



Archaeological Insights into Asymmetrical Warfare on the Queensland Frontier

Anthony Pagels¹  · Heather Burke¹  · Lynley A. Wallis² 

Accepted: 18 January 2024
© The Author(s) 2024

Abstract

Historiographic debate in Australia over whether or not the asymmetrical conflicts between Indigenous and non-Indigenous peoples in the colonial period can be characterized as “war” remains unresolved, largely because most such events did not involve the traditional military. In this regard the situation in Queensland merits special attention, since much of the conflict in that colony from 1848 onward was conducted by a particular government paramilitary organization: the Queensland Native Mounted Police (NMP). In trying to understand the operations of this force, we adopt KOCOA terrain analysis, coupled with the forensic analysis of firing pin impressions on discharged Snider cartridge primers, to visualize how features around NMP camps affected and contributed to the use of firearms within these spaces. Given the well-recognized nexus between tactics of hunting and warfare, we argue that it is through the lens of training (both as hunters and soldiers) that we can best understand the Indigenous troopers of the NMP, as well as the strategies and tactics applied by the Queensland NMP in the context of the asymmetrical violence that characterized the Australian frontier.

Keywords KOCOA · Frontier conflict · Native Mounted Police · Battlescape · Asymmetrical Warfare

✉ Anthony Pagels
anthony.pagels@bigpond.com

¹ Archaeology, College of Humanities, Arts and Social Sciences, Flinders University, GPO Box 2100, Adelaide, SA 5001, Australia

² Griffith Centre for Social and Cultural Research, Griffith University, 170 Kessels Road, Nathan, QLD 4111, Australia

Introduction

“It is with savage tribes as with civilised natives — the most effectual way of preserving peace is to be well armed and thoroughly prepared for war.”
(*Daily Northern Argus*, June 1, 1875, p. 2)

Historiographic debate over whether the conflicts that took place between Indigenous and non-Indigenous people across all Australian colonies from the eighteenth century onward can be characterized as “war” has been ongoing since the 1970s (e.g. Broome 2010; Clarke 1995; Clements and Greig 2015; Connor 2005; Drummond 2022; Evans 2003; Evans et al. 1975; Gapps 2018; Grey 2008; Kerkhove 2014, 2019; Reynolds 1981, 2013, 2022; Ryan 2012; Sutton 2022). Such conflicts were irregular, sporadic, and disparate, conforming to Smith and Geier’s (2019:13–15) concept of asymmetrical warfare as conflict conducted “between opposing forces which differ greatly in military power and that typically involves the use of nonconventional weapons and tactics … [it] is warfare between combatants who are unequal in military power, politics, population, or technology.” Restricted to weaponry dominated by spears, nulla nullas, and boomerangs, Indigenous tactics extended to intimidation, surveillance, psychological manipulation (e.g., *Brisbane Courier* 1878a:3; *Cairns Post* 1887:2; *Northern Argus* 1868:2), economic sabotage through slaughtering or driving off livestock (e.g., *Australian Town and Country Journal* 1879:31; *Northern Argus* 1869:2) and targeting produce (e.g., *Moreton Bay Courier* 1850:2), fire (e.g., *Mackay Mercury and South Kennedy Advertiser* 1882:2), as well as retreating to rugged country confounding pursuit (e.g., *Sydney Morning Herald* 1858:8). While the term “war” is relatively commonly applied to similar conflicts in colonial settler contexts internationally (e.g., Bleed and Scott 2011; Grenier 2005; Prickett 1992; Vandervort 2006), in Australia there is still some resistance to the label, largely because most events were carried out by settlers and Native policing units rather than the traditional military.

In this regard, the situation in Queensland merits particular attention. Constituted as a separate colony in 1859, Queensland inherited a government-established and supported paramilitary force explicitly designed to deal with, and deal out, frontier conflict: the Native Mounted Police (NMP). Formed in 1848 to manage protracted conflict in what was then the northern boundary of the colony of New South Wales, control of the NMP transitioned to Queensland government authority in 1859 and the Force technically continued to function until the last NMP camp (at Coen, in Cape York Peninsula) closed in 1929. By then the NMP was far removed from their nineteenth-century methods of operation. Throughout the nineteenth century, however, they were increasingly militarized and literally weaponized by the colonial government through the provision of ever more powerful, lethal, and accurate firearms (Pagels 2023). For Indigenous peoples, the combination of NMP and settler violence rendered the Queensland colony “arguably one of the most violent places on Earth during the global spread of Western capitalism in the nineteenth century” (Evans 2004:167). Organized initially along

military lines, the NMP consisted of widely spread detachments of between four and 15 Indigenous troopers drawn from one part of the colony to serve in another, under the command of one or two White officers. They were stationed in remotely located base camps and moved with the frontier as it rapidly spread northward toward Cape York Peninsula and westward in the direction of central Australia. Over the course of their 80-year long history, they operated out of at least 150 largely expedient camps established to protect the expansion of pastoral, commercial, fishing, and mining interests. Following the colonial use of Indigenous people in a paramilitary role elsewhere in the British Empire, the NMP was the longest lasting and most brutal force of its kind in Australia (Richards 2008:185–200). The fact that at least 150 camps were maintained and operated for more than 80 years is testament to the persistent resistance of Indigenous people to subjugation. In the context of colonial war, the tactics and effects of the NMP are central, raising fundamental questions about whether NMP members served as soldiers at war or police officers preserving the peace.

This paper explicitly considers the role of the NMP in frontier conflict by viewing their camps as an integral component of what we term the “battlescape”—the spaces, structures, and facilities that catered for the logistics and strategic support necessary for combatants beyond the battlefield (cf. Scott et al. 2016:52–57). A four-year project to document the material remains of some 30 NMP camps (Barker et al. 2020; Burke and Wallis 2019) has yielded a wealth of spatial and other information relating to the changing weaponry of the NMP, as well as the daily activities of officers and troopers in camp, and how both may have affected the tactics adopted during NMP patrols and “dispersals” (a common euphemism for killings). Building on previous work detailing NMP weapons and ammunition frequencies (Pagels 2023), here we use the forensic and spatial analysis of discharged Snider-Enfield rifle cartridges to track the use of individual weapons and thus explicate NMP personnel’s behavior within two specific NMP camps: Burke River and Eyres Creek, established in 1878 and 1882 respectively in western Queensland (Fig. 1).

We then employ US military-based KOCOA (Key terrain, Observation, Cover and concealment, Obstacles and fields of fire, and Avenues of approach) terrain analysis to visualize weapons activities in relation to landscape features. Although KOCOA is most commonly applied to battlefields (e.g., Bleed and Scott 2011; Maio et al. 2013; Sivilich and Sivilich 2015), it has also been used to interpret a marine environment (McKinnon and Carrell 2015; McKinnon et al. 2020), and a POW camp (McNutt 2014, 2018, 2021), suggesting it would be equally suitable to interpreting NMP camps. KOCOA makes it possible to identify obstacles or places of ambush, spaces of clear ground, and visibility, as well as pathways for movement. This can elucidate both individual and group behaviors that demonstrate practical combative strategies, including site selection, camp arrangement, and resource procurement activities. Finally, we consider the training and abilities of troopers. Given the well-recognized nexus between tactics of hunting and warfare (e.g., Keeley 1996; Pickering 2013:105; Scott and McFeaters 2011:104,105), we argue that it is through the lens of training (both as hunters and soldiers) that we can best understand the strategies and tactics applied by the Queensland NMP in the Australian context of frontier violence.

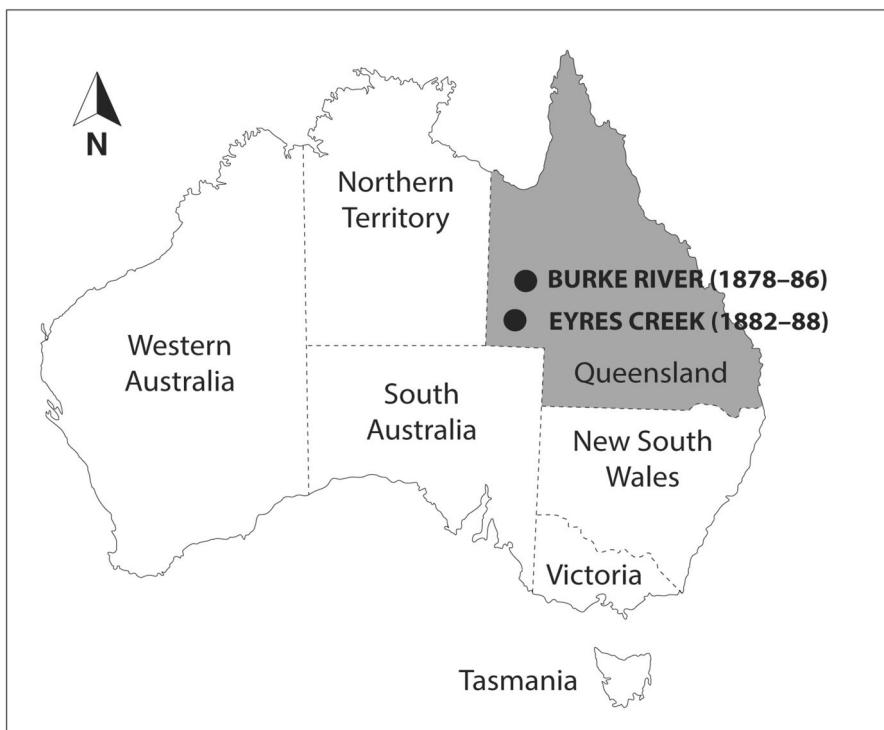


Fig. 1 Locations of the Burke River and Eyres Creek NMP camps (map by Heather Burke)

NMP Weapons

While multiple weapons were potentially available to the NMP, detailed archival, archaeological, and museum collections research has identified nine specific weapons that were definitively issued to this force (Pagels 2023) (Fig. 2). For the first 12 years of the NMP's operation they were armed with smoothbore percussion weapons: the Constabulary 20-gauge carbine and/or the Yeomanry 20-gauge carbine, first issued ca.1848, and the "Cape" Pattern 20-gauge double barrel carbine first issued in 1860. From 1860 onward, however, their weapons changed quickly, evolving from the smoothbore percussion Potts & Hunt 20-gauge double barrel carbine first issued in 1862, and the Colt Navy Model 1851 or Model 1861 0.36-inch percussion revolver, first issued probably as early as 1865 and definitely by 1868. In 1867, the NMP were issued the Westley Richards & Co. 20-gauge, double barrel pinfire carbine, although in limited numbers. In 1870 the deadly effectiveness of this force was consolidated through the introduction of the rifled P. Webley & Son Snider MkIII 0.577-inch centerfire, single barrel artillery carbine, along with the P. Webley & Son RIC No 3 0.442-inch centerfire revolver. After 1878 at least some NMP detachments were issued with the Martini-Henry 0.450-inch centerfire breech loading, single barrel carbine.

