places that are fundamental to their cultural identity. The archaeological focus away from the interior and the cultural and tribal disconnection from the landscape has meant that assumptions about the Indigenous past in interior California have not been based on firm archaeological evidence or Native accounts. Instead they have focused on the idea that interior landscapes were isolated, even in prehistory. Researchers had assumed since the 1960s that rock art sites were remote, removed from normal occupancy and therefore were only visited and owned by male shamans to the exclusion of other members of the Native community. Such narratives seep into contemporary Native discourse. Robinson's sustained research in this previously under-researched area has led the way by discovering over 150 previously undocumented sites on the WWP dating from circa 6000BP into the Colonial Period, the period in which the Tejon community was forged [1, 3, 6]. Survey, Geographic Information Systems analyses and excavations by Robinson and his team were conducted for the first time at multiple rock-art sites, producing clear evidence for intensive inhabitation of rock-art localities within the normal seasonal and daily activities of all members of indigenous society [1,3,6]. The discoveries demonstrated that the art was a collective media of inclusivity within the wider community, rather than sites of male shamanic isolation and that the landscape was thoroughly inhabited by a resident population. The research also shows significant use of rock-art locales as refuges and places of cultural resistance in Colonial periods [3]. The site of Pinwheel Cave dates throughout the Colonial Period into the time of formation of the current Tejon Tribe. It not only provides the first evidence anywhere in the world for the ingestion of hallucinogens at a rock art site but it also demonstrates a communal context for rituals associated with a summer solstice alignment event and the interplay of ritual with rock art [6]. The AHRC funded Gordian Knot Project (2016-2018) focussed on the complex painted site of Pleito and integrated a suite of portable and site-based techniques into a Virtual Reality platform [4, 5]. Analyses show numerous phases of art making, variations in artistic skill, and changing pigment recipes, providing evidence of the multi-authorship of the artworks, reiterating the collective making of the art [4, 5]. Another key finding was the discovery and analysis of the largest basketry assemblage ever discovered in the region at Cache Cave (2012-2018) [2]. Native Californian basketry, typically made by Native American women, is considered to be the finest indigenous basketry ever produced in the world. This material provides the first large scale assemblage of prehistoric basketry made by the ancestors of the Tejon Tribe. Robinson's research on the assemblage has discovered how Native</p>		

women's craftwork contributed to the wealth of households, who cached their baskets and how women's power was expressed through practices of enskillment [2].

### 3. References to the research (indicative maximum of six references)

*All peer reviewed papers. All outputs can be supplied by the HEI on request*

1. Robinson, DW, and M Wienhold. 2016. Household Networks and Emergent Territory: a GIS study of Chumash households, villages, and rock-art in South-Central California. *World Archaeology, Households and Landscapes*, 48(3):363-380.
2. Robinson, D.W. 2017. Assemblage Theory and the Capacity to Value: An Archaeological Approach from Cache Cave, California, USA. *Cambridge Archaeological Journal* 27(1):155-68.
3. Bernard, J., and DW Robinson. 2018. 'Contingent Communities in a Region of Refuge', pp. 113-132. In K. Hull and J. Douglas (editors.) *Forging Communities in Colonial Alta California*. University of Arizona Press, Tucson.
4. Kotoula, E., Robinson, D.W. and Bedford, C. 2018. Interactive relighting, digital image enhancement and inclusive diagrammatic representations for the analysis of rock art superimposition: The main Pleito cave (CA, USA). *Journal of Archaeological Science* 93, 26-41.
5. Cassidy, B., Sims, G., Robinson, D.W., and D. Gandy. 2019. 'A Virtual Reality Platform for Analyzing Remote Archaeological Sites'. *Interacting with Computers* 31(2):167-176.
6. Robinson et al. 2020. 'Evidence of *Datura wrightii* at Pinwheel Cave provides the first unambiguous confirmation of the ingestion of hallucinogens at a rock art site'. *Proceedings of the National Academy of the Sciences*

### 4. Details of the impact (indicative maximum 750 words)

After roughly 200 years of intergenerational trauma seen in genocide, dispossession and marginalisation, the Tejon Indian Tribe successfully lobbied to be "reaffirmed" (reinstated) as a Federally recognized tribe. Coinciding with this legal fightback, the Wind Wolves Preserve (WWP) was formed in 1996 from the San Emigdio Rancho, lands which were previously inhabited by the ancestors of the Tejon tribe. At nearly 100,000 acres, the WWP is the largest non-profit land holding of its kind in the American West and is dedicated to providing educational programs for California's youth. In 2012 the Tejon were officially recognised as a sovereign Indian nation. Since then, the 1,000 members of the Tejon Tribe have embarked on the daunting task of "nation-building", from forming its governmental infrastructure to developing sociocultural programs. It is within the context of tribal nation-building and the development of cultural resources by the WWP, with its goals of educating the public, that Robinson's research has had an impact. The discipline of archaeology is often considered by Native Americans as part of the colonial project of dispossession. As the Tejon tribe state: "**Native American communities tend to maintain a rather negative perception of archaeologists, and are often reluctant to endorse or participate in any sort of archaeological research focused on their lands/ancestors.**"[A] This case study illustrates the importance of aligning archaeology more directly towards processes of restorative justice for Indigenous people.

