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An archaeological record of late Holocene activity and colonial impacts in the New England Tableland, New South Wales, Australia

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ABSTRACT

Since the 1970s, the New England Tableland—an extensive geological upland in New South Wales—has seen limited archaeological investigation. We present the results of a compliance-based archaeological excavation along the upper reaches of Dungowan Creek, 55 km southeast of Tamworth, which provides further insight into late Holocene regional human activity and the impacts of colonial invasion in the mid-19th Century on Indigenous people. Investigations included 216 m^2 of discrete test pits extending some 4 km along the creek's edge, and two open area excavations (totalling 41 m^2) focussing on key archaeological deposits. A total of 3,490 stone artefacts were recovered from the upper ~50 cm of sediment, deposited from ~5,500 years ago (5.5 ka) into the mid-20th Century, based on 20 optically stimulated luminescence ages. Artefact analysis indicates ongoing exploitation of regionally rare raw materials (serpentine, jasper and high-quality chalcedony) sourced from cobbles in the creek bed and used in tool-making, hunting, wood-working and regional trade. Activity peaked just prior to colonial invasion, followed by a rapid collapse in the early 19th Century corresponding with the arrival of introduced disease (e.g. smallpox) and intense frontier violence. Within ~40 years, the archaeological record clearly reflects colonial impacts that resulted in the disruption to traditional lifeways, trade networks and seasonal movement, as well as population loss. This disruption persisted into the 20th Century, driven by the establishment of missions and reserves that forcibly removed Indigenous people from their Country. Importantly, contemporary oral history reveals continued use of the valley in the mid- and late-20th Century, representing a remarkable story of resilience and cultural revival. We highlight the importance of increased archaeological focus to the early colonial period to support reconciliation and truth-telling with Indigenous communities.

1. Introduction

The New England Tableland is a major upland plateau of the Great Dividing Range in temperate southeastern Australia, and since at least the late Holocene has been the country of the Anaiwan and Gomeroi peoples (Fig. 1). However, despite being over 30,000 km^2 in size, the region has been subject to limited archaeological investigation, and our knowledge of past peopling and activities remains sparse.

The tableland was initially subject to a regional study by McBryde (1974), *The Aboriginal Prehistory of New England,* a now foundational publication in Australian archaeology. This work included the description of ceremonial sites and reported excavations of seven rockshelters, most notably Graman B1 and B4 located near Warialda, and a midden at Wombah, primarily in the northern and northwestern portions of the tableland (Fig. 1). It provided evidence of late Holocene activity across the region, as well as significant findings informing key debates of the

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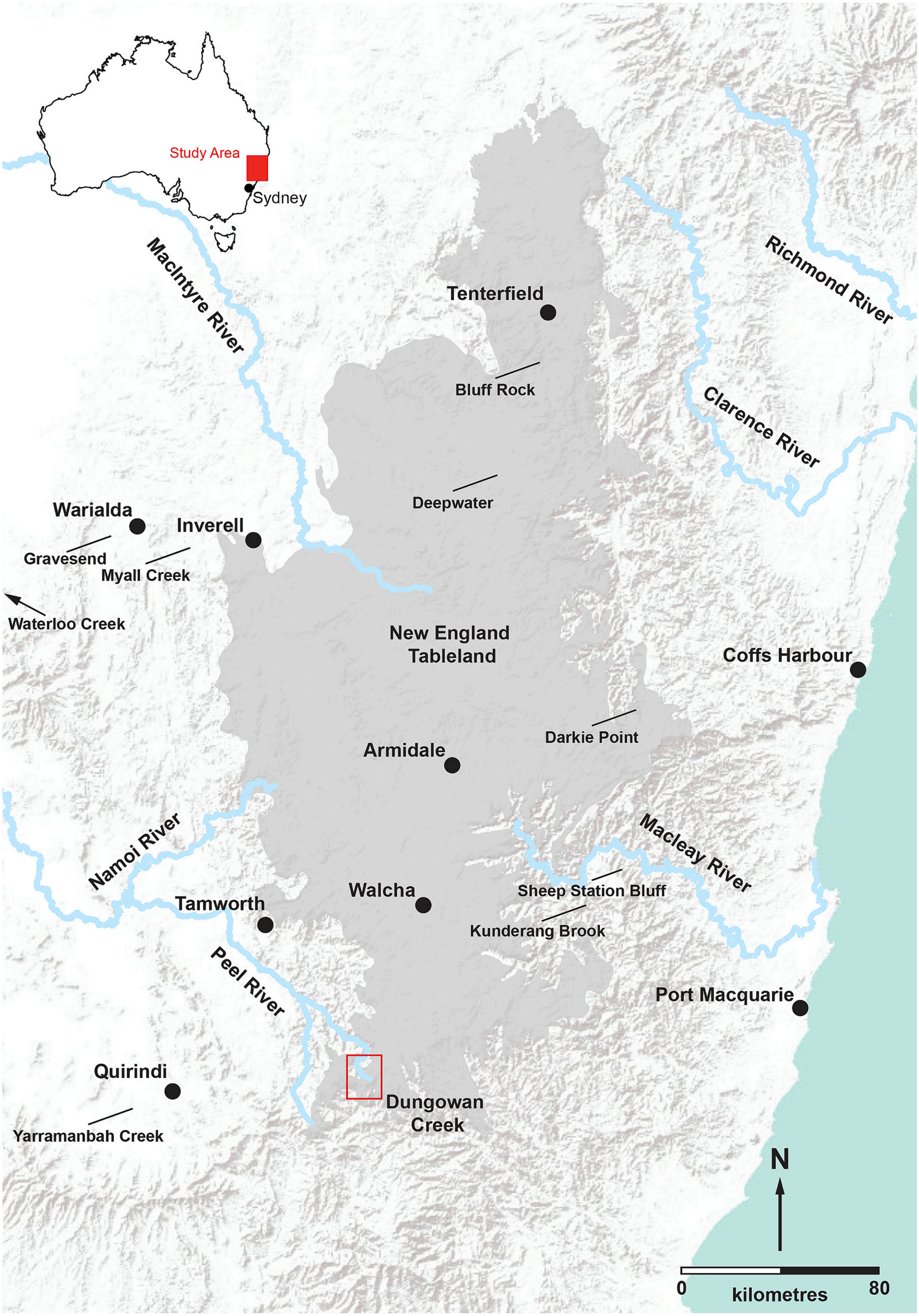

Fig. 1. Map of the New England Tableland and key places discussed in text.

time, including the timing of the appearance of edge-ground axes and backed microlithic tools, evidence of hafting technology, and the first evidence of trepanning in Australia (Gould, 1976; McBryde, 1974). However, since the 1970s, only a handful of studies, undertaken primarily by University of New England personnel based in Armidale, have occurred (e.g. Atkinson et al. 2006 and works therein; Beck et al. 2003, 2015, 2023; Davidson, 1982; Godwin, 1990; Hoddinot, 1978). Cultural heritage management is prevalent in the region as a result of the establishment of a renewable energy hub at Armidale (e.g. EMM Consulting Pty Ltd, 2018). However, academic publications on related investigations remain sparse, while access to unpublished data is limited.

Based on these studies, we can conclude that Indigenous people utilised these uplands extensively for social and economic purposes over at least the last 5–6,500 years (Boot, 1990; Koungoulos et al. 2025). Activities were reflective of high mobility and targeted resource hunting rather than extended occupation or residence (Beck et al., 2015; Koungoulos et al. 2025; McBryde 1974; cf. Godwin, 1990). Observations by colonists suggest activities were seasonal with populations moving east through gorge country, east of the tableland, into low-lying regions of the Clarence and Macleay Rivers in winter to avoid extreme cold of the plateau (Campbell, 1978; Connah, 1975; McBryde, 1974; Roberts, 2006). Along these river systems and coastal fringe, behaviour focussed on marine resource exploitation and longer occupation (e.g. Dyall, 1971; Sullivan, 1982; Mooney et al. 2020). Both Godwin (1990) and McBryde (1974) document that there is local Indigenous oral tradition to these past seasonal movements and behaviours, although historical and archaeological evidence for them is sparse. They both suggest that this may reflect the rapid impact of colonialism on traditional lifeways, but that further investigation is needed.

The impact of colonial invasion to Indigenous people in the 19th Century and early 20th Century has been subject to historical review (e.g. Campbell, 2002; Milliss,1992; Smyth, 2016). This initially consisted of the spread of introduced diseases, most notably smallpox, followed by increased frontier violence as land appropriation expanded from Sydney. Indeed, the massacre of at least 28 men, women and children at Myall Creek in 1838, near Inverell, in the centre of the tableland, is referenced as one of the darkest events in modern Australian history (e.g. Daley, 2015; Sturma, 1985). Colonial impacts continued into the late 19th to mid-20th Century through government policy resulting in forced relocation, movement restriction, protectionism and assimilation (e.g. Goodall, 2008). However, only in recent years, with systematic study and a focus on truth-telling as a part of Indigenous reconciliation has the scale and extent of disease, frontier violence and other colonial impacts in this region started to be understood (e.g. Barker, 2007; Marr, 2023, Wallis et al. 2021). This impact is evident in the scarcity of 19th Century documentation about Indigenous people and should therefore also be evident in the archaeological record.