Weapon	Ammunition	Description	Issued
		Constabulary and Yeomanry percussion, smoothbore 20-gauge single barrel carbines	c1848
	As above	'Cape' Pattern percussion, smoothbore 20-gauge double barrel carbine	1860
No image available. Similar to above.	As above	Potts & Hunt percussion, smoothbore 20-gauge double barrel carbine	1862
		Westley Richards & Co pinfire, smoothbore 20-gauge double barrel carbine	1867
		Colt Navy Model 1851 or Model 1861 percussion .36" calibre single action six shot revolver	1868
		P. Webley & Son Snider-Enfield artillery centrefire, rifled .577" calibre single barrel carbine	1870
		P. Webley & Son RIC No.3 centrefire, .442" calibre six shot revolver	1870
		Martini-Henry MkIII centrefire, .577/.450" calibre single barrel carbine	Post 1885

Fig. 2 Weapons of the NMP (black and white photograph of "Cape" Pattern carbine courtesy of Skennerton [1976]:76; color photographs of firearms by Tony Pagels)

Exploring the Frontier Battlescape

“Battlescape” is the term we have adopted to characterize the spatial complexity of fields of conflict. Battlefields *per se* are only one component of warfare, being surrounded by a mix of spatial subdivisions (geographical zones of operation and information), facilities (permanent and short-term locations) and infrastructure for supplying, staging, and supporting deployed forces, transport and communications (US Department of the Army 2001: 4–69–4–82). Before 2008 such elements were termed the “battlespace” (US Department of the Army 2008: D-4), a formerly singular space now understood to comprise a range of alternate spaces, including areas of responsibility and theatres (US Department of Defence 2017). While some researchers (e.g. Bleed and Scott 2009, 2011) have opted to retain the earlier label, we use the term “battlescape” to distinguish the latter concept from the former.

The spatial subdivisions of the battlescape include the area of operations, or “the immediate area occupied by a combat force,” including battlefields (Bleed and Scott 2011:51). The zone around the area of operation is the “area of influence,” or the space in which a commanding officer (CO) can “directly influence by maneuver or fire” (Bleed and Scott 2011:51). An “area of interest” surrounds the area of influence and may be controlled or occupied by Indigenous peoples. In addition to delineable geographic subdivisions, the less tangible information environment includes various facilities, such as home stations—permanent and short-term locations which supply, stage, and support deployed forces—and force projection bases, from which personnel can be mobilized. In NMP terms the home station was police headquarters—a command node removed from areas of operation and fighting—while NMP camps were force projection bases. Camps were staging areas for the NMP, offering strategic placement across the battlescape to influence a unit’s objectives and providing all necessary operational administration, logistics, and communications (cf. Bleed and Scott 2011:52–53). Linking otherwise dispersed NMP camps were the routes (roads, tracks, and Indigenous travel pathways) that facilitated movement of people, supplies, and information. Placing the NMP camp at the heart of the battlescape in this way recognizes the crucial role these locations played in the government’s sustained campaign against Indigenous peoples.

The battlescape is particularly relevant to understanding how both known terrain features (i.e., gullies and creeks) and unknown ones (i.e., buildings that are no longer extant) in and around NMP camps could influence the use of firearms within these spaces. The few surviving plans of individual NMP camps indicate that their spatial layout varied between military quadrangles, parallel rows, and ad hoc designs. Camps required permanent water, sufficient and suitable grass for the large numbers of horses that each detachment possessed, and access to roads or tracks that afforded communication via postal routes or telegraph stations. The replicable components of each camp were an officer’s quarters, troopers’ huts, a storeroom, and horse paddock (Barker et al. 2020:30). Another repetitive feature was the hierarchical segregation of officers from troopers, who were often placed at opposite ends of the complex, a standard feature of military layouts elsewhere (Barker et al. 2020:31).

No historical sources suggest that palisades or any other built defensive features were ever incorporated into the placement or layout of NMP camps. In at least some cases, however, natural features such as rivers and swamps appear to have provided—either deliberately or fortuitously—defensive barriers, while higher elevations or cleared areas may have likewise afforded greater strategic visibility.

The following section presents the known layout of the Burke River and Eyres Creek study sites derived from physical and geophysical survey, along with viewshed mapping to identify areas and corridors of visibility. Attention is then given to the operation of troopers in these spaces by examining the firing pin impressions on discharged Snider cartridges to distinguish, where possible, the use of individual weapons and the activities that may have been connected with this use. We focus here particularly on whether hunting or target practice may have generated this patterning. Finally, these data are combined with KOCOA spatial analysis to explore patterns of behavior at each site at an intra- or detachment level and to view the camp in some measure as the troopers may have.

The Burke River and Eyres Creek NMP Camp Battlescapes

The Queensland government was extremely frugal when it came to funding the NMP. Their camps were expected to be short-to-medium term, meaning little effort was put into their construction. Camp buildings were typically made from locally available timber and bark, with ant bed floors and occasionally sheets of galvanized iron. When camps were closed, they were dismantled, and materials reused elsewhere. The Burke River camp is the only camp known to have had stone buildings, while Eyres Creek was one of a small number of camps at which the buildings were constructed of adobe. On occasion camps, such as Burke River, were reused as stock camps after the NMP had left.

The effect on ammunition artifacts by taphonomic processes has been considered. The ammunition artifacts recovered at Burke River and Eyres Creek were surface finds and hence represent an unknown sample of the whole. Factors affecting the potential movement of artifacts are slope angle, the size and shape of objects, and flood water or sheet wash on flat sites or gently inclined slopes of <5% (see Schiffer 1972:161, 162). In this respect both sites are flat to gently inclined at <5%, meaning that flood or sheet wash and wind would be the main contributors to artifact movement. At Burke River, Artym (2018:159, 166) concluded that some artifact drift occurred (movement of up to 1.8 m was established for conjoining tobacco pipe fragments), but was less likely in vegetated areas, and that artifacts closer to the waterhole were “mostly unaffected,” as were larger and heavier objects. Because ammunition is both (relatively) heavy and large, no allowance has been made for the possible movement of a fired cartridge once it passed from the systemic to archaeological context for those artifacts recovered from the surface of sites (see Schiffer 1972:161, 162).

Systematic pedestrian surveys were conducted across the full extent of both sites in order to determine the spatial extent of physical remains and identify core activity areas worthy of focused attention. Results informed the subsequent positioning

of geophysical survey grids and excavation trenches. Regardless of their location, all weapons and ammunition artifacts were flagged, their locations plotted with a unique identification number using a Nikon total station, and the objects collected for detailed analysis. For all other categories of material only a subset of artifacts was collected and analyzed; the latter are only mentioned in passing in this paper where pertinent to understanding the use of weapons in camp.

The results presented in this paper are based solely on the location and features of ammunition artifacts, chiefly fired and unfired cartridges and projectiles. Upon return to the laboratory all such artifacts were first separated by class into either smoothbore, rifled, or unknown, then into subclasses of rimfire, centerfire, pinfire, or unknown, and finally by caliber. Headstamps were examined to match the cartridges to a manufacturer and date. In circumstances where ammunition was not designed for a specific arm, the Australian Ballistic Information Network, Firearms Reference Tables and library at the Victoria Police Ballistics Unit were used to match cartridges to weapons.

Forensic examination was then carried out to characterize individual fired cases. This was restricted to Snider cartridges for two reasons. First, ammunition from these weapons dominated the armaments assemblages at both camps. Second, Sniders were the weapons explicitly available to troopers, as opposed to the wider variety of armaments known to have been used by officers, who often maintained private weapons as well as being issued with revolvers and government longarms. Snider cartridge primers were examined under an Optico ASZ-400 trinocular stereo microscope at 40x magnification with a USB camera. Each cartridge was aligned to the fired position (rotating the firing pin impression to six o'clock) and the dimensions (length and width) of breech face impressions and dimensions (length and width) and location of individual characteristics of the firing pin impressions recorded. Once the first primer was examined, all subsequent primers were compared to each other. Each time a unique primer was discovered it was assigned a capital letter (e.g., A, B, C, etc.) and all subsequent primers that matched were classified by the same letter. Clear matches meant the cartridges were fired by the same gun. Inconclusive comparisons meant only that the cartridges may or may not have been fired by the same weapon. Forensic analysis of firing pin impressions on discharged Snider cartridges was possible in 41% of the finds from Burke River ($n=14$) and 47% from Eyres Creek ($n=17$).