#### **Re-connecting Indigenous peoples with their cultural landscapes, resources, histories and identity**

The majority of the contemporary Tejon community had not previously visited their ancestral lands on the WWP. Sites such as Cache Cave and Pinwheel were lost to them until Robinson's research re-discovered that these were ancient Tejon sites used by their entire community [1,2,6]. During 2017-2019 a total of 80 Tejon tribal members were re-introduced by Robinson to these ancestral places and to the lands of the San Emigdio Mountains [A]. This enabled tribal leaders to perform traditional songs and ceremonies, a vital component in Native American practice that according to Sandra Hernandez, Tejon Executive Secretary, serves to "**“breathe life’ into these cultural and sacred places, which have laid dormant for roughly a century.**"[C] The Tejon were able to view their ancestral rock paintings and see their ancestors' artefacts in situ for the first time in decades or even centuries. This has proved to be an emotional, spiritual, sociocultural and meaningful life experience for tribal members. Reconnecting to these cultural landscapes is a critical prerequisite for reclaiming their history and restoring their cultural identity, part of the process of healing intergenerational trauma [C]. During these visits the tribal youth were able to climb on the rocks, to see the artistry of their ancestors and to experience being in this traditional landscape for the first time. This is vital for

the long-term reconnection of people and place in this landscape. Significantly, Robinson's discovery of psychotropic plants used at Pinwheel Cave [6] and its association with the summer solstice has had a transformative impact on the Tejon ritual calendar. This discovery was shared with the Tejon as part of these expeditions, empowering them to create a new tradition. They now visit this location every summer solstice. As the tribe states: **"Thanks to Dr. Robinson's research and the graciousness of the WWP, Tribal Members now make an annual pilgrimage to Pinwheel Cave in order to "breathe life" back into this ancient tribal tradition."**[A] Robinson's research has also enabled the Tejon tribe to work directly with the WWP by bringing the Tribe onto the Preserve and meeting with the WWP staff. The Tribe now has long-term access to the WWP independent of Robinson's direct involvement, enabling them to move forward independently in engaging with their own ancestral past [A, C]. In the words of the Tribe, this is an example of the **"symbiotic commitment"** whereby the WWP and the Tribe are now developing a Memorandum of Understanding to enshrine that commitment in perpetuity [A]. The WWP states that: **"As stewards of the Native landscape, that continuing to grow our relationship with the Native Americans who lived here for thousands of years before us is a vital element of our mission of restoration."**[C] The tribe now communicates and works with the WWP to gain access to their lands and have participated on the WWP's Annual Spring Festival every year since 2017 [A, C]. In addition, Robinson ran a rock-art stewardship workshop, in collaboration with the Los Padres National Forest Partners in Preservation program, for members of the Tribe's Heritage committee. They co-created a stewardship training programme comprising of a training film and guide materials so that the Tribe can officially act as stewards of the rock-art sites [A, C, D]. Based upon the discoveries of so many sites on the WWP and documentation in a GIS database [1], Robinson contributed his expertise to a Multicultural Initiative for Community Advancement Cultural Grant application in collaboration with the Tejon Tribe to create a place-name map for tribal language revitalisation purposes [A]. A grant of USD15,000 was awarded enabling Robinson to synthesise his research into a database and a workshop. This was held in June 2019 with 23 tribal members. The outputs of this workshop were a tour guide map and a video of the WWP and surrounding region, enabling tribal members to travel through the area while learning georeferenced place names in Native languages [A]. Finally, Robinson's discoveries at Cache Cave [2] have enabled the Tejon tribal members to re-discover some of their ancestral basketry making techniques while also learning about a wide range of other cultural resources created by their ancestors [A]. The baskets are curated at the Santa Barbara Museum of Natural History (SBMNH) [B]. Members have visited the site, giving blessings before excavations and witnessing the recovery of some of the artefacts. They have visited the artefacts at the museum (total of 25 tribal members). This is highly significant as this is the first significant basketry assemblage ever to have been recovered in Tejon lands, allowing them the first glimpse of a cultural tradition that had been destroyed by colonial oppression. Robinson spearheaded a collaboration with the WWP [D] raising USD10,000 to support a tribal program of workshops to re-learn tribal basketry skills based upon the baskets from Cache Cave [A]. The Tribe hired an expert Native basket maker from a neighbouring Tribe to teach them how to make baskets within their own traditions. The first of these workshops took place in September 2019 where ten tribal members began making cradleboards [A]. A second session was held at the SBNHM in February 2020 where two of the tribe's cultural resource members spent two days with Robinson and Dr. Edward Jolie (Cache Cave Project basketry specialist). They worked directly with the Cache Cave assemblage to learn about methods used by the ancestors to make the specific baskets left in the cave system [A, F]. As the Tribe states these activities with the basketry helped **"strengthen the Tribe's collective cultural identity."**[A].