We present the findings of an extensive compliance-based excavation along the banks of Dungowan Creek – a tributary of the Peel River – set within steep and rugged gorges on the southwestern edge of the tableland. These excavations are one of the few large-scale excavations in the region since McBryde's seminal work. They provide new insights into Indigenous occupation and activity during the late Holocene, as well as the rapid and transformative impacts of colonial invasion in the mid-19th Century.

1.1. A history of colonial impacts

Within months of the First Fleet arriving in the Sydney Cove in 1788, introduced diseases were having severe impact on local Indigenous people. Between March and April 1789, there were numerous observations of Indigenous people sick or dead as a result of smallpox (variola) (Collins et al. 1798; Tench, 1793). The dead were left unburied counter to traditional practices and highlights the speed and magnitude of the epidemic. One Indigenous person reported that half of his tribe had died (Phillip, 1790). A recent study by Nitschke et al. (2024) modelling this initial wave of smallpox demonstrates that it would have extended into the tableland within a few years of its arrival in Sydney. The authors suggest that based on global observations the disease would have had a 60 % mortality rate and resulted in over 220,000 excess deaths primarily across the southeast of the continent. Over the next few decades, a range of other diseases were introduced to Australia as a result of colonial arrivals, including tuberculosis, leprosy, influenza, chlamydia, syphilis, gonorrhoea, and measles (Dowling, 2021). Two further smallpox outbreaks are also well documented in the 1830 and 1850s (Campbell, 2002). Few of these diseases or outbreaks have been subject to detailed analysis, but all would have resulted in illness, death and/or infertility to Indigenous people. Indeed, Williams et al. (2024) suggest that in the ~70 years following colonial invasion, over 2 million Indigenous people may have died as a result of disease and/or frontier violence.

Violent encounters between Indigenous people and colonists began almost immediately after invasion in the late 18th Century (e.g. Gapps, 2018). These early conflicts were initially small attacks and reprisals as a result of cultural misinterpretation and/or ignorance. However, violence rapidly escalated in the early 19th Century as pastoral expansion intensified and competition over land, water, and resources grew (e.g. Dunn, 2020; Gapps, 2018, Milliss, 1992). Indigenous people attacking colonists and/or their herds to survive often resulted in disproportionate and violent reprisals. The situation was made worse by informal squatting beyond the colonial government approved frontiers, where there was little enforcement of European laws established for the New South Wales colony (Dunn, 2020; Marr, 2023).

The University of Newcastle's *Centre for 21st Century Humanities* project has documented 421 massacres between 1788–1930, with over 11,000 people killed (Ryan et al. 2022). These are likely conservative values, with increasing secrecy of such incidents following the high-profile prosecution of the Myall Creek massacre perpetrators in 1838 (Smyth, 2016; Blomfield, 1981). Indeed, a detailed investigation of the Native Mounted Police (NMP) – a police force established for the purposes of subduing Indigenous resistance – suggest the killing of over 100,000 people in Queensland alone between 1859–1897 (Evans and Ørsted-Jensen, 2014; Pagels, 2023; Wallis et al. 2021).

Frontier violence on the tableland primarily occurred between 1830 and 1850 (Campbell, 1978), following the northward expansion of squatters from the devastated Hunter Valley in the late 1820s. The first recorded massacre occurred at Yarramanbah Creek, near Quirindi, in April 1828 in which an unprovoked attack resulted in the murder of at least six Gomeroi people by stockmen (Milliss 1992). Many more may have been killed since it reportedly took the stockmen 'days to burn the bodies'. By 1833, squatter runs were prevalent across the southern tableland up to the Namoi River, and attacks were frequent. An attack at Waterloo Plains in 1835CE resulted in at least six dead. Meanwhile, Threlkeld (cited in Gunson, 1974) documents the killing of some 200 Gomeroi people at Gravesend near the Gwydir River in 1837, in retaliation for the loss of five stockmen and timber-getters.

At a similar time, James Nunn and a contingent of Mounted Police was posted to the tableland (Marr, 2023). On 26 January 1838, Nunn attacked a group of Gomeroi people on Waterloo Creek, driving them into a swamp and killing at least 50. This event began a fervour of attacks in the subsequent months. In March 1838, some 200–300 people were ambushed and killed nearby in a canyon near Slaughterhouse Creek by stockmen. Then on 10 June 1838, twelve horsemen bound and forced 28 old Gomeroi men, women and children to Myall Creek, shot and bludgeoned them to death, before burning their bodies (Smyth, 2016). The local police magistrate for the region, Edward Denny Day, stated that a 'war of extermination' was being waged against the Gomeroi people during this time (Milliss, 1992: 198). Campbell (1978) suggests by 1841, all violence had ceased in the tableland and Indigenous people were either assimilated or had moved into the gorge country to the east and persisted in guerilla warfare.

The killings continued northwards into the 1840s as pastoralism expanded (Marr, 2023). Gomeroi people were herded off Bluff Rock, near Tenterfield, in October 1844 as part of a reprisal killing by stockmen from a nearby station (Irby and Irby, 1908). Another massacre at nearby Deepwater with limited information is also known to have occurred in April 1845. Threlkeld (1840) documents the poisoning of Indigenous people – a common occurrence after Myall Creek – in the same region in 1840. East of the tableland, similar events were occurring along the Macleay River with some 30 massacres documented (Harrison, 2004). Killings at Kunderang Brook (1840), Darkie Point (1841), Sheep Station Bluff (1843), Douraille Creek (1846), Towel Creek (1856) are all well known in the region, although their exact details or locations remain elusive in many cases (Blomfield, 1981; Creamer, 1981; Harrison, 2004; Ryan et al., 2022). However, they were all broadly within the corridor where seasonal movement of Indigenous people from the tableland to the coast is believed to have occurred in the past (Campbell, 1978; Connah, 1975; McBryde, 1974; Roberts, 2006). It is probable that unlawful killing continued beyond 1850 in the region, but reported events are increasingly sparse.

The late 19th Century saw the establishment of the Aboriginal Protection Board to manage the welfare of Indigenous people (Egan, 2021). Established in 1883, it continued in various forms until the 1960s. Initially applying a process of protectionism following decades of frontier violence, by the early 20th Century the Board's focus shifted to assimilation into the broader society (Goodall, 2008). In practical terms, this resulted in control of Indigenous people through their forced relocation to established missions or reserves operated by the board, restriction of movement, and the forced removal of children (Egan, 2021; Goodall, 2008; Quinlan and Eckerman, 1983). Ultimately, this resulted in the removal and/or relocation of traditional groups from Country. This situation did not fundamentally change until late in the 20th Century.

1.2. Background and study area

In 2019, the NSW government proposed the establishment of a new dam at Dungowan Creek, 55 km southeast of Tamworth, on the southwestern edge of the tableland (Fig. 1). The project was downstream of an existing small dam already established in 1958 and blocking the creek at its southern origin. The new project proposed the establishment of a new, larger dam wall ~4 km downstream and resulting in a larger water storage reservoir.

Dungowan Creek is an upper tributary of Peel River, which itself feeds into the Namoi River (Fig. 1). While the Peel River is characterised by moderate undulating hills and broad floodplains, along Dungowan

Fig. 2. Photographs showing the general characteristics of Dungowan Valley and Creek.

Creek this gives way to rugged incised volcanic relief. The creek runs through a narrow valley between elevations of ~610 m AHD (Australian Height Datum) in the north to ~660 m AHD in the south and is some ~300 m in width with steep, near vertical, slopes on either side (Fig. 2). Large scree deposits are also present along the edges of the valley from erosion of the heights that are typically > 800 m AHD above the valley floor. The creek is currently incising through the valley floor deposits, which were composed of at least two alluvial terrace landforms, a modern unit immediately adjacent to the creek and an older formation ~2 m above the current river levels (Fig. 2).

Prior to the project being discontinued in 2023, investigations of archaeological material within the new development area and inundation zone were undertaken as part of the environmental assessment and approval process. Through the various activities associated with this environmental assessment, two large-scale compliance-based archaeological excavations were undertaken. These initially sought to provide a general understanding of the alluvial terraces and scree slopes surrounding Dungowan Creek for the length of the proposed inundation area (EMM Consulting Pty Ltd, 2021), and subsequently on a series of geotechnical activities that proposed ground disturbance in the same general areas (EMM Consulting Pty Ltd, 2023).