Finally, KOCOA principles were applied to determine a direction of fire for each discarded Snider cartridge. First, a binary viewshed was developed to show the terrain and to differentiate areas that were visible or invisible from the vantage point of a 1.7 m tall adult standing in the center of the camp. Visibility was generated for a 5 km radius from this viewpoint. Mapped ammunition artifacts were then centered within 360-degree “circles of fire,” the radii of which corresponded to the effective range of fire for the Snider, which is 200 m. Applying KOCOA principles to the viewshed then showed the most likely direction each firearm was discharged within its circle of fire. Each circle was reduced to a “field of fire” by dividing the circle along contours across the slope in this direction. In essence, the field of fire provided a maximum observation area across and downslope from where a target would be visible. In conjunction with other KOCOA principles this established the

best line-of-visibility to show the most probable direction in which a trooper discharged his firearm. Determining the direction of fire can suggest possible activities but can also help to identify areas that were unsuitable for shooting toward, such as buildings.

Burke River

The Burke River NMP camp (also known as the Boulia camp) was established in 1878 to support the westward expansion of pastoralists (*Brisbane Courier* 1878b:7) and closed eight years later in 1886. A noticeable feature of the camp is its position on a low plateau, above and away from an adjacent vegetated gully and waterhole. This represents a sound defensive strategy, although it would also have served flood mitigation purposes. Located beside a key access route, the camp would have been highly conspicuous, and the surrounding open ground would have made an unannounced approach impossible, despite hidden ground to the northwest.

No historical plans or photographs exist for the camp, nor are there any written descriptions of the buildings beyond a casual comment in 1882 that it was “most respectable looking” (*Brisbane Courier* 1882:7). While the first NMP officer, Ernest Eglinton, had no military background, it is reasonable to expect that, like most camps, Burke River would have consisted of, at minimum, officers’ quarters, troopers’ huts, and store. Archaeological evidence and Aboriginal oral history suggest that two surviving stone structures close to the permanent waterhole were associated with the officers’ area, while the troopers were accommodated in less durable structures on the treeless plain further from the waterhole (Artym 2018:76) (Fig. 3). At no time did the Burke River contingent rise above two White officers or ten troopers, although an unknown number of Aboriginal women and children would also have been present.

The ammunition artifacts ($n=103$) at Burke River derived from handguns (including an unfired bullet for a .410" revolver), rifles (including 0.22" rimfire cases, 0.577" MkVIII or MkIX Snider casings and four unknown rifle casings), shotguns (including 12-gauge), loose shot, percussion or primers caps, and metal from unidentifiable ammunition. Five Snider cartridges were located to the northeast between the camp boundary and the waterhole (Fig. 4) and there was a noticeable concentration of spent cartridges near the center of the site. To the northeast of Building 1 five Snider casings were located about 40 m apart, along with two 0.442" revolver casings. An isolated cluster of spent Snider cartridge cases was recorded at the southern limits of the site.

For the five Snider cartridges in the northeast, KOCOA analysis indicates that the direction of fire was away from the camp toward the waterhole. The paucity of Snider finds in this area suggests that it attracted little trooper attention, while the two revolver cartridges suggest the area had some connection with the officers; a substantial distance (~40–80 m) separates these two types of ammunition. This is not unexpected, as the Snider was intended for long-range, aimed shooting. These data suggest limited use of the Snider for aimed shooting of game in the waterhole.

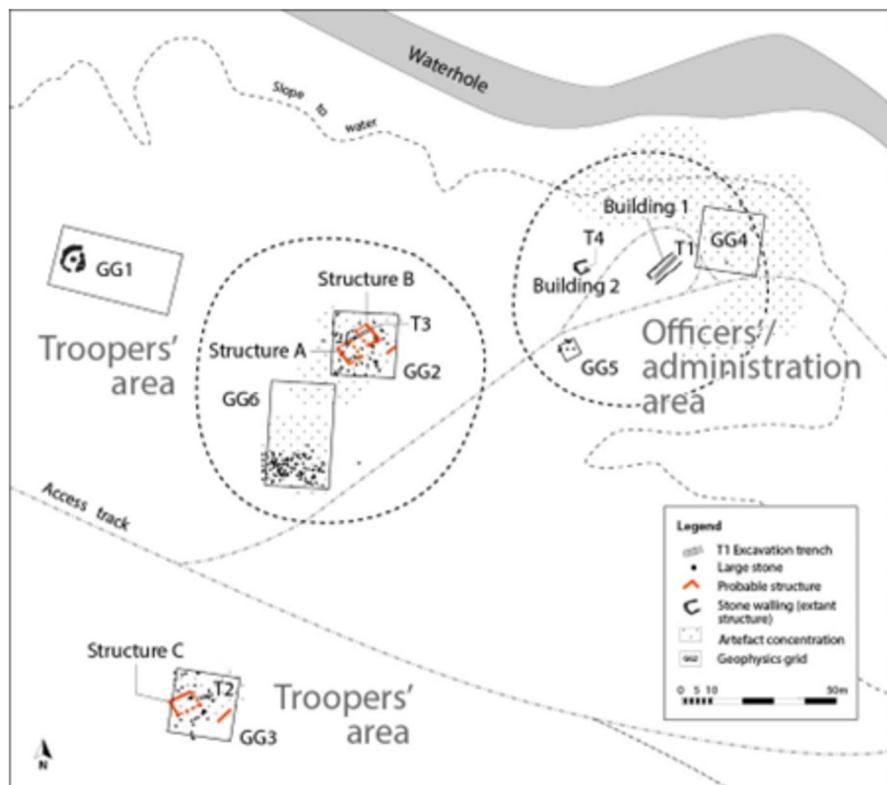


Fig. 3 Layout of the Burke River NMP camp (map by Heather Burke)

Aimed shooting appears to have been preferred on the plain, where it was confined to the west and south of the camp. The greatest concentration ($n=14$, 41.2%) of Snider finds were in the central part of the site (across GG2 and GG6), with a loose clustering of four cartridges in GG2 linked to GG6 by what appear to be nine randomly spaced cartridges. A tighter grouping of ten cartridges is evident in GG6. This artifact distribution indicates the central part of the camp was the favored location in which to discharge Snider carbines, which were most likely fired toward the west and southeast. The loose shell distribution is more indicative of hunting than target practice, where tight clustering would be expected. It is unknown if the cluster of cartridges at GG3 contained multiple cartridges from different weapons, but it is possible they result from aimed shooting or were collected for reloading. Conversely, GG3 shows a tight grouping of five Snider cartridges within a ~ 4 m radius and within an almost rectangular subsurface anomaly (possibly indicative of a no-longer extant building), and thus may represent the collection of cartridges for reuse.

Of the Snider cartridges from Burke River, 58.8% were unsuitable for forensic analysis as a result of corrosion caused by water and sand. Examination of firing pin impressions on the 14 Snider cartridges suitable for comparison identified the

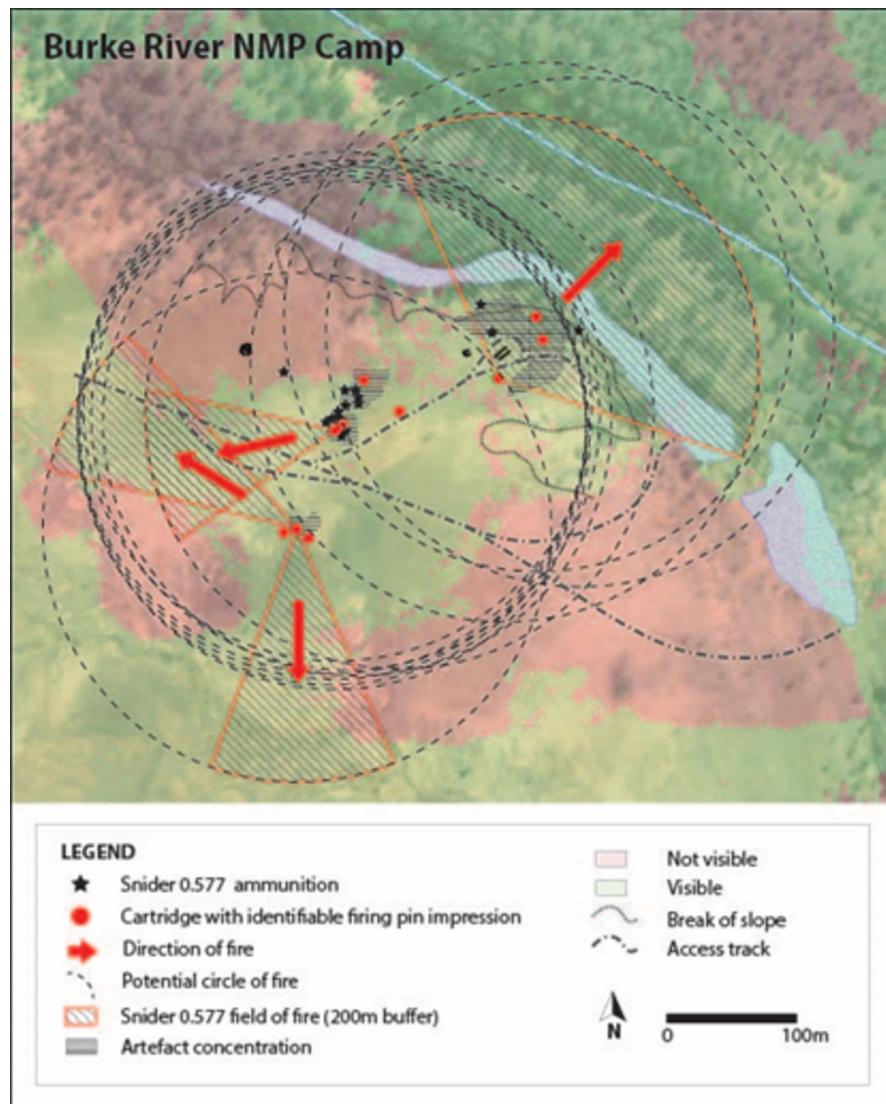


Fig. 4 Layout of the Burke River camp showing the location of discharged Snider cartridges and their fields of fire (map by Wayne Beck, modified by Heather Burke)

presence of nine different carbines, with three weapons responsible for discharging more than one shot (Fig. 5); Sniders A, E, and F discharged two cartridges, and Snider G, three. The use of Sniders E and F was connected to the waterhole, although the paucity of Snider cartridges in this vicinity in general suggests that this was a rare activity. The spacing between these cartridges, as well as the three unknown casings, suggest hunting was the activity here rather than target practice, with Snider E engaging in this activity at least twice, and Snider F once.