#### **The co-production of innovative Virtual Reality environments and films**

Robinson has generated high-end Virtual Reality (VR) recreations of the fragile rock-art site of Pleito [4,5] as well as some of the finer baskets from Cache Cave [2]. Robinson has provided a VR setup to the Tejon Tribe as a portable immersive museum, giving members of the community unhindered virtual access to Pleito and some of the recovered basketry [A]. The impact of this was measured through a survey of 22 tribal members which showed that the VR application had profound personal value for the users [G]. One tribal member stated: **"I liked that you could get close to and look at the painting without going there, thus not impacting the site"**[G]. Another stated: **"to hold and look at baskets from ancestors was mind-blowing."**[G] Following this, a series of VR workshops took place with 70 Tejon members (2017-2019) who

are now co-producing new iterations with us, including the recording of Native songs in their traditional language into the VR model for tribal members to learn the songs and lost languages themselves [A, G]. The significance of this impact is that it empowers the Tejon Tribe to participate in the creation and dissemination of this via this immersive platform. The tribe has been using the VR in their offices for their own educational purposes [A]. As the Tribe states, the VR is the most significant impact of Robinson's work, saying: **"This has directly benefited the Tribe by empowering Tribal Elders and Youth (who are not physically capable of visiting Pleito Cave) to experience the art of their ancestors as though they were *actually* there in the cave! Over the last few years, I have personally led over 100 local Native Americans (from the Tejon and other Tribes....on virtual tours of Pleito Cave"**[A]. The VR has also been utilized at the WWP Nature Festival to educate non-natives with one participant highlighting the impact of the VR explaining the benefit of: **"Being able to experience the cave up close without the hassle or damage to the real cave."** [K] The VR has also become a part of the Tribe's public outreach and has been used in networking and policy negotiations [A]. For instance, the VR played a crucial role in enabling the tribe to show the importance of cultural resources at a military base so that the **"Tribe now has access to the cultural resources on this particular military installation and is *regularly* consulted regarding the management of those resources."**[A] Significantly, the Tejon also participated remotely via the VR application in a presentation given at the Society for American Archaeology in Washington DC [6] [A,J], the first ever co-location VR presentation at the SAAs which not only included the Tejon Tribe but also co-presenters from the WWP, the UK, and Washington DC. Avatars of each participant appeared in the VR recreation of Pleito Cave enabling a live stream conversation to include audience members discussing the relative merits of VR platforms for tribal and land-owning agencies to consider. This empowered the Tejon Tribe to communicate to archaeologists about the importance of sacred sites such as Pleito. Sandra Hernandez, representative from the Tejon Tribe has also featured on the Big Picture Science podcast with Robinson. This podcast is broadcast nationally throughout America and has provided a further opportunity for the Tejon to communicate to the public accurate information regarding Tejon spiritual practices and the use of Datura [J]. Robinson's research at Cache Cave and Pleito have also incorporated documentary film making of the archaeological processes, the results and the social context of the fieldwork [K]. This work has engaged local independent California filmmakers (Joshua Roth, Devlin Gandy, Colin Rosemont) as well as collaborating with the University of Central Lancashire led Storylab project with PhD researcher Iakovous Panagopolos [H]. We have run two film-making workshops in 2018 and 2019 with the Tejon Tribe, WWP staff and students to enable them to develop their own audio/visual storytelling capabilities related to the landscape and archaeology of the WWP [A,D,H]. As a result of this training, the Tejon tribe have produced two short films: *Returning to Our Roots*, a film about the Tejon Tribe's return to the lands of the WWP and *Myth, Heritage, and History*. As one participant put it: **"I thought it was a great way for my cousins and myself to work together and put together a film that represents our tribe, and represents us, and I thought it was just a fun experience"**, while another said: **"it will definitely be something that we take away and to give back to our tribal members so that our stories can continue to be told by us."**[C] Additionally, local independent filmmakers have benefited from these collaborations, being hired by both the WWP and the Tribe to produce footage and films. They created a film for the Tribe on the annual Powwow in 2018 [A]. The filmmaker Colin Rosemont went on to do a Master's in Environmental Studies and Visual Arts where his thesis work was based upon a documentary made about the excavations at Cache Cave and the Tejon tribe. These impacts have changed the relationship between archaeology and Native communities. As the Tejon Tribe state: **"these sorts of impacts do not just bolster the project stakeholders, they benefit the entire discipline of archaeology!"**[A]