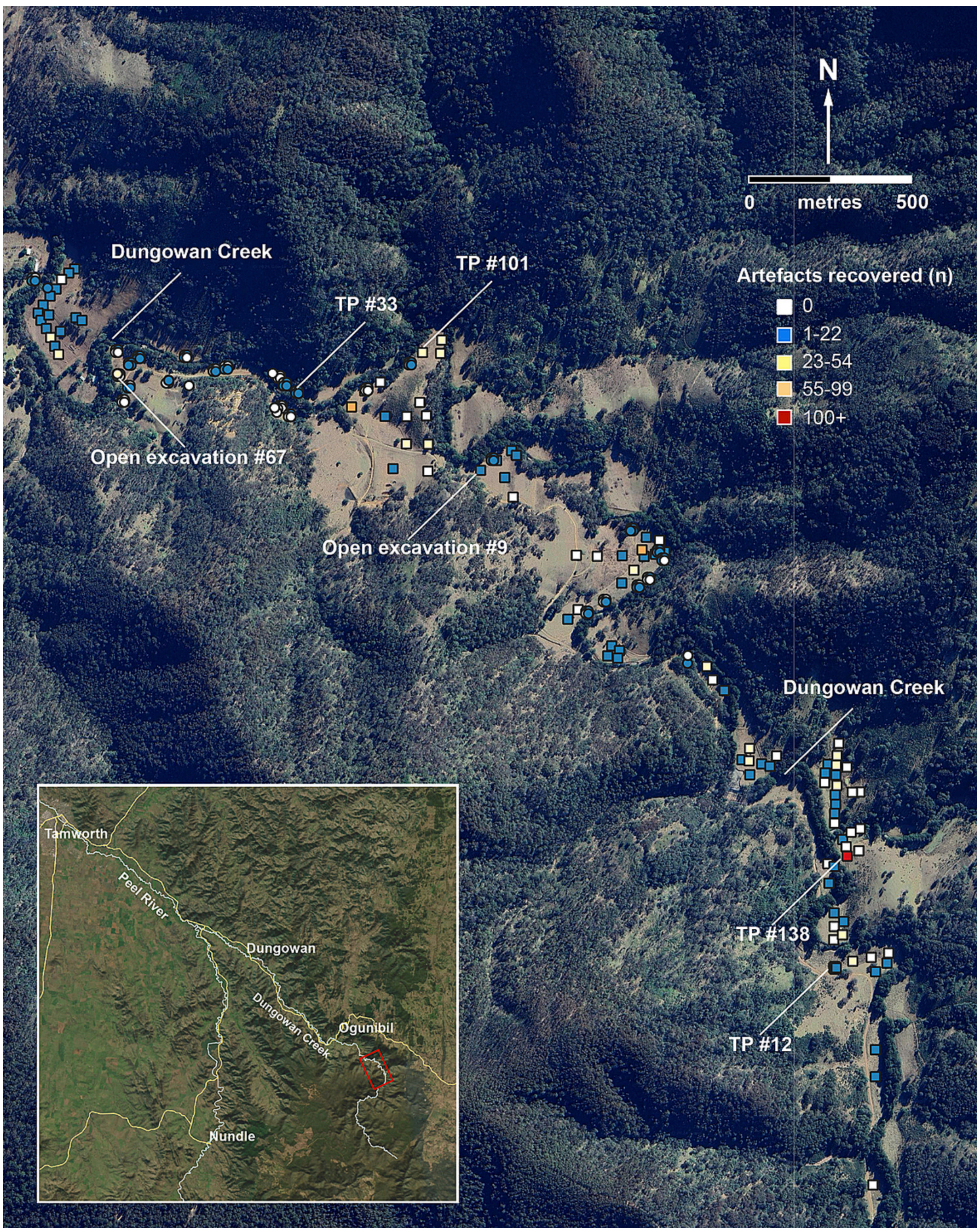

Fig. 3. Map of the archaeological test pits and open excavation areas, and artefacts recovered. Square test pits reflect the works undertaken by EMM Consulting Pty Ltd (2021), while circles reflect the excavations by EMM Consulting Pty Ltd (2023). Key test pits discussed in text are labelled, with further details provided in Supplementary information.

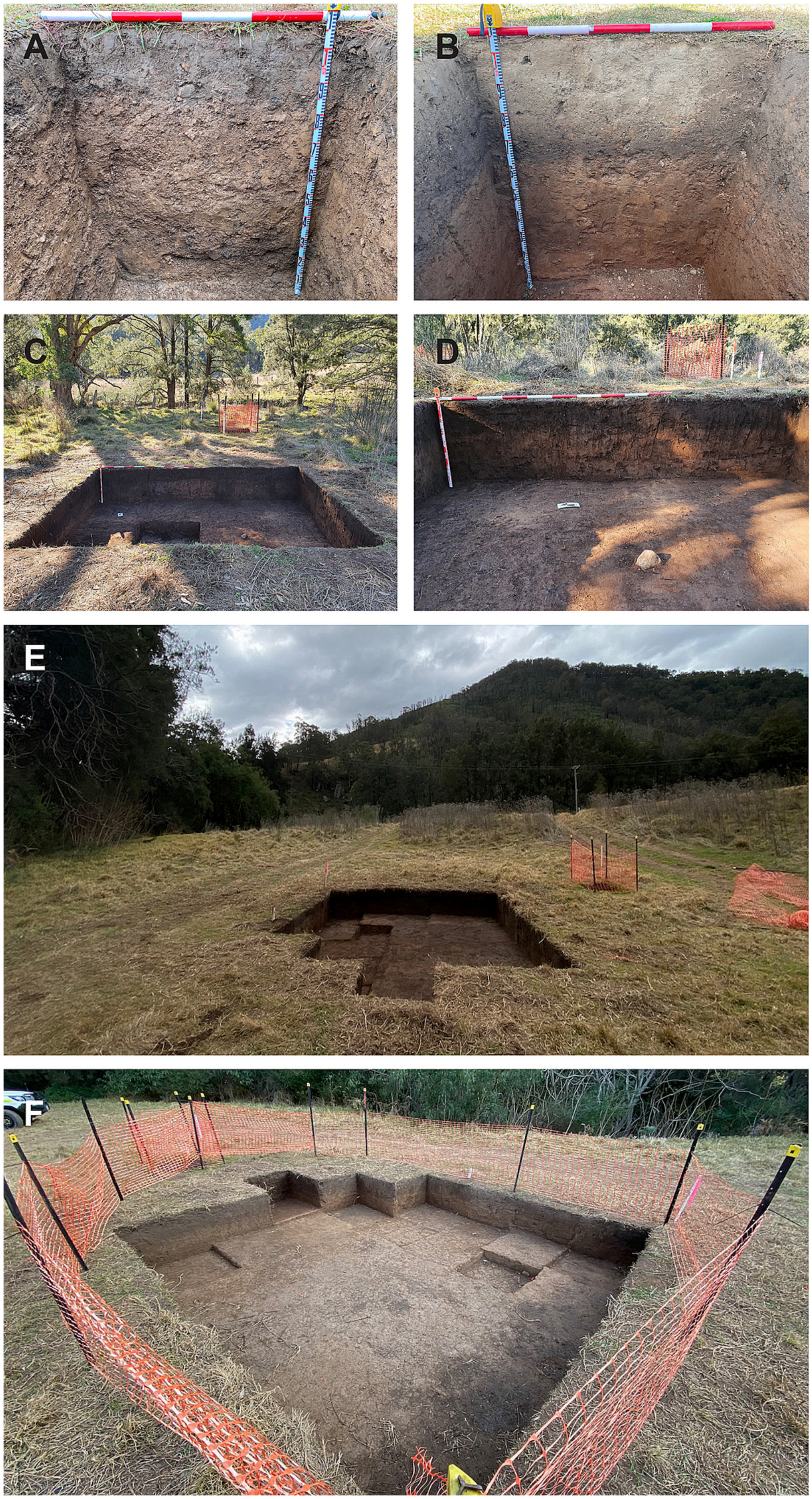

Fig. 4. Photographs of the archaeological excavations: A) test pit 101, looking north; B) test pit 105, looking north; C) open excavation area #67, looking north. Dungowan Creek is located immediately behind the excavations between the trees in the background. D) the soil profile encountered within open excavation area #67. E) open excavation #9, looking east. The excavations are on a small alluvial terrace, with Dungowan Creek running in a curve around the landform, delineated by the thick trees to the left (north and back (east) of the photograph. F) open excavation #9, looking northeast. The initial test pits that prompted the expansion of this area are shown by the slightly deeper excavations evident in the northeast and southwest of the open excavation area.

Table 1
OSL ages from investigative and open area excavations. Where multiple age populations are identified, values in bold are preferred.