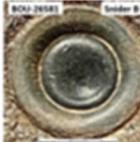
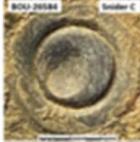
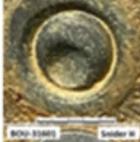
Weapon	Firing pin impression	Artifact	Number
Snider A		BOU 49201, & 29241	2
Snider B		BOU 26581	1
Snider C		BOU 26584	1
Snider D		BOU 26585	1
Snider E		BOU 20512, & 25499	2
Snider F		BOU 24155, & 24156	2
Snider G		BOU 29238, 29239, & 33687	3
Snider H		BOU 31601	1
Snider I		BOU 31602	1
Unsuitable for comparison			20
Total			34

Fig. 5 Individual Snider rifles identified by firing pin impressions at Burke River (images by Tony Pagels)

Snider ammunition located across grids GG2 and GG6 was spaced more than 3.5 m apart (Fig. 6). Sniders responsible for discharging a single shot were

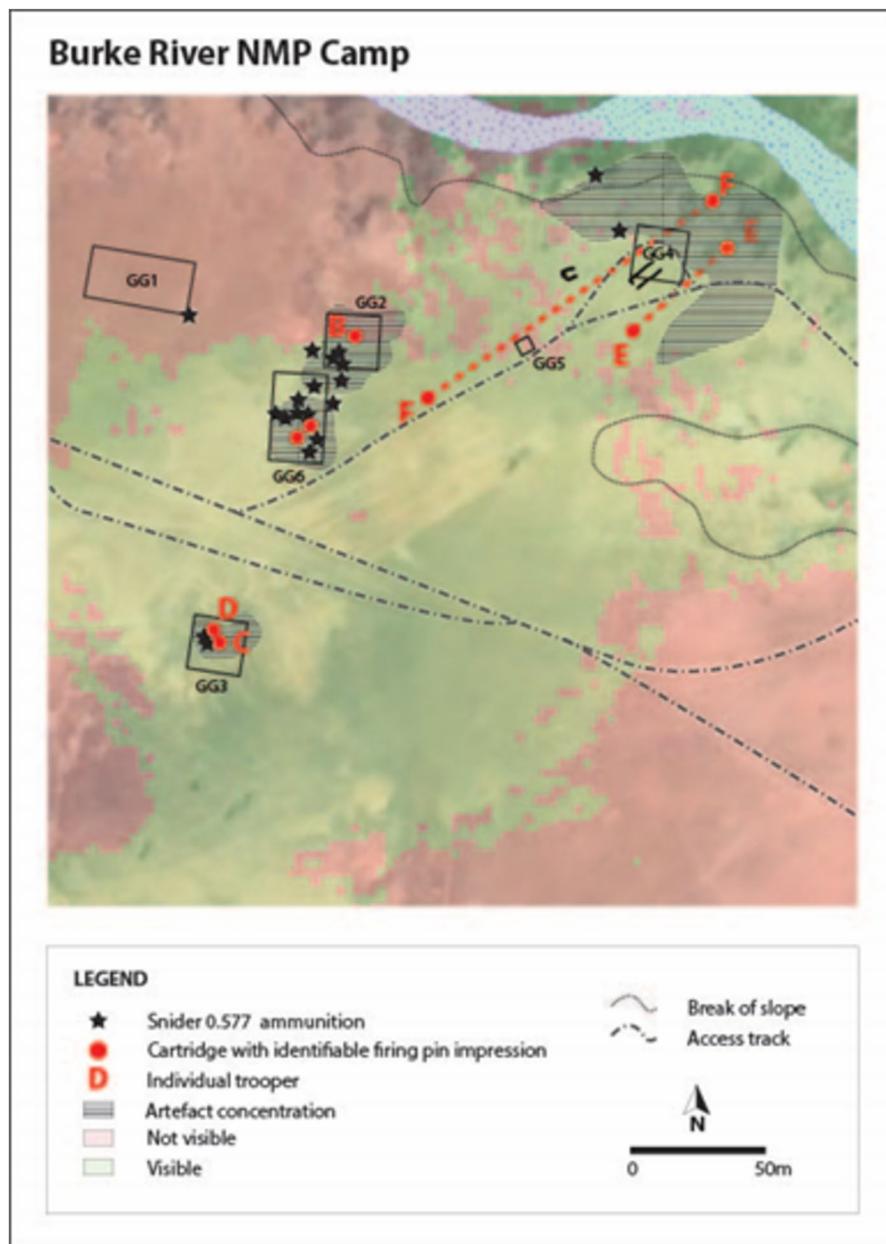


Fig. 6 Location of Snider cartridge cases with identifiable firing pin impressions at Burke River (map by Wayne Beck, modified by Heather Burke)

identified in the vicinity of GG2 (Snider B) and GG3 (Sniders C and D), making it impossible to identify the movement of an individual.

The Snider F cartridge in the middle of the site stands alone. The camp plan is unknown, and, while the clusters of large stones suggest remnant buildings, the clear area around Snider F could mean it was fired toward the southeast. Applying the KOCOA principles in this scenario suggests there is no obvious direction of fire because the effective range of a discharged Snider bullet would impact areas close to buildings or zones of invisibility; it is therefore likely the cartridge was dropped rather than discharged.

Eyres Creek

The Eyres Creek NMP camp (occupied for six years) was established in 1882 on the west bank of the eponymous Eyres Creek and was responsible for patrolling a large area in far southwestern Queensland. As with Burke River, there are no historical plans or photographs of the Eyres Creek camp, although written descriptions exist. The local region supported only small trees that were unsuitable for slab construction, so buildings were erected from adobe, being described in 1889 as consisting of:

Officers' Quarters with detached kitchen. Camp Keepers Quarters, Store, meat House saddle shed a good-sized stock yard eight troopers huts built of Grass and a Garden, all the buildings are mud with thatched roofs (Britton 1889).

Archaeological evidence was unable to contribute much additional information to understanding the camp layout, given that the adobe method left no geophysical or material trace. Eyres Creek lacks the historical or geophysical detail of other camps, and the only extant structural feature is a rectangular arrangement of posts on the edge of an area that falls away to the east. Although it is possible this structure post-dates the camp, the spatial arrangement of the discharged cartridges associated with it suggests a connection between this structure and NMP activity (Fig. 7).

The number of personnel stationed at Eyres Creek was relatively stable, with two White officers and typically eight troopers (Pagels 2023:Tables 3, 4, 5, 6, 7, 8 and 9), along with both White and Indigenous women and children. The commanding officer who established the camp, Robert Kyle Little, was ex-military, as was the main camp keeper, Michael Linehan (Burke and Wallis 2019), making it likely that the camp layout would have been based on military principles.

Eyres Creek produced 116 ammunition artifacts, derived from revolvers (including .380" caliber cartridges, 0.442" caliber cartridges, and 0.450" caliber cartridges), rifles (including 0.22" rimfire cases, 0.44"-40 Winchester, and a 0.557" Type 6 unfired bullet for Snider MkIX cartridges), and shotguns (including 12-gauge, 16-gauge, and 20-gauge), as well as pinfire cartridges, loose shot, percussion or primer caps, and metal from unidentifiable ammunition.

Ammunition cartridges appear in two distinct areas of the camp: one associated with the timber posts, and another to the south (Fig. 8). The majority (72.3%; $n=34$) of the Snider, .442" revolver, and 20-gauge pinfire cartridges occur east of a north-south axis parallel to the posts. Coupled with the distribution of other

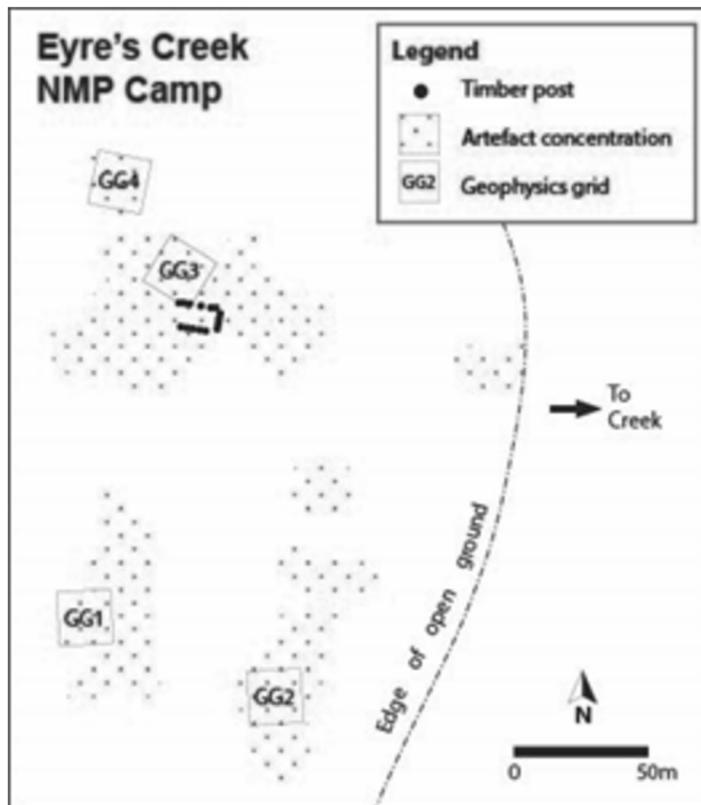


Fig. 7 Layout of the Eyre's Creek NMP camp (map by Heather Burke)

types of artifacts, this strongly indicates the location of the camp's eastern extent and suggests that there was a preference for shooting from positions of higher ground toward the creek to the east. There are clear lines of sight suitable for aimed shooting, but there is no tight clustering of spent cases to hint at target practice; instead, a more sporadic activity is indicated.

