This article draws together empirical case studies from Britain, France, and the United States to develop the nascent history of landscapes used to prepare for war and national defense. Although environmental historians have explored the environmental impact of war, the military training areas and weapons manufacturing sites that form the focus of this comparative study remain peripheral to the discipline, despite the vast landholdings that militaries deploy in the preparation for war. This essay approaches these important but understudied sites through the lens of four major themes—protesting militarization through eviction, the emergence of military environmentalism, the status and role of nonhuman occupants of militarized landscapes, and cooperation between civilians and the military—in a broadly chronological comparative study. As these themes reveal, more subtle analysis of the evolving relationship between the military and the environment is required as an antidote to the binary approaches that currently dominate scholarship. Existing perspectives not only tend to lack sensitivity to both time and space but either uncritically claim that military activity is ecologically harmless (or even beneficial) or dismiss the claims of military environmentalism as mere “greenwash.”
Over the last three years, we have made a series of visits to a military training site on the Mynydd Epynt plateau in upland mid-Wales that is the third largest British training base. Our first visit to Sennybridge Training Area (SENTA) was on a nonfiring weekend, arriving on a Friday evening as the last coach of Dutch troops who had been training there all week was leaving. On return visits, we continued to see this militarized landscape in repose after the day’s work was done, clambering up to the targets on a sniper shooting range that had been fired at just a few hours earlier. But on a frosty morning in December 2009 we accompanied troops preparing for a nighttime reconnaissance. They removed patches of turf from two former farm pastures and spent the next three hours making model pits of the territory they would reconnoitre after nightfall. The map is rendered in the ground, dug into and out of the earth. Hills are replicated in mounds of packed soil, streams with blue ribbons, tracks sketched out with talcum powder, fence lines fashioned from sticks, and vegetation reconstructed with moss and sprigs from nearby fir trees. In the process of carving out and shaping the earth, soldiers familiarize themselves with a landscape in microcosm that they will later experience in full scale. Once they have absorbed mental maps of the landscape, the model is erased (lest enemy troops discover it and steal a march on them) and the disturbed ground carefully re-turfed.

Watching clusters of soldiers carefully reconstruct in miniature the topography and features of the Epynt against the backdrop of an evacuated