Test pit #	Depth below surface (cm)	Depth (m AHD)	Lab code	Water (%)	External dose rate (Gy/ka)				De (Gy)	Overdispersion (%)	Model	Age (ka)
					Beta	Gamma	Cosmic	Total				
12	15	647.55	GL20069	20 ± 5	0.96 ± 0.13	0.59 ± 0.10	0.19 ± 0.03	1.73 ± 0.16	0.5 ± 0.0	–	CAM	0.28 ± 0.03
12	45	647.25	GL20058	18 ± 4	0.81 ± 0.11	0.54 ± 0.09	0.18 ± 0.02	1.53 ± 0.14	7.5 ± 0.4	–	CAM	4.9 ± 0.5
12	60	647.10	GL20055	16 ± 4	1.12 ± 0.14	0.67 ± 0.10	0.17 ± 0.02	1.97 ± 0.17	12.2 ± 0.6	–	CAM	6.2 ± 0.6
101	30	–	GL20059	13 ± 3	0.98 ± 0.12	0.65 ± 0.10	0.18 ± 0.02	1.77 ± 0.14	8.8 ± 0.4	–	CAM	5.0 ± 0.4
101	50	–	GL20060	11 ± 3	1.15 ± 0.13	0.68 ± 0.10	0.18 ± 0.02	2.01 ± 0.15	17.6 ± 0.7	–	CAM	8.7 ± 0.7
101	70	–	GL20061	11 ± 3	1.24 ± 0.14	0.68 ± 0.11	0.17 ± 0.02	2.09 ± 0.16	20.4 ± 1.0	–	CAM	9.7 ± 0.9
101	90	–	GL20056	12 ± 3	1.19 ± 0.14	0.67 ± 0.11	0.16 ± 0.02	2.03 ± 0.15	19.7 ± 0.8	–	CAM	9.7 ± 0.8
138	50	–	GL20054	25 ± 6	1.02 ± 0.13	0.57 ± 0.06	0.18 ± 0.02	1.98 ± 0.14	6.6 ± 0.2	–	CAM	3.4 ± 0.3
138	70	–	GL20057	18 ± 4	1.02 ± 0.13	0.65 ± 0.10	0.17 ± 0.02	1.84 ± 0.16	11.7 ± 0.5	–	CAM	6.4 ± 0.6
56–6	10	623.87	CABAH-1355	16 ± 4	1.05 ± 0.06	0.67 ± 0.04	0.26	2.01 ± 0.08	0.16 ± 0.04	223 ± 63	MAMul	0.079 ± 0.02
56–6	30	623.67	CABAH-1356	18 ± 5	1.07 ± 0.06	0.68 ± 0.04	0.23	2.01 ± 0.08	0.29 ± 0.06	154 ± 26	MAMul	0.144 ± 0.031
56–6	50	623.47	CABAH-1357	12 ± 3	1.26 ± 0.06	0.80 ± 0.04	0.23	2.32 ± 0.08	1.8 ± 0.2 4.61 ± 0.3	71 ± 5	MAM CAM	0.754 ± 0.083 **1.992 ± 0.166**
56–6	60	623.37	CABAH-1358	12 ± 3	1.20 ± 0.06	0.76 ± 0.04	0.22	2.21 ± 0.07	10.2 ± 0.5	111 ± 10 (30)	nMAD CAM	4.62 ± 0.28
79–24	10	629.75	CABAH-1359	24 ± 6	0.97 ± 0.06	0.60 ± 0.04	0.24	1.83 ± 0.08	0.10 ± 0.06	159 ± 50	MAMul	0.055 ± 0.033
79–24	30	629.55	CABAH-1360	20 ± 5	0.96 ± 9.96	0.61 ± 0.04	0.23	1.83 ± 0.08	1.7 ± 0.3 4.5 ± 0.4	73 ± 7	MAM CAM	0.92 ± 0.154 **2.453 ± 0.233**
79–24	50	629.35	CABAH-1361	18 ± 5	1.10 ± 0.06	0.72 ± 0.04	0.21	2.07 ± 0.08	9.2 ± 0.5	54 ± 6 (32)	nMAD CAM	4.435 ± 0.32
79–24	70	629.15	CABAH-1365	17 ± 4	1.23 ± 0.07	0.80 ± 0.04	0.20	2.27 ± 0.09	24.1 ± 1.7	112 ± 13 (34)	nMAD CAM	10.64 ± 0.87
33	10	627.70	CABAH-1362	20 ± 5	1.05 ± 0.06	0.67 ± 0.04	0.25	1.99 ± 0.08	0.38 ± 1.1 2.6 ± 0.5	152 ± 13	MAM CAM	**0.188 ± 0.058** 1.31 ± 0.24
33	30	627.50	CABAH-1363	19 ± 5	1.20 ± 0.07	0.77 ± 0.04	0.23	2.22 ± 0.09	10.2 ± 1.0	95 ± 10 (38)	nMAD CAM	4.605 ± 0.505
33	50	627.30	CABAH-1364	17 ± 4	1.20 ± 0.07	0.76 ± 0.04	0.22	2.21 ± 0.08	20.9 ± 2.3 3.9 ± 0.6	94 ± 10 (46)	FMM-1 (64 %) FMM-2 (36 %)	**9.45 ± 1.105** 1.765 ± 0.287

All GL- lab code samples were collected in 2020 and were processed using multi-aliquot techniques by the University of Gloucestershire. All CABAH – lab codes were processed using single-grain techniques by the University of Wollongong. All uncertainties in age are quoted at 1σ confidence and reflect combined systematic and experimental variability. Abbreviations are as follows: CAM = Central Age model, MAM = minimum age model, MAMul = unlogged minimum age model, nMAD CAM = normalised median absolute deviation. The OSL samples were collected over two different field campaigns and from multiple widely spaced test pits.

2. Methods

The test excavation programs consisted of discrete manually dug 1 m^2 test pits established using a differential GPS to provide sub-centimetre locational and elevational accuracy. Test pits were excavated in 10 cm excavation units (XU) until archaeologically-sterile layers were observed. This resulted in excavation to depths of up to 100 cm below current surface in several locations, with test pits on average ~42 cm deep (σ = 18 cm) (Supplementary information).

In 2020, the initial program consisted of 105 test pits in a broad 60 m grid along the creek's edge and surrounding slopes (Fig. 3; Supplementary information). These excavations highlighted that the second alluvial terrace within 70 m of the creek had a higher likelihood of archaeological materials being present than other parts of the valley. The second archaeological excavation undertaken in 2022 focussed on proposed ground disturbance activities within this 70 m zone. These excavations, totalling 111 test pits across 58 proposed geotechnical locations, were not systematic, but did both supplement and in-fill gaps from the previous works (Fig. 3). They were similarly excavated in 10 cm XUs to a defined depth of up to 70 cm below current surface (μ = 54 cm; σ = 22 cm).

In addition, the second phase of work included the open area expansion of three areas where dense archaeological material was encountered, totalling 41 m^2. The location of these expansion was undertaken using a combination of archaeological requirements, along with a co-design process with the Gomeroi traditional owners. Co-design ensures Indigenous participants have an active voice in research design and outcomes, fostering shared direction and meaningful knowledge exchange. Here, discussions were undertaken with the Gomeroi traditional owners following the test excavation phase to present the results and explore where additional activities should focus to provide greater information about the past use of the valley. This resulted in the focus on