A prominent corridor of clear ground lies to the west. This space provides the most accessible route to the site by avoiding the dunes, clay pans and water on the camp's perimeters to the north, east, and south. The scarcity of Snider cartridges with a field of fire in this corridor suggests that it was rarely used for aimed shooting. The lower southwest portion of the site is the most appropriate space for shooting, as it is less undulating compared to the eastern region. The direction of fire is not limited to the Snider weapons, but equally applied to other weapons not discussed in detail here, including 20-gauge pinfire carbines and revolvers. This suggests that the two areas offered the best positions to take advantage of the terrain.

Forensic examination of the 17 discharged Snider cartridges from Eyre's Creek indicates the presence of six unique weapons (Fig. 9). Snider C was the most

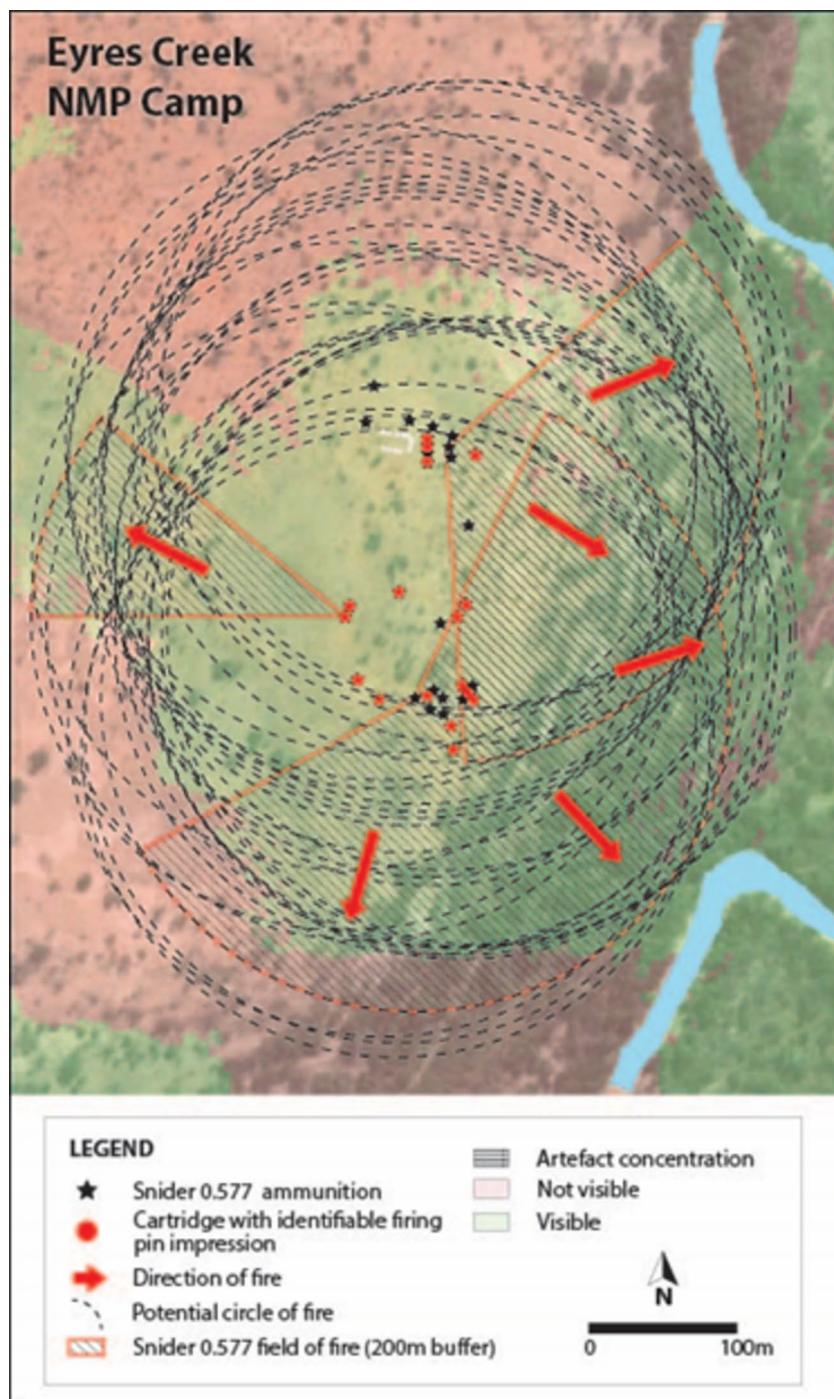


Fig. 8 Layout of the Eyres Creek camp showing the location of discharged Snider cartridges and their fields of fire (map by Wayne Beck, modified by Heather Burke)

Weapon	Image	Artifact	Number
Snider A		EYR 16821, 16822 & 16837	3
Snider B		EYR 16843, 16767, & 16779	3
Snider C		EYR 16687, 16712, 16714, 16761, 16844, 16847, 16838, & 17076,	8
Snider D		EYR 16755	1
Snider E		EYR 16836	1
Snider F		EYR 16708	1
Unsuitable for comparison			18
Total			35

Fig. 9 Individual Snider rifles identified by firing pin impressions at Eyres Creek (images by Tony Pagels)

active weapon at the camp, being responsible for eight discharged cartridges, grouped (with one exception) in the southeast (Fig. 10). This suggests a trooper who favored shooting toward the river; a similar trend is observed with Snider A. In contrast, Snider B was used exclusively adjacent to the timber posts to shoot in an easterly direction toward the creek. Generally, the greatest concentration of ammunition was south of the camp, suggesting it was a preferred vantage point, although it is not possible to be certain of the activity carried out here.

It is important to note that the retrieval of ammunition artifacts from these two NMP camps reveals information about daily camp life and proficiency in weapons handling, rather than wider conflict events which took place well away from the camp itself. Nonetheless, it is possible to use this information to delve deeper into the activities of troopers. While clusters of ammunition were found at both camps, there was no definitive archaeological evidence to support the proposition that target practice was part of daily life at either. Practice shooting was known to have been carried out at some camps, including at Boralga under Stanhope O'Connor, who offered cash prizes from his private funds to the best marksmen among his troopers (*Townsville Daily Bulletin* 1936:12). In other cases, however, long term government frugality and problems with regular resupply suggests that any training with live ammunition would have been minimized, reducing the likelihood of ammunition artifacts entering the archaeological record through target practice. It may also be that training was considered unnecessary for long-term members of the force who had proven themselves proficient with weaponry. Rather, we contend that the spent cartridge cases at these two sites are more likely to be the result of hunting activities to supplement government rations, since, apart from being central to food supply, hunting game is arguably a suitable alternative practice to target shooting. It is in this light that the experiences of troopers can best be understood in the wider colonial context of frontier violence.

Hunting, Troopers, and the Tactics of War

The only known extant camp keepers' journals, although for neither of the camps studied here, reveal that troopers typically went out hunting every few weeks (Native Mounted Police 1864–71, 1880–82). Although there is no record of the techniques or weapons they used, given the data examined here it is probable that they employed both firearms and traditional methods. The strategic positioning of camps adjacent to permanent waterholes had the added benefit of affording a proximal abundance of game in and around the waterholes. While no faunal data are available for Eyres Creek, those from Burke River represented both introduced and native faunal remains, including mussels, emu eggs, various birds, reptiles, marsupials, and dingo, with all finds deriving from areas argued on the basis of oral history and archaeological evidence to have been occupied by troopers. No non-European fauna was recovered from the areas associated with officers (Artym 2018:144–148), further supporting hunting activity as an activity carried out by troopers and/or their wives.