**Enabling the Wind Wolves Preserve to implement and deliver their mission statement to educate the public**

Robinson's long-term research has created a GIS database of all the known archaeological sites on the WWP and provided excavation reports and conditional assessments of Pleito [1, 2, 5], enabling the WWP to avoid damaging such sites and informing their management practices [D]. This research has enabled the WWP to manage their cultural resources and fulfil their mission statement. For example, part of the Tejon Tribe's responsibilities is to re-bury the remains of their ancestors from excavations in the 20th Century (part of a process called 'repatriation'). A site on the WWP has been chosen for this purpose. We provided an assessment of the chosen

site by conducting excavations to determine if there was any archaeology present [D]. Also, the GIS database and archaeological information was materially important in the WWP's grant applications to restore native plant vegetation. This contributed to a successful USD250,000 grant from the United States Fish and Wildlife Services Partners for Fish and Wildlife program for financial assistance, funding for the WWP Valley Floor and Pollinator Habitat Enhancement Project. Robinson has provided the most sustained scientific research presence on the WWP since its inception and his team is the largest group to utilise the campgrounds in the summer, fulfilling an important portion of their mission statement for their parent company, the Wildlands Conservancy [D]. Outputs also include a pamphlet and poster on the archaeology which has transformed the delivery of the WWP's Native American Lifeway's program by including specific learning materials directly related to the past of the WWP, rather than generalisations on Native lifeways [D]. Robinson's research has enabled the WWP to expand their normal remit, reaching different public audiences. We have installed a VR set-up at the WWP enabling them to educate the public about their cultural resources and to deflect harmful human visitation away from the Pleito site [D, J]. While we have provided physical outreach activities at the WWP Spring Festivals from 2015-19 to engage the public (nearly 20,000 people) [6], VR has been more prominent over the last two years (used by 489 people) [I]. Robinson has also provided bespoke tours for potential donors, resulting in contributions to the WWP [D].

#### **Changes in the National Park management practices and museum exhibitions**

Robinson's research has helped to transform the Los Padres National Forest (LPNF) site management practices and its links to the SBMNH, which in turn has attracted donations to contribute to the museum's exhibition. Robinson's research with PhD student Michelle Wienhold resulted in the first collated GIS database of Chumash rock-art sites, ethnographic villages, elevation models and vegetation/geological cover for the LPNF (1.75 million acres) [E]. This has assisted in the management and preservation of this vast landscape and helped them accommodate the 385,000 annual visitors. The LPNF has used this database since 2014, but more recently it has proved invaluable in dealing with the increasing fire events that endanger their resources: **"We are currently using this locational data during our extremely active fire season for implementing site protection measures specific to rock art. More interestingly is our use of this data in our post-burn inventory efforts after the fires."**[E] Within the LPNF, Robinson was part of the team that recovered the largest Chumash basket ever discovered. The LPNF states: **"Recovering this basket not only salvaged it from any potential harm from the general public, providing a valuable service to the Forest, but also led to its display in the Chumash Hall at the Museum."**[E] This research has transformed the Chumash Hall with the basket taking centre stage, linking the LPNF more closely to the museum [E, F]. Over 400,000 people have viewed the basket [F]. Robinson in conjunction with the museum is now developing a 3D resource from Robinson's in situ documentation of the basket to accompany the display [F]. This has led to a former **"museum trustee ... [to] pledge to fund the computer hardware that will be required to install the exhibit."**[F] It has also strengthened relationships between the SBMNH and the Tejon Tribe and other Native communities as the Cache Cave material has become a point of connectivity for Native groups who visit to learn from the assemblage [F]. As the museum says: **"This collaborative approach weaves together archaeological discoveries with the interests of the descendants in recovering and preserving cultural heritage and demonstrates how the politics of the past need not be adversarial."**[F]

#### **5. Sources to corroborate the impact** (indicative maximum of 10 references)

- A. Testimonial from Tejon Indian Tribe
- B. Santa Barbara Museum of Natural History Exhibition
- C. Film logs
- D. Testimonial from Wind Wolves Preserve
- E. Testimonial from Los Padres National Forrest
- F. Testimonial from Santa Barbara Museum of Natural History
- G. Analysis of VR questionnaires
- H. Returning to Our Roots StoryLab
- I. Data from TheConversation
- J. Big Picture Science Podcast - Sandra Hernandez with David Robinson / Datura Discovery
- K. WWP Spring Festival Survey Data