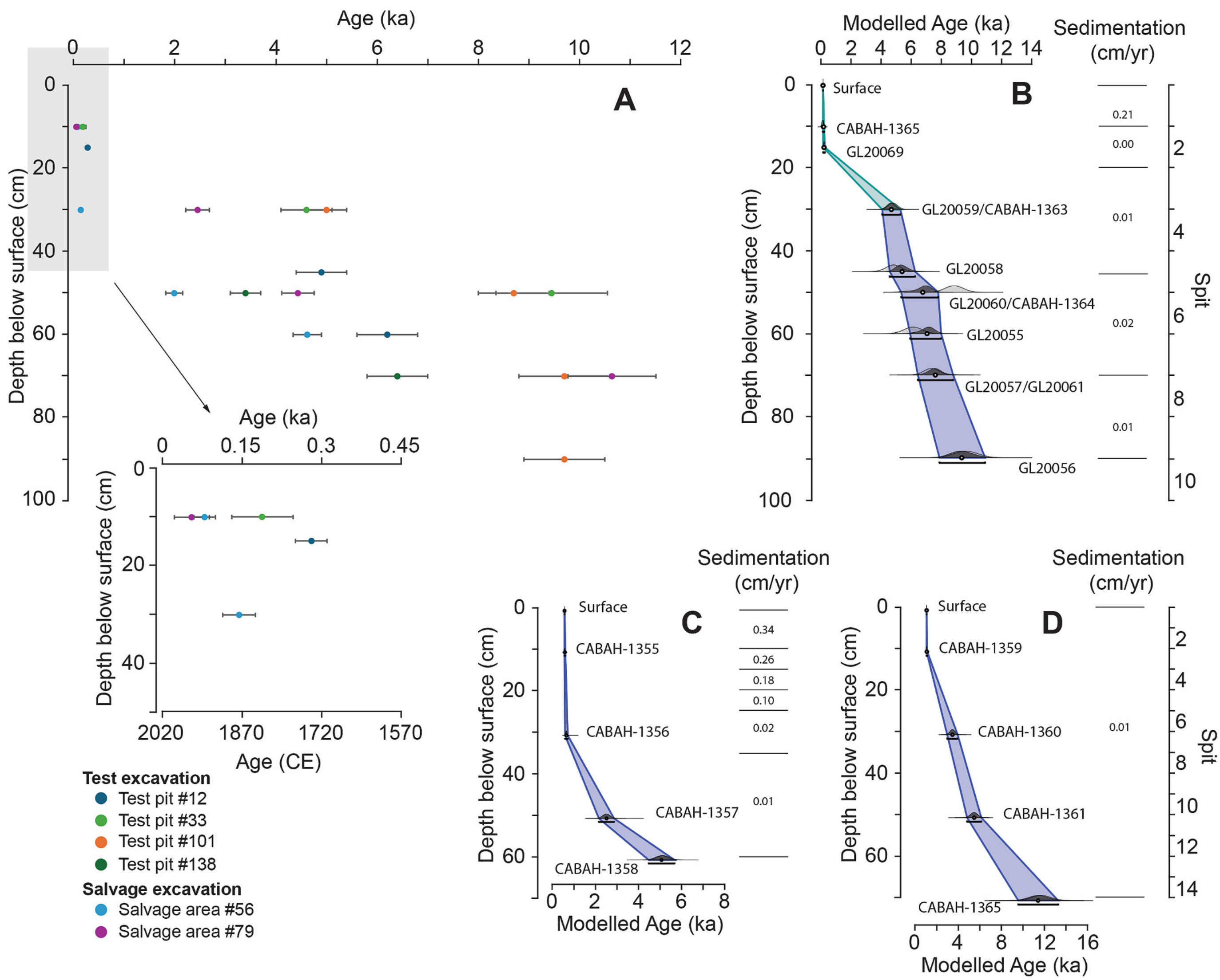

Fig. 5. A summary of all OSL ages processed from the test and open excavation areas (Table 1), including a scatter plot of ages (plus errors at 1σ) against depth below surface of the six sampled locations across the valley (A); modelled ages and sedimentation rates of the test excavation phase incorporating TPs #12, 33, 101 and 138 (B), open excavation area #9 (C) and open excavation area #67 (D) using a P_sequence (1,0, U(−2,2) deposition model in Oxcal v4.4 (Bronk Ramsey, 2009, Bronk Ramsey and Lee, 2013). In (B), a number of the ages have been combined using the COMBINE function where at comparable depths and a boundary inserted where a probable disconformity is evident at ~30 cm below surface. An outlier model was applied and indicated that GL20054 may be erroneous and has been removed from (B); no outliers were discerned in (C) and (D).

three locations, two with high densities of buried archaeological material (test pits #9 and #67), and a third area that represented a heavily disturbed environment but with a range of interesting and culturally important stone artefacts near or on the surface (test pit #71). At test pits #9 and #67, additional excavations were undertaken consisting of contiguous 1 m^2 test pits excavated in 5 cm XUs and reaching depths of 100 cm below current surface (μ = 56 cm; σ = 13 cm). Test pit #67 was expanded to 11 m^2 and test pit #9 reached 24 m^2. Expansion of these areas was dictated by the excavation findings as they progressed, the ongoing views of the Indigenous participants, and the approved spatial limits within which the works could occur. Test pit #71 totalled only 6 m^2 (6 × 1 m) and reflected a heavily disturbed duplex soil profile on a portion of the scree slopes at the edge of the valley.

All sediment was recovered by individual XUs and wet-sieved through a 5 mm mesh, with all archaeological material recovered for analysis. The recovered stone artefactual material was subsequently subjected to descriptive and functional analysis, recording attributes such as material type, dimensions, weight, cortex coverage, platform type, termination type, dorsal scar patterning, evidence of retouch, and general reduction stage. Post-invasion materials were also subject to basic descriptive analysis (Supplementary Information). Twenty Optically Stimulated Luminescence (OSL) ages were recovered from multiple test pits (#12, #33, #101, #138, #56-6 (part of open excavation area #9) and #79-24 (part of open excavation #67) along the creek. Several soil columns were also taken for geochemical and sedimentological analysis, with a small number processed and presented in EMM Consulting Pty Ltd (2021) (see also Supplementary Information).

3. Results

The excavations revealed that the valley floor is characterised by a dermosol soil profile, comprised of a shallow (0–30 cm) dark brown – black silty clay loam topsoil gradually transitioning into a (30–60+ cm) brown moderate – strong polyhedral clay loam subsoil (Fig. 4). This lower unit transitioned into underlying parent material at about 80 cm below surface, being visually similar, but compositionally as an indurated light clay. On the scree slopes further away from Dungowan Creek, a shallow topsoil typically less than 10 cm was encountered above a

Table 2
Summary of main raw material types from the test excavations by both raw counts (n) and weight (g).

Excavation unit (XU)	Depth (cm)	Main raw material types																					
		Chalcedony		Fine silcrete		Jasper		Medium Quartz		Plagioclase		Quartzite		Serpentine		Tuff		Volcanic		Other		Assemblage total	
		n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)
1	0–10	110	412.1	–	–	187	832.0	26	111.0	2	7.5	6	7.0	11	34.5	6	7.9	4	137.7	5	5.15	**352**	**1549.6**
2	10–20	114	638.9	3	8.3	248	978.5	63	79.6	6	4.4	11	26.1	20	139.6	6	87.5	4	14.0	2	2.58	**475**	**1976.9**
3	20–30	65	170.8	5	2.5	161	1468.3	27	82.9	5	5.7	3	2.6	9	49.5	5	22.6	2	98.3	3	1.32	**282**	**1903.2**
4	30–40	45	536.7	1	1.9	126	831.3	18	68.6	34	26.0	3	1.5	7	25.9	5	48.6	2	12.5	–	0.00	**241**	**1552.9**
5	40–50	56	575.9	–	–	279	833.0	10	115.1	30	20.1	6	23.3	6	56.0	5	80.9	–	–	–	0.00	**392**	**1704.3**
6	50–60	47	140.8	1	0.2	201	320.3	8	38.1	4	0.6	–	–	2	1.7	4	9.1	2	42.0	–	0.00	**269**	**552.8**
7	60–70	15	91.5	1	0.3	21	78.0	–	–	1	1.0	–	–	1	5.9	–	–	1	0.4	1	0.45	**40**	**177.1**
8	70–80	3	6.8	–	–	5	51.9	–	–	–	–	–	–	–	–	1	0.5	–	–	–	0.00	**9**	**59.2**
9	80–90	1	0.2	–	–	3	10.8	1	2.0	–	–	–	–	–	–	–	–	–	–	–	0.00	**5**	**13.0**
10	90–100	–	412.1	–	–	1	3.4	1	3.2	–	–	–	–	–	–	1	1.4	–	–	–	0.00	**3**	**8.0**
Total	–	**456**	**2985.8**	**11**	**13.2**	**1232**	**5408**	**154**	**500.5**	**82**	**65.3**	**29**	**60.5**	**56**	**313.1**	**33**	**258.5**	**15**	**304.9**	**11**	**9.5**	**2,068***	**9,496.90***

'Other' includes all raw materials with less than 10 artefacts recovered, and include coarse quartz, medium grained silcrete, and silicified wood.* excludes 27 artefacts recovered from the surface of test pits prior to excavation and/or unstratified (e.g. from section cleaning, etc).

Table 3
Tools (n) recovered from the test excavations.

Excavation unit (XU)	Depth (cm)	Backed artefact	Bondi point	Burin	Concave scraper	Convex scraper	Denticulate	Drill	End scraper	Geometric microlith	Notch	Nosed scraper	Step scraper	Straight scraper	Thumbnail scraper	Utilised flake	Assemblage total	Cores and core fragments
1	0–10	5	3	–	1	3	3	–	–	5	7	–	1	7	1	9	**45**	28
2	10–20	7	2	1	2	2	–	–	1	4	9	2	3	8	–	10	**51**	18
3	20–30	2	6	–	–	3	–	2	1	3	4	–	1	1	1	6	**30**	12
4	30–40	4	1	–	–	–	2	1	–	2	1	–	2	3	–	6	**22**	9
5	40–50	5	1	–	–	–	–	–	1	2	–	–	2	2	–	–	**13**	19
6	50–60	2	2	1	–	1	–	–	–	1	–	–	–	–	–	2	**9**	5
7	60–70	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	**2**	2
8	70–80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	2
9	80–90	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
10	90–100	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	**1**	–
Total	–	**26**	**15**	**2**	**3**	**9**	**5**	**3**	**3**	**17**	**21**	**2**	**10**	**21**	**2**	**34**	**173**	**95**

Table 4
Summary of main raw material types from the open area excavations of #9 and #67 by both raw counts (n) and weight (g).