Hunting, requiring as it does a particular suite of skills, has particular relevance for understanding the behavior of the NMP in Australian frontier conflict. Native

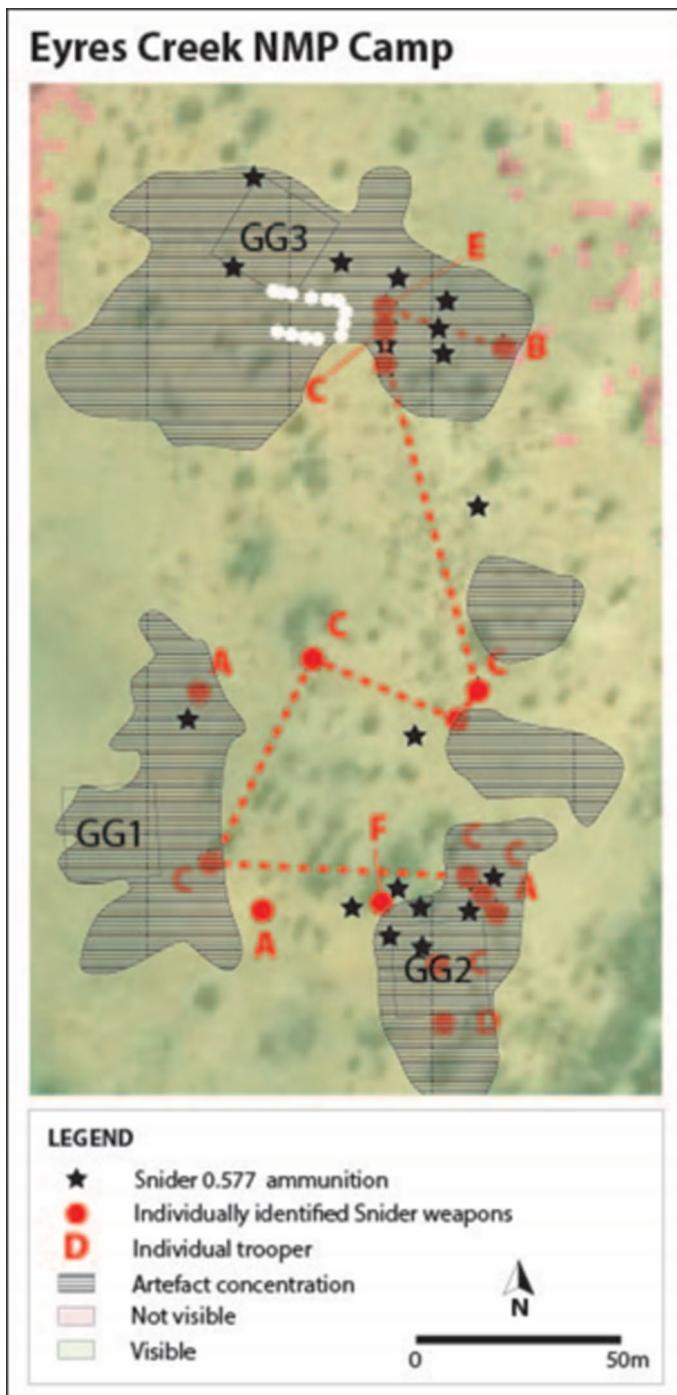


Fig. 10 Location of Snider cartridge cases with identifiable firing pin impressions at Eyres Creek (map by Wayne Beck, modified by Heather Burke)

policing forces were a crucial element in the success of British colonization around the globe (Connor 2005:16, 17; Richards 2008:185–193), with scholars suggesting that the recruitment of Indigenous troopers for such forces had both economic and other benefits for colonial governments (e.g., Connor 2005:16; Richards 2008:10). In the Australian context, Indigenous troopers were likely to know how to use the landscape to shape a conflict, have an intimate knowledge of how to survive in the bush, and be masterful practitioners of Indigenous tracking and hunting tactics (Burke et al. 2018). Given the propensity for children in traditional Aboriginal societies to begin learning tracking, hunting, and gathering skills at an early age, most Indigenous troopers would already have been highly skilled marksmen, regardless of their age on recruitment to the NMP (Anonymous 1973:8; Lew-Levy et al. 2018:217–219; Spencer 2008:87–90).

Redirecting troopers' hunting acumen to the practice of irregular warfare with other Indigenous groups was a logical and expedient step for the Queensland colonial government. Hunting tactics of ambush, approach, pursuit, and tracking (Pickering 2013:103–105), complemented by the use of landscape features for concealment, cover, stealth, stalking, and corralling, mirror the approach of irregular warfare, characterized as it is by ambushes, raids, and hit-and-run attacks (e.g., Fry 2007; Gat 1999, 2008, 2016; Keegan 1993; Keeley 1996; O'Connell 1989; Otterbein 1968, 1970, 2004; Turnley-High 1949). Both sets of skills are a mix of innate and learned abilities that are honed through daily use in contemporary fisher-gatherer-hunter groups worldwide (Lew-Levy et al. 2018:217–219). This suite of skills was not lost on the newly appointed Police Commissioner William Parry-Okeden in 1897, when he observed that:

It is a well-known fact that the only control possible to be obtained at the outset and maintained over wild and uncivilised blacks is by the exercise and exhibition of superior force by people whom they recognise as capable of competing with them in their own tactics, bush cunning, lore or living, and by whom, in the fastness of their mountains, scrubs, or mangrove swamps they know they can be followed and found when “wanted” (Parry-Okeden 1897:15).

For Indigenous troopers, employment in the NMP would therefore have blended skills acquired from lifetimes of hunting with training in state military and policing tactics. The NMP command structure both drew on, and mimicked, key elements of military organization. The initial command of what became the Queensland NMP lay with a commandant between 1849 and 1855, then briefly the Inspector General of Police for New South Wales, returning again to a commandant after 1857. In 1860 the first governor of Queensland assumed responsibility for the policing of the colony, both establishing a “regular” police force and taking control of the NMP from NSW (*Moreton Bay Courier* 1860:2; Robinson 1997:14). Significantly, there was no suggestion of altering the way the latter operated. In 1864 the newly created Commissioner of Police, David Thompson Seymour, took over responsibility for the NMP. Seymour had been recruited from the army and remained as commissioner for nearly 40 years. Under his tenure the NMP became highly militarized, armed with the most fit-for-purpose and newly developed weapons. Institutionalized learning in the NMP centered on a code of conduct and competency in firearm handling. Clause

26(2) of *The Native Police Regulation* (1866) described the duties and responsibilities of NMP staff, highlighting the significance of training and the ethos that underpinned it, specifically the requirement to “drill the troopers every day they are in camp, until they are perfect in their exercise, mounted, and on foot” (*Queensland Government Gazette* 1866:258–261).

Apart from creating proficiency in firearms handling, drill was considered key to accustoming soldiers to subordination, instilling discipline, and fostering camaraderie (e.g., Anonymous 1850, 1866, 1868). Although historian John Connor (2005:18) has argued that drill was relatively rare among the Victorian and southern NSW versions of the Native Police, the iteration that became the Queensland NMP appointed a sergeant major in the 1850s specifically to drill new recruits, a role taken on by various officers throughout the 1860 and 1870s. Indeed, drill appears to have been a standard element of most NMP camps, instituted either weekly (Johnstone 1905:8; R.W.S 1932:9) or more sporadically (Native Mounted Police 1864–72). Unlike regular police, NMP troopers were expected to be “perfect” in handling firearms, a requirement achieved in part through drill, making them more equivalent to modern day special forces soldiers. Collectively, these elements suggest that they were a militarized force of the highest order. How they enacted their paramilitary role across Queensland relates to how they understood and used the landscape to meet resistance with immediate and violent punitive measures (Richards 2008:11, 63).

Waging War on the Colonial Frontier

Any conflict in which the combatants operate at opposing ends of a political or tactical spectrum, and in which their respective populations, abilities, technologies, and means to engage are unequal, can be termed asymmetrical (Smith 2019:2). Falling outside the classic state-on-state or army-on-army traditions (Grenier 2005:1), asymmetrical conflicts are typified by raids, havoc, ambushes, surprise, and harassment (Smith 2019:2), and involve a wide range of protagonists, including civilians. In such warfare fighting between combatants is fluid, using varying offensive combinations to suit the antagonist’s strategy and capabilities (US Department of Defence JP 1 2017:ix, x). States can engage non-state combatants familiar with non-traditional, indirect, and irregular approaches modes of warfare to “erode their opponent’s power, influence, and will” (US Department of Defence JP 1 2017:6).

Colonial conflict demonstrably falls within such a definition. In fact, the subjugation and dispossession of Indigenous peoples could *only* be achieved by state agents who combined the influences of state and asymmetrical modes of warfare. The Queensland NMP were expert practitioners in non-state warfare, knew how to survive in Australian conditions, and knew the enemy. Moreover, they were well equipped with weapons and ammunition and were ultimately armed with a weapon that revolutionized state warfare globally: the Snider rifle. They were also commanded by leaders, many with military backgrounds, who were prepared to act to effect the government’s purpose. As colonial governments were not prepared to acknowledge Indigenous ownership of the land, nor afford Indigenous peoples inclusion or agency in the process of expansion, war was inevitable.

Colonial authorities considered the only effective means of pacifying Indigenous people to be through “teaching the natives a lesson” through violence (Nettelbeck and Ryan 2018:58). Overthrowing the traditional landowners required adopting tactics common to irregular warfare. This was achieved not by training European soldiers, but by recruiting Indigenous men familiar with the subtleties of such warfare, which had long standing antecedents and parallels in Indigenous hunting. Considering NMP troopers in this light contextualizes their activities as troopers as well as people. Existing between two worlds, troopers were simultaneously disconnected from their original country and culture and co-opted into White standards and practices of warfare in a life that was neither customary nor civilian. These Indigenous troopers, as *de facto* soldiers, were divorced from the British imperial system and sat outside the usual military processes.

A larger question arising from such analyses is how much responsibility did the government of the colony bear for the activities of the NMP? Occupying Kraska’s (2007:501) “blurred arena” of war and law enforcement, the NMP were a militarized force stationed on the colonial frontier. Through them the Queensland colonial government worked hard to maintain the asymmetry of war within its boundaries and avoid anything resembling the situation faced in other British colonies. In 1861 the Governor, Sir George Bowen (1861), argued that had a similar Native Mounted Police force been maintained in New Zealand:

the mother country would have heard little of “wars” in that quarter; especially if care had been taken there, as in Queensland, to recruit the Troopers from tribes dwelling in districts remote from those in which they would be stationed and to enforce the laws prohibiting the acquisition of firearms and ammunition by the Natives except when in the employment of the Government.

Acknowledging colonial frontier violence as war means recognizing key elements of it as part of a larger pattern of cause and effect, intent, and purpose. The notion of a war against Indigenous people was openly spoken of by both White and Indigenous people in nineteenth-century Queensland (Ørsted-Jensen 2011:44). And despite the arrest of four officers—Joseph Harris, Frederick Wheeler, Marmaduke Richardson, and William Nichols—at different times for the murder of Aboriginal people, no case against an NMP officer ever successfully proceeded to trial and NMP personnel avoided criminal proceedings. Given this, accountability for the carnage in Queensland rests squarely with the government of the day and the vested, largely pastoral, interests that constituted both the government and the dominant economic regime.

Conclusion

The historiographic debate in Australia over whether the asymmetrical conflicts between Indigenous and non-Indigenous peoples during the colonial period qualify as “war” remains unresolved, primarily because such events deviated from conventional military engagements. We argue, however, that in Queensland, conflict from 1848 onward involved a specific government-militarized organization — the Queensland NMP — that openly operated as an agent of war.

Following a recognized British practice of enlisting Indigenous men acquainted with the landscape, the enemy, survival techniques, and skilled in hunting from childhood, the NMP proved to be highly efficient combatants. They engaged in conflicts with local Indigenous communities not on clearly delineated battlefields but within what Kraska (2007:501) terms the “blurred arena” of war and law enforcement. Despite being nominally a police force, their operational characteristics, training, and *modus operandi* indicate they were more akin to soldiers than police. While the role of regular police was (and still is) to serve and protect citizens within the limits of metropolises, the militarized and well-armed NMP functioned only on the Australian frontier (Dukova 2020:6; Grey 2008:13).

While the operational details of the NMP’s activities are challenging to reconstruct due to the inherent nature of the historical record, and absence of traditional battlefields, this paper has exposed a hitherto unexplored facet of the NMP by scrutinizing two established camps. This study employed KOCOA terrain analysis and forensic analysis of firing pin impressions on discharged Snider cartridge primers, to visualize how features around NMP camps affected and contributed to the use of firearms within these spaces. Given the well-recognized nexus between tactics of hunting and warfare, we argued that it is through the lens of training (both as hunters and soldiers) that we can best understand the Indigenous troopers of the NMP, as well as the strategies and tactics applied by the Queensland NMP in the context of the asymmetrical violence that characterized the Australian frontier.

This research has demonstrated that interpreting camps from the perspective of NMP personnel provides informative insights. The artifact assemblage has shown distinctions in the number of weapons used, while spatial analysis offered plausible explanations for conducting activities in specific areas. Additionally, this research reinforces the utility of KOCOA as a valuable tool for archaeologists in visualizing the battlescape through the ammunition-related assemblage. KOCOA elucidates how features around NMP camps influenced firearm usage and contributed to the combative strategies used by troopers, with troopers adeptly identifying battlescape features and optimizing terrain advantages while hunting.

Contrary to attributing observed ammunition usage patterns to shortages, this paper contends that such patterns more likely stemmed from NMP troopers’ expertise as skilled marksmen, acquired through a lifetime of hunting. Understanding troopers’ skills in this light contextualizes their activities as soldiers, as well as people existing between two worlds, disconnected as they were from their original country and culture and co-opted into White standards of warfare, and therefore forced to adopt a life that was neither customary nor White. NMP troopers were Indigenous, but they were hunters first, acquiring a suite of skills learnt from childhood that enabled them to serve as lethal agents of the colonial government.

Acknowledgments This research was funded through an Australian Research Council Discovery Project grant (DP160100307, The Archaeology of the Queensland Native Mounted Police). We would like to thank the traditional owners and other Aboriginal people who provided support for this project, and the many volunteers who assisted with various aspects of fieldwork, archival research and artefact cataloguing. In particular fieldwork at Burke River was conducted with the permission and participation of the Pitta Pitta Aboriginal Corporation and the Sullivan family; work at Eyres Creek with the permission of Wangkamahdla traditional owner Trevina Rogers; and that at Lower Laura with the permission of

the Rinyurru Aboriginal Corporation and Laura Traditional Owners, the latter under a permit issued by the Queensland Department of Environment and Science. David and Tracey Corbett gave permission to access Burke River, and Steve and Jeena Cramer of S. Kidman & Co. granted permission to access Eyres Creek. Wayne Beck undertook the viewshed and GIS mapping. Sergeant Alan Pringle and staff at the Victorian Forensic Science Centre, Ballistics Unit, provided instruction and guidance in the examination of ammunition artefacts. Thank you to all the students and volunteers who assisted with the fieldwork and artefact cataloguing.

Funding Open Access funding enabled and organized by CAUL and its Member Institutions. This research was funded through an Australian Research Council Discovery Project grant (DP160100307, The Archaeology of the Queensland Native Mounted Police).

Data Availability All data is available from the website, Frontier Conflict and the Native Mounted Police in Queensland at <https://database.frontierconflict.org>.

Declarations

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or nonfinancial interest in the subject matter or materials discussed in this manuscript.

Competing Interests All authors declare that they have no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

Anonymous. (1850). *A Manual of Position Drill*. Parker, Furnivall and Parker, London.

Anonymous. (1866). *The Platoon Exercise for the Long and Short Snider Breech-Loading Rifle*. W. Clowes and Sons, London.

Anonymous. (1868). *A Manual of Drill and Sword Exercise: Prepared for the Use of the County and District Constables*. W. Clowes and Sons, London.

Anonymous. (1973). *Australian Aboriginal Culture*. Australian Government Publishing Service, Canberra.

Artym, U. F. (2018). Profiling the Police: Exploring Officer-Trooper Interactions in the Queensland Native Mounted Police Bachelor of Arts (Honours) dissertation, Flinders University, Adelaide.

Australian Town and Country Journal. (1879). Reminiscences of the Native Mounted Police of Queensland by an ex-officer (continued). Monday, March 22, Sydney, New South Wales, p. 31, Trove.

Barker, B., Wallis, L. A., Burke, H., Cole, N., Lowe, K., Artym, U., Pagels, A., Bateman, L., Hatte, E., De Leuen, C., Davidson, I., and Zimmerman, L. J. (2020). The archaeology of the "secret war": the material evidence of conflict on the Queensland frontier, 1849–1901. *Queensland Archaeological Research* 23:25–41.

Bleed, P. and Scott, D. D. (2009). Archaeological interpretation of the frontier battle at Mud Springs, Nebraska. *Great Plains Research* 19(1):13–25.

Bleed, P. and Scott, D.D. (2011). Contexts of conflict: conceptual tools for interpreting archaeological reflections of warfare. *Journal of Conflict Archaeology* 6(1):42–64.

Bowen, G. F. (1861). Letter to the Duke of Newcastle December 16. Item ID 17671, Governor's Letter-book of Despatches to the Secretary of State for the Colonies. Queensland State Archives, Brisbane.

Brisbane Courier. (1878a). Saturday, June 15, Brisbane, Queensland, p. 3, Trove.

Brisbane Courier. (1878b). Saturday, December 28, Brisbane, Queensland, p. 7, Trove.

Brisbane Courier. (1882). Saturday, May 6, 1882, Brisbane, Queensland, p. 7, Trove.

Britton, W. (1889). Letter to Commissioner of Police April 2. Item ID 290304, Eyre's Creek Native Police Camp file. Queensland State Archives, Brisbane.

Broome, R. (2010). *Aboriginal Australians: A History Since 1788*. 4th ed. Allen and Unwin, Crows Nest.

Burke, H. and Wallis, L. A. (2019). Frontier Conflict and the Native Mounted Police in Queensland Data-base. <https://doi.org/10.25957/5d9fb541294d5>

Burke, H., Barker, B., Cole, N., Wallis, L. A., Hatte, E., Davidson, I., and Lowe, K. (2018). The Queensland Native Police and strategies of recruitment on the Queensland frontier, 1849–1901. *Journal of Australian Studies* **42**(3):297–313.

Cairns Post. (1887). Wednesday, December 21, Cairns, Queensland, p. 2, Trove.

Clarke, I. (1995). *Scars in the Landscape: A Register of Massacre Sites in Western Victoria, 1803–1859*. Aboriginal Studies Press, Canberra.

Clements, N. and Gregg, A. (2015). “I am frightened out of my life”: black war, white fear. *Settler Colonial Studies* **7**(2):221–240.

Connor, J. (2005). *The Australian Frontier Wars: 1788–1838*. 3rd ed. University of New South Wales Press, Sydney.

Daily Northern Argus. (1875). Tuesday, June 1, Rockhampton, Queensland, p. 2, Trove.

Drummond, D. (2022). The dubious concept of the “Australian wars.” *Quadrant* **66**(12):42–44.

Dukova, A. (2020) *To Serve and Protect: Policing Colonial Brisbane*. St Lucia: University of Queensland Press.

Evans, R. (2003). Across the Queensland frontier. In Attwood, B. and Foster, S. G. (eds.), *Frontier Conflict: The Australian Experience*. National Museum of Australia, Canberra, pp. 63–75.

Evans, R. (2004). “Plenty shoot ‘em”: the destruction of Aboriginal societies along the Queensland frontier. In Moses, D. (ed.), *Genocide and Settler Society: Frontier Violence and Stolen Indigenous Children in Australian History*. Berghahn, Oxford, pp. 150–173.