Excavation unit (XU)	Depth (cm)	Main raw material types													
		Chalcedony		Jasper		Medium Quartz		Serpentine		Volcanic		Other		Assemblage total	
		n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)	n	Weight (g)
1	0–5	12	25.35	7	68.86	1	5.89	–	–	–	–	2	1.49	**22**	**101.59**
2	5–10	24	64.08	28	131.08	–	–	2	4.3	1	43.21	1	3.52	**56**	**246.19**
3	10–15	45	94.88	44	250.52	1	2.83	–	–	–	–	1	2.86	**91**	**351.09**
4	15–20	21	39.29	23	90.19	1	2.42	–	–	–	–	–	–	**45**	**131.9**
5	20–25	27	55	38	458.04	–	–	–	–	2	1221.9	–	–	**67**	**1734.94**
6	25–30	33	33.45	24	1078.09	–	–	3	13.76	–	–	–	–	**60**	**1125.3**
7	30–35	52	214.84	64	213.19	1	0.08	5	60.72	2	2.72	–	–	**124**	**491.55**
8	35–40	73	237.85	87	700.33	2	0.66	6	60.32	8	633.83	1	0.44	**177**	**1633.43**
9	40–45	70	236.873	81	1220.27	2	0.67	8	15.3	–	–	4	5.93	**165**	**1479.04**
10	45–50	70	706.78	54	447.61	–	–	4	4.21	–	–	2	1.28	**130**	**1159.88**
11	50–55	77	62.753	44	83.37	3	3.49	2	121.84	–	–	2	0.82	**128**	**272.273**
12	55–60	44	65.03	19	11.97	3	0.78	1	1.98	–	–	1	0.42	**68**	**80.18**
13	60–65	13	49.61	9	14.51	–	–		–	–	–	–	–	**22**	**64.12**
14	65–70	2	0.56	1	12.11	–	–	–	–	–	–	–	–	**3**	**12.67**
Total	–	**563**	**1886.3**	**523**	**4780.14**	**14**	**16.82**	**31**	**282.43**	**13**	**1901.66**	**14**	**16.76**	**1158***	**8884.20***

'Other' includes all raw materials with less than 10 artefacts recovered, and include chert, coarse quartz, fine and medium grained silcrete, plagioclase and quartzite.* excludes 3 artefacts recovered from the surface of test pits prior to excavation and/or unstratified (e.g. from section cleaning, etc).

schist geological substrate.

OSL ages were taken from six locations along a 4 km creek corridor—primarily from test pits and excavation areas with dense archaeological material—and show generally consistent results across stratigraphic profiles, despite being collected during two separate phases of work (Table 1; Fig. 5). The ages all suggest an entirely Holocene period of formation and past use. The lowest ages recovered from depths of 70–100 cm below surface indicate an initial formation at, or shortly after, ~10 ka. The upper subsoil has a suite of ages between ~4.5 and 6.5 ka recovered from depths of 30–70 cm below surface. The topsoil dates entirely to the colonial and post-colonial period, with ages including 0.28 ka/1740CE (0.25–0.31 ka/1710-1770CE, GL20069), 0.19 ka/1834CE (0.13–0.25 ka/1770-1890CE, CABAH-1361), 0.14 ka/1877CE (0.113–0.175 ka/1845-1907CE, CABAH-1356), 0.08 ka/1943CE (0.059–0.099 ka/1921-1961CE, CABAH-1355) and 0.06 ka/1967CE (0.022–0.088 ka/1932-1998CE, CABAH-1359) found between 10 and 30 cm below surface.

The chronology suggests at least one disconformity in the sequence, with few ages falling between 0.5 and 2 ka (Fig. 5). This appears most evident at ~30 cm below surface, where ages of >2 ka and <0.15 ka are encountered at the same levels. Within the two open excavation areas, there is also increasing divergence of several thousand years at ~50 cm and may similarly reflect a disconformity in the soil profile in these locales. When comparing sedimentation rates across the six sampled areas, they are consistent in the late Holocene, typically between 0.01–0.02 cm/year (Fig. 5). In both the test excavation and open excavation area #9, sedimentation increased in the upper 10–20 cm to >0.2 cm/year. These depths generally align with the post-colonial period and may be reflecting increased landscape degradation from de-vegetation of the valley. The variation in sedimentation between the open excavation areas is considered a result of differing colluvial inputs as a result of these landscape changes and the surrounding topography. Open excavation area #9 is situated at the base of a large steep slope more prone to colluvial processes, whereas more moderate and gentle slopes surrounded open excavation area #67. The former is also situated closer to the creek by several metres, only just above the current creek surface and therefore more prone to flooding and inundation compared with the latter located further away on an elevated terrace.

Some 3,490 stone artefacts were recovered from the excavations (Tables 2–5, Fig. 6). These were primarily found in discrete locations each some 3 ha in size adjacent to the river, and where artefact densities of between 30 and 272/m^2 were recorded (Fig. 6). This total includes 2,068 from the two test excavation phases, and a further 1,158 from two of the open area excavations (test pits #9 and #67) (Tables 2 and 4). A further 264 artefacts were recovered from the surface, unstratified and/or open excavation works at test pit #71. Across all the excavations, archaeological material was constrained to the upper 60 cm. Initial use of the region appears to be a diffuse peak centred at XU 5 in the test excavation data, aligning with an OSL age of 4.9 ± 0.51 ka, and extending across XUs 3–6 (~4.5 – 6.2 ka) (Tables 3 and 4; Fig. 6a). A second slightly larger peak was also present, initiating at XU 3 and centred on XU 2 at 0.28 ka/1740CE (0.25–0.31 ka/1710-1770CE) just prior to colonial invasion – noting that the disconformity in this part of the sequence may suggest it reflects a slightly earlier use of the region (Fig. 6a). There is a decline between the two peaks, potentially reflecting a disuse of the region in the late Holocene, and notably in XU 1, which captures the early 19th Century.

In relation to the open excavation areas, the main assemblage appears to sit on a disconformity at 50 cm below surface (Tables 4 and 5; Fig. 6b). A peak in chalcedony raw material at XU 11 (50–55 cm below surface) may reflect the mid-Holocene activity seen from the test excavation outlined above, but the majority of the archaeological materials occur between XU s 8 and 11 (40–55 cm below surface); and aligns with activity over the last thousand years between 0.75 ka and > 0.14 ka. Notably, there is a sharp decline – effectively a halving in artefact densities – in the assemblage between XU s 4–6, which are found just above an age of 0.14 ka/1877CE (0.113–0.175 ka/1845-1907CE) (Fig. 6b). Given the change occurs before this age within XUs 7 and 8, and assuming sedimentation rates of ~0.2 cm/yr as evident in the upper XUs (Fig. 5), this would suggest the initial decline may have been in the early 1820s or 1830s. Finally, there is a short increase in artefact numbers in XU 3, equivalent to early or mid-20th Century (Fig. 5; Supplementary information).

The archaeological assemblage was dominated by raw materials found within and along the fringes of Dungowan Creek. They include red and blue jasper, a high-quality grey chalcedony, green serpentine and plagioclase (Fig. 7), several of which are found rarely across the tableland. Jasper is encountered as geological outcrops along the valley, whereas the other raw materials are commonly found as cobbles (generally < 8,000 cm^3) eroded from geological substrate further up the catchment. Given the proximity of the raw material resources, the assemblage is unsurprisingly dominated by various early reduction flakes, cores and core fragments, and reflects a location for the preparation of more complex tools used elsewhere. However, there is

Table 5
Tools (n) recovered from the open area excavations of #9 and #67.

Excavation unit (XU)	Depth (cm)	Backed artefact	Bondi point	Burin	Concave scraper	Denticulate	Drill	Elouera	End scraper	Geometric microlith	Notch	Step scraper	Straight scraper	Thumbnail scraper	Utilised flake	Assemblage total	Cores and core fragments
1	0–5	–	–	–	–	–	–	–	–	–	–	–	–	–	4	4	2
2	5–10	1	–	1	2	2	–	–	–	2	–	–	1	–	3	12	5
3	10–15	–	–	–	1	–	1	1	–	–	–	–	–	–	2	5	5
4	15–20	–	–	–	–	–	–	–	1	–	–	–	–	–	2	3	2
5	20–25	1	1	–	1	–	–	–	–	–	–	1	1	–	2	7	3
6	25–30	–	–	1	–	1	–	–	–	1	–	–	–	–	1	4	3
7	30–35	3	3	1	–	–	–	–	–	2	–	–	–	1	1	11	8
8	35–40	4	4	–	2	1	–	–	–	1	–	3	2	–	4	21	4
9	40–45	2	3	1	1	6	–	–	–	1	1	1	2	–	1	19	7
10	45–50	1	–	2	–	–	–	–	1	4	–	1	1	–	2	12	7
11	50–55	2	–	1	–	–	–	–	–	2	1	–	1	–	–	7	4
12	55–60	2	–	–	1	–	–	–	–	5	–	–	–	–	–	8	2
13	60–65	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	1
14	65–70	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0	0
Total	–	**16**	**11**	**7**	**9**	**10**	**1**	**1**	**2**	**18**	**2**	**6**	**8**	**1**	**22**	**114**	**53**

variation across the archaeological deposits and numerous late Holocene tools were recovered, including geometric and thumbnail scrapers, Bondi points, backed artefacts, and a range of scrapers (Tables 3 and 5; Fig. 6) – all indicative of hunting, wood-working and animal butchery activities across the catchment. The high proportion of tool types within the broader assemblage (287 within the 3,226 assemblage; 8.9 %) strongly suggest more intense or extended occupation within the valley throughout the late Holocene, and especially in the last thousand years.

While European materials were not a focus of the archaeological excavations, glass, ceramic, bone, and metal debris were opportunistically recovered during the project. Overall, 105 fragments were recovered from several test pits along the creek catchment (Supplementary Information). These were primarily found in the upper 20 cm, which aligns closely with the post-colonial period, although a small number extended to 40 cm and may indicate some post-depositional movement of these materials. Of these, four glass artefacts showed possible evidence of Indigenous modification. None of the bone was diagnostic, consisting only of extremely small fragments recovered from the sieving residue.

Notably, there is limited variation in the quantity or types of tools recovered between the pre- and post-colonial periods across the excavations, which suggests limited change in the types of activities occurring within the catchment. Tool types suggest a range of hunting, woodworking and food processing activities continued throughout this time. The focus on jasper and chalcedony raw materials continues, albeit in lesser quantities. There is increased use of quartz and serpentine – the latter sourced from locations < 20 km from the creek – potentially indicating a more mobile population than in earlier phases of the assemblage (Tables 2 and 4; Fig. 6). Quartz becomes a more dominant raw material in the last thousand years (Tables 2 and 4) and correlates with broader regional trends of the dominance of this raw material (e.g. Hiscock and Attenbrow, 2006).

4. Discussion

We present the findings of a large-scale archaeological excavation of Dungowan Creek, which demonstrates initial use of the southern tableland by ~5 ka. Given the valley is on the probable corridor between the uplands and the coast via the gorges and valleys of the Macleay River (Connah, 1975; Davidson, 1982; Godwin, 1990; McBryde, 1974), it may also suggest an initiation of seasonal migration from the mid-Holocene. It remains unclear why such seasonal movement or increasing use of the upland only began during this time, and not earlier when significant movement following major sea-level rise in the terminal Pleistocene was prevalent elsewhere in southeast Australia (e.g. Williams et al. 2018). However, it may relate to climatic amelioration during the Holocene (Beck et al. 2015, 2023), reaching a threshold that allowed increased access and lengthier occupation of the upland, which to this point would have been extremely cold (in terms of thermal comfort) for significant parts of the year. Meeting certain population thresholds leading to socio-economic changes and broadening of resource needs may also have played a role (Williams et al. 2015).

The peak of visitation and probably populations in the valley occurred in the last thousand years and just prior to colonial invasion (Fig. 6; Table 4: XU 8–9). While some spatial variation, this is a pattern found continent wide across Australia (Williams, 2013, 2024) and reflects positive environmental and socio-economic change resulting in technological investment and more people during this period (Williams et al. 2015). Along with population increase came increasing regionalisation, especially along the coast, and the establishment of trade networks as ease of movement decreased (e.g. David, 2002, Lourandos, 1997; Smith, 2013). We hypothesise that the rare raw materials in Dungowan Creek may have formed one commodity in such a trade network. This could explain the rapid and high-density accumulation of stone artefacts in a relatively minor upland catchment – a pattern in contrast to regional models and surrounding areas (e.g. McBryde, 1974;

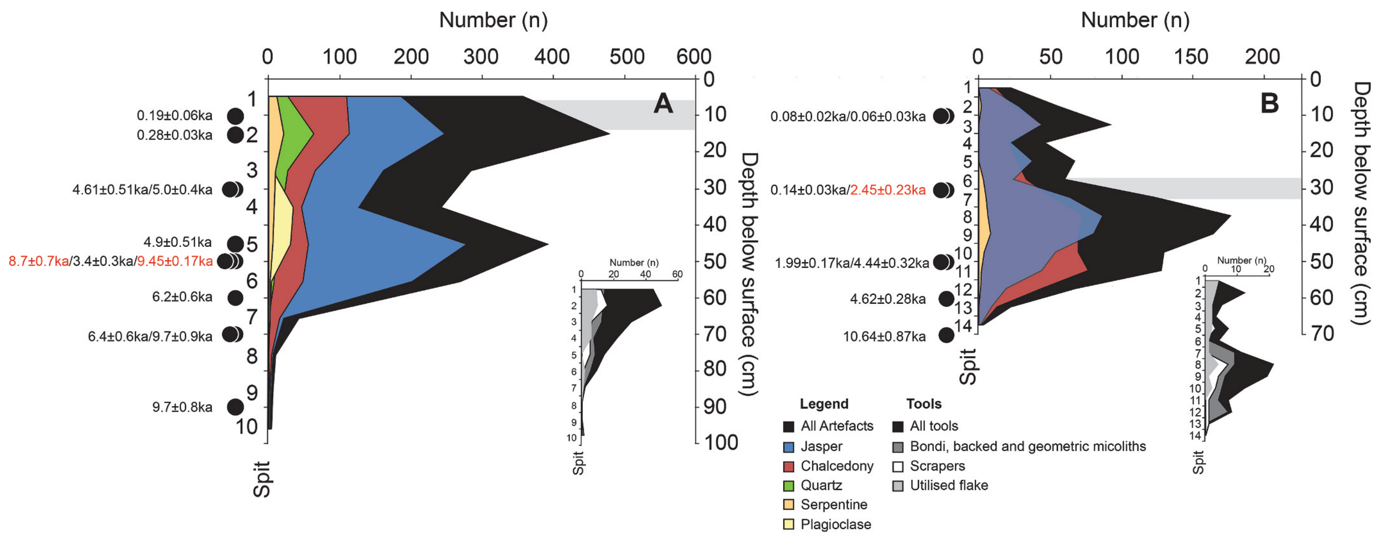

Fig. 6. Summary of the stone artefacts by raw materials presented for the two test excavation phases (A) and open excavation areas #9 and #67 (B). OSL ages as presented as shown in Table 1 and Fig. 5, with those considered erroneous in red when compared against other comparable ages at similar depths. The insets present the number of tools recovered, while the grey band shows the approximate levels for 1830–1850.

EMM Consulting Pty Ltd, 2021). Unfortunately, our knowledge of the movement of these raw materials remains extremely limited, with no examples documented elsewhere to date. One probable direction is along the Macleay River corridor to the coast aligning with documented seasonal movements. From there, down-the-line exchange likely occurred both north and south as part of established kin and marriage systems between Thunggutti, Birpai and Gumbaynggirr traditional groups (e.g. Enright, 1940). When considering other potentially related trade activities within which the Dungowan raw materials may have been embedded, the distribution of Moore creek andesitic greywacke axes near Tamworth some 40 km away has been extensively researched and may provide a suitable example. These studies indicate a trade network of several hundred kilometres, axes being found as far away as the MacIntyre River (>300 km northwest) and the Richmond Valley (>300 km northeast) (Davidson, 1982; McBryde, 1974).

Following colonial invasion, activity in the region collapses. While the data are most robust in the open area excavations, this decline appears apparent across our results and suggests the entire creek system was impacted. The timing of the collapse cannot be definitively stated based on the OSL ages available across the excavations. However, it clearly occurred in the early- to mid-19th Century when colonial presence in the region was increasing and/or established. We can confidently say this occurred prior to 1877 based on CABAH-1356, and likely at or before 1845 based on sedimentation rates. This places the decline in our record substantively within the period of intense frontier violence occurring across the tableland, although earlier impacts by diseases such as smallpox cannot be discounted. Regardless of the specific mechanism, it is clear that colonial impacts were substantive and evident in the archaeological record.

An alternative interpretation of this archaeological signature is that it reflects Indigenous people adopting colonial materials (e.g. metal axes) and/or changing behavioural strategies (e.g. living and interacting more closely with colonial settlements), leading to a reduction in traditional stone artefact production. This trend would reflect a shift in traditional lifeways, but not necessarily or solely an impact of disease or frontier violence. While this may have occurred in the later 19th and/or early 20th Century, we consider this improbable prior to 1850, when the initial change in our assemblage occurs. Indeed, Goodall (2008) suggests that 'dual occupation' between colonialists and Indigenous people began primarily after 1851. Before this time, the region was either at, or beyond, the colonial frontier, with the nearest established settlements in the Upper Hunter Valley some 150 km away. Recorded interactions between the Gomeroi people and colonists generally appeared hostile (e.g. Goodall, 2008; Milliss, 1992). It therefore seems unlikely that the Gomeroi people would have rapidly abandoned traditional practises through colonial assimilation. While European cultural materials were encountered in the archaeological deposits, they are sparse and suggest limited interaction between the Indigenous people and colonialists throughout the colonial period.

Given the Dungowan Creek is in extremely rugged terrain, and hard to get to even today, it was initially considered that this valley would have formed a refuge for Indigenous people as violence escalated. There are historic references to exactly this behaviour in the 1830 and 1840s (Campbell, 1978; Connah, 1975; Davidson, 1982; Roberts, 2006). Indeed, there is no evidence of complete abandonment or a gap in the archaeological record, indicating that some form of activity was maintained throughout the colonial period (Fig. 5). Interrogation of the assemblage demonstrates extended periods of occupation compared with earlier phases in the Holocene, perhaps indicative of refuge-like behaviour. Specifically, core size decreases suggesting greater reduction and use of the raw materials before seeking out new sources beyond the creek valley (test excavation – $\mu = 34$ g between XU3-8 versus 20 g in XU 1 and 2). While tool types also see a change from hunting activities (e.g. backed artefacts, Bondi points) that require higher mobility to more localised food processing and woodworking (e.g. notch, various scrapers, etc) (e.g. Table 3: XU 1 and 2). However, it is clear that violence, likely in tandem with spread of disease (Campbell, 2002; Dowling, 2021; Williams et al. 2024), resulted in significant impacts to the regional population at this time. Based on this, both trade and seasonal movements established in the late Holocene were severely compromised by the mid-19th Century, with no evidence of significant re-establishment in subsequent periods.