Evans, R., Saunders, K., and Cronin, K. (1975). *Exclusion, Exploitation and Extermination: Race Relations in Colonial Queensland*. Australia and New Zealand Book Company, Sydney.

Fry, D. P. (2007). *Beyond War: The Human Potential for Peace*. Oxford University Press, New York.

Gapps, S. (2018). *The Sydney Wars: Conflict in the Early Colony, 1788–1817*. NewSouth, Sydney.

Gat, A. (1999). The pattern of fighting in simple, small scale, pre-states. *Journal Anthropological Research* **55**:563–583.

Gat, A. (2008). *War in Human Civilization*. Oxford University Press, Oxford.

Gat, A. (2016). The human motivational complex: evolutionary theory and the causes of hunter-gatherer fighting. *Anthropological Quarterly* **73**(1–2):74–88.

Grenier, J. (2005). *The First Way of War: American War Making on the Frontier, 1607–1814*. Cambridge, New York.

Grey, J. (2008). *A Military History of Australia*. 3rd ed. Cambridge University Press, Cambridge.

Johnstone, R. (1905). Sketcher. Spinifex and wattle: recollections of pioneering work in north Queensland. *Queenslander*, Brisbane, Queensland, p. 8, Trove.

Keegan, J. (1993). *A History of Warfare*. Vintage, New York.

Keeley, L. H. (1996). *War Before Civilisation*. Oxford University Press, New York.

Kerkhove, R. (2014). Tribal alliances with broader agendas? Aboriginal resistance in southern Queensland’s “Black war.” *Cosmopolitan Civil Societies: An Interdisciplinary Journal* **6**(3):38–62.

Kerkhove, R. (2019). Reconstructing the Battle of Narrawai (Moongalba). *Queensland Review* **26**(1):3–31.

Kraska, P. (2007). Militarization and policing: its relevance to 21st century police. *Policing* **1**(4):501–513.

Lew-Levy, S., Lavi, N., Reckin, R., Cristóbal-Azkarate, J., and Ellis-Davies, K. (2018). How do hunter-gatherer children learn social and gender norms? A meta-ethnographic review. *Cross-Cultural Research* **52**(2):213–255.

Mackay Mercury and South Kennedy Advertiser. (1882). Return of Sub-Inspector Carr. Saturday, January 14, 1882, Mackay, Queensland, p. 2, Trove.

Maio, C., Tenenbaum, D. E., Brown, C. J., Mastone, V. T., and Gontz, A. M. (2013). Application of geographic information technologies to historical landscape reconstruction and military terrain analysis of an American Revolution battlefield: preservation potential of historic lands in urbanised setting, Boston, Massachusetts, USA. *Journal of Cultural Heritage* **14**:317–331.

McKinnon, J. F. and Carrell, T. L. (2015). *Underwater Archaeology of a Pacific Battlefield: The WWII Battle of Saipan*. Springer International Publishing, New York.

McKinnon, J., Roth, M., and Carrell, T. (2020). *Submerged Battlefield Survey Manual*. <<https://shiplib.org/wpcontent/uploads/2020/08/McKinnon-et-al.2020-SBM.pdf>>. Accessed January 2022.

McNutt, R. K. (2014). *Finding Forgotten Fields: A Theoretical and Methodological Framework for Historic Landscape Reconstruction and Predictive Modelling of Battlefield Locations in Scotland, 1296–1650*. Doctoral dissertation, University of Glasgow, Glasgow.

McNutt, R. K. (2018). Grey ghosts: searching for Confederates at Camp Lawton, Georgia, USA. *Fields of Conflict* 4:4–23.

McNutt, R. K. (2021). Panopticonism, pines and POWs: applying conflict landscape tools to the archaeology of internment. *Journal of Conflict Archaeology* 3:1–23.

Moreton Bay Courier. (1850). Saturday, April 27, Brisbane, Queensland, p. 2, Trove.

Moreton Bay Courier. (1860). Thursday, February 9, Brisbane, Queensland, p. 2, Trove.

Native Mounted Police. (1864–72). Diary of Duties and Occurrences Spring Creek, Item ID 2368959. Queensland State Archives, Brisbane.

Native Mounted Police. (1880–82). Daily Journal Oak Park, Item ID 86147. Queensland State Archives, Brisbane.

Nettelbeck, A. and Ryan, L. (2018). Salutary lessons: native police and the “civilising” role of legalized violence in colonial Australia. *Journal of Imperial and Commonwealth History* 46(1):47–68.

Northern Argus. (1868). Wednesday, April 22, Rockhampton, Queensland, p. 2, Trove.

Northern Argus. (1869). Wednesday, March 3, Rockhampton, Queensland, p. 2, Trove.

O’Connell, R. L. (1989). *Of Arms and Men: A History of War, Weapons and Aggression*. Oxford University Press, New York.

Ørsted-Jensen, R. (2011) *Frontier History Revisited: Colonial Queensland and the ‘History War’*. Brisbane: Lux Mundi Publishing.

Otterbein, K. F. (1968). Internal war: a cross-cultural study. *American Anthropologist* 70(2):277–289.

Otterbein, K. F. (1970). *The Evolution of War: A Cross-Cultural Study*. Human Relations Area Files Press, New Haven, CT.

Otterbein, K. F. (2004). *How War Began*. Texas A&M University Press, College Station.

Pagels, A. (2023). *Life from the Debris: Artefacts from the Native Mounted Police 1849 to early 1900s*. Master’s thesis, Flinders University, Adelaide.

Parry-Okeden, W. (1897). *Report on the North Queensland Aborigines and the Native Police with Appendices Presented to both Houses of Parliament by Command*. Edmund Gregory Government Printer, Brisbane.

Pickering, T. R. (2013). *Rough and Tumble: Aggression, Hunting and Human Evolution*. University of California Press, Berkeley.

Prickett, N. (1992). The archaeology of the New Zealand wars. *Australasian Historical Archaeology* 10:3–14.

Queensland Government *Gazette*. (1866). March 10, pp. 258–261.

Reynolds, H. (1981). *The Other Side of the Frontier: Aboriginal Resistance to the European Invasion of Australia*. James Cook University, Townsville.

Reynolds, H. (2013). *The Forgotten Wars*. NewSouth, Sydney.

Reynolds, H. (2022). On the Queensland frontier: tragedy in the tropics. *Griffith Review* 76:142–153.

Richards, J. (2008). *The Secret War: A True History of Queensland’s Native Police*. Queensland University Press, St Lucia.

Robinson, J.S. (1997) *Arms in the Service of Queensland*. Kedron: J.S. Robinson.

Ryan, L. (2012). *Tasmanian Aborigines: A History Since 1803*. Allen and Unwin, Crows Nest.

R. W. S. (1932). Memories of Native Mounted Police Camps in North Queensland. *Townsville Daily Bulletin*, Thursday, October 27, Townsville, Queensland, p. 9.

Schiffer, M. B. (1972) Archaeological context and systemic context. *American Antiquity* 37:156–165.

Scott, D. D. and McFeaters, A. P. (2011). The archaeology of historic battlefields: a history and theoretical development in conflict archaeology. *Journal of Archaeological Research* 19:103–132.

Scott, D. D., Bleed, P., and Renner, A. (2016). *Battlespace 1865: Archaeology of the Landscapes, Strategies and Tactics of the North Platte Campaign, Nebraska*. Oxbow, Havertown.

Sivilich, E. D. and Sivilich, D. M. (2015). Surveying, statistics and spatial mapping: KOCOA landscape analysis of eighteenth century artillery placements at Monmouth Battlefield State Park, New Jersey. *Historical Archaeology* 49(2):50–71.

Skennerton, I. D. (1976). *Australian Service Longarms*. I. D. Skennerton, Margate.

Smith, S. D. (2019). An introduction to asymmetric warfare. In Smith, S. D. and Geier, C. R. (eds.), *Partisans, Guerrillas, and Irregulars: Historical Archaeology of Asymmetric Warfare*. University of Alabama Press, Tuscaloosa, pp. 1–10.

Smith, S. D. and Geier, C. R. (eds.) (2019). *Partisans, Guerrillas and Irregulars: Historical Archaeology of Asymmetric Warfare*. The University of Alabama Press, Tuscaloosa.

Spencer, B. (2008). *Kakadu People*. David M. Welch, Virginia.

Sutton, N. (2022). “On duty in pursuit of the natives”: accounting and truth-telling about Australia’s frontier wars. *Accounting, Auditing and Accountability Journal* 36(2). <https://doi.org/10.1108/AAAJ-07-2020-4710>.

Sydney Morning Herald. (1858). Continuation of the Dawson Murders Letter to the Editor, Thursday, May 21, p. 8, Trove.

Townsville Daily Bulletin. (1936). Saturday, February 15, p. 12, Trove.

Turney-High, H. H. (1949). *Primitive War: Its Practice and Concepts*. South Carolina University Press, Columbia.

United States of America Department of the Army. (2001). *Field Manual 3 – 0: Operations*. Washington: Department of Defence. <<https://www.globalsecurity.org/military/library/policy/army/fm/3-0/ch4.htm>>. Accessed October 2020.

United States of America Department of the Army. (2008). *Field Manual 3–0: Operations*. Department of Defence, Washington, DC. <https://people.uwplatt.edu/~hood/FM3-0.pdf> Accessed October 2020.

United States of America Department of Defence Joint Publication 1. (2017). *Doctrine for the Armed Forces of the United States*. Department of Defence, Washington, DC.

Vandevort, B. (2006). *Indian Wars of Mexico, Canada and the United States, 1812–1900*. Routledge, New York.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.