Quantitatively, the artefact densities see a 2.5 times (or 60 %) reduction between pre- and immediate post-invasion values (Table 4: XU 7–9 versus XU4-6). Whether this 60 % decline reflects a reduction of visitation, activities, or loss of population cannot be discerned with the data. If the value reflects population loss as a result of disease and frontier violence, this suggests a pre- to post-colonial change from ~6,000 to ~2,200 people based on values proposed for the tableland by Williams et al. (2015) (1 person/6 km^2 for the tableland some ~30,000 km^2 in size). Such high values are currently not evident in the historical sources (Barker, 2007) but do align more closely with the scale of change more recently proposed by Ryan et al. (2022), Wallis et al. (2021) and Williams et al. (2024) as a result of colonial impacts.

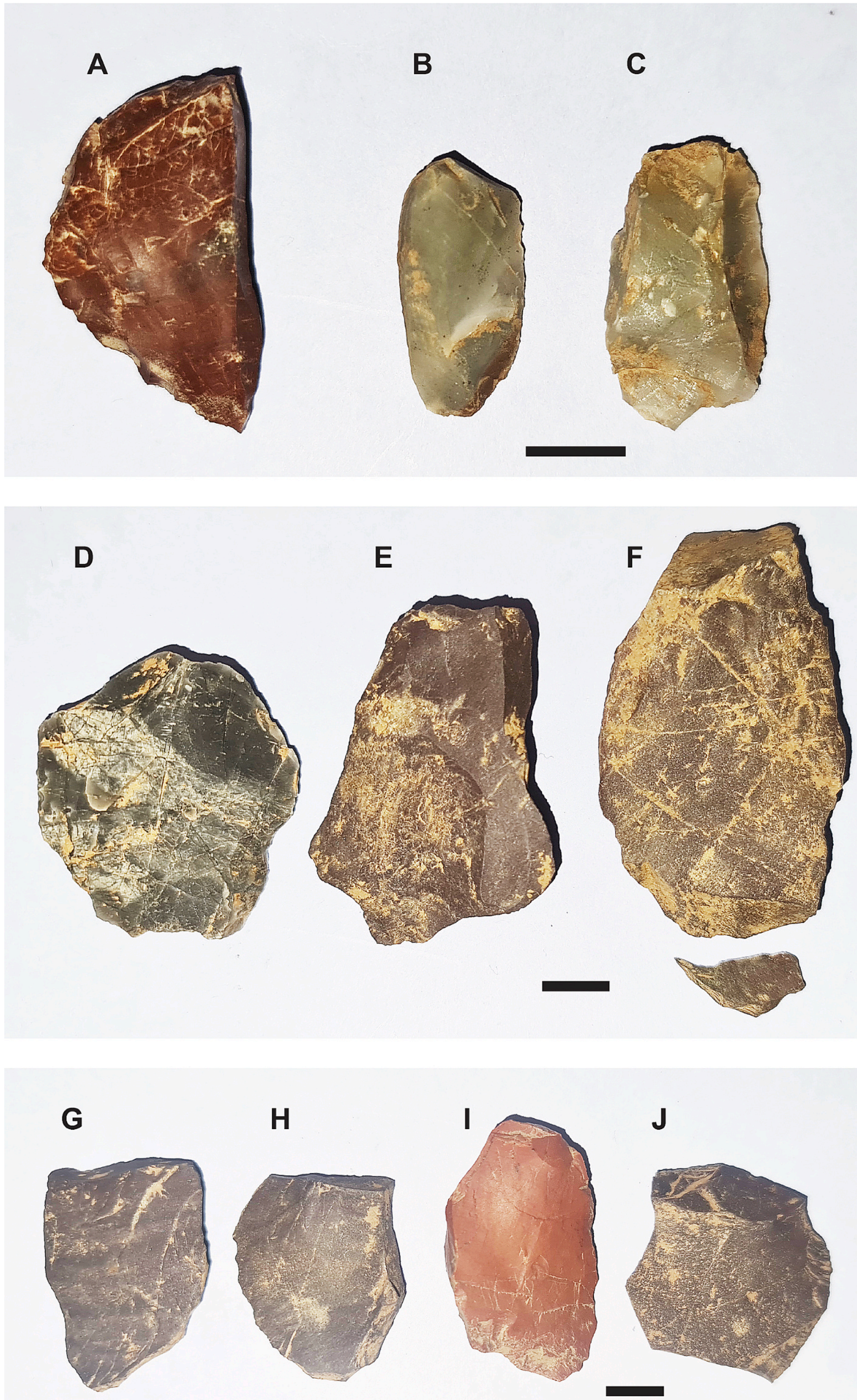

Fig. 7. Examples of stone artefacts recovered from the open excavation areas, including red jasper (A, I), blue jasper (E, F, G, H, J), high quality grey chalcedony (B, C), and green serpentine (D). Scale = 1 cm.

Indigenous activity along the creek remains low throughout much of the colonial period as people were relocated into reserves and missions in the late 19th and early 20th Century (Egan, 2021, Goodall, 2008). The nearest reserves to the site are Ingelbah (near Walcha) established 1893, and Quirindi in the mid-20th Century, both over 100 km away, and unlikely to allow easy ongoing access to the valley. However, oral history from Uncle Donny Fermor, a local Elder, indicates his family returned and lived along the creek since at least the mid-20th Century (and possibly earlier). Nearly 70 years of age, he retells stories of his father participating in ceremonial activities while living on the creek. Remarkably, Uncle Donny's family continued to live along the valley into the late 20th Century until the current dam was established.

More broadly, our data contributes to the growing corpus of archaeological information focussing on the early post-invasion period and exploring the impacts of colonialism. While many researchers have hypothesised the probable massive impacts by disease and frontier violence to Indigenous people (e.g. Attwood and Foster, 2003, Barker, 2007, Coutts et al. 1977), they have been constrained by the historical documentary records, which are often partisan. Barker (2007) and Litster and Wallis (2011) both suggest that the absence of locational information and definitive archaeological remains would severely limit the success of archaeological investigations of events such as massacres and rather proposes a more holistic consideration of Indigenous/European interactions. Indeed, only in recent years have archaeological investigations undertaken this broader approach. Examples include the fine scale resolution excavation of a stone house and its potential use as a refuge during the Eurmeralla war in the mid-late 19th Century in southwest Victoria (McNiven et al. 2017); and an extensive archaeological program exploring the camps and activities of the Native Mounted Police across Queensland, which indirectly informed the nature of a larger frontier zone of violence throughout the late 19th Century (Wallis et al. 2018, 2021). The latter also indirectly suggesting a level of violence and loss of life substantively above previous estimates and established historical records.

5. Conclusion

Here, we provide some of the first archaeological evidence of the impacts to Indigenous people from colonial invasion in the 19th Century in the tableland and surrounds. It suggests that a large established Indigenous population with seasonal movements and formalised trade networks established since at least the mid-Holocene was decimated in a short period through the introduction of disease and frontier violence. While a handful of documented massacres are known, our data suggest the loss of Indigenous people must have been more widespread, with a reduction in activities and visitation of ~60 % based on the change in artefact densities, and the substantive breakdown of traditional activities and practises. This was despite the creek being in a relatively secluded part of the tableland – an area generally unsuitable for pastoralism and probably not directly targeted by early colonists. If such values align with population size, our results may suggest the loss of several thousand Indigenous people in the space of ~30 years. Indeed, recent works by Williams et al. (2024) suggest the death of millions of Indigenous people in the first half of the 19th Century as a result of diseases and frontier violence at a national level. Despite this, our archaeological and oral historical evidence shows that Indigenous people nonetheless survived and continued to live along the creek well into the late 20th Century.

With few exceptions, investigation of the early post-invasion archaeological record from an Indigenous perspective is poorly studied in Australia. Indigenous archaeological research has to date been dominated by their initial peopling of the continent, Pleistocene survival and late Holocene intensification. As such, our understanding of the post-invasion era has been dominated by historical records and observations by colonists often with their own perspective and/or biases. Here, we show that such changes are evident in the archaeological record and can both supplement these records often told through a predisposed perspective; and increasingly in the post Myall Creek massacre period, not told at all. It is essential that we focus our future efforts upon this time period to enable truth-telling and reconciliation with our Indigenous people.

CRediT authorship contribution statement

Georgia Burnett: Writing – original draft, Formal analysis, Data curation, Conceptualization. **Cameron Neal:** Writing – review & editing, Data curation. **Taylar Reid:** Writing – review & editing, Data curation. **Joel Mason:** Writing – review & editing, Data curation. **Trudy Doelman:** Writing – review & editing, Formal analysis. **Alex Frolich:** Writing – review & editing, Project administration, Data curation. **Donny Fermor:** Writing – review & editing, Data curation. **Steve Talbott:** Writing – review & editing, Data curation. **Warren Mayers:** Writing – review & editing, Project administration, Data curation. **Alan N. Williams:** Writing – original draft, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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The authors also acknowledge and recognise the deep historical and cultural harm our truth-telling exposes, and we commiserate sincerely with all Indigenous peoples of Australia.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jasrep.2025.105363.

Data availability

All presented data is within the manuscript and/or supplementary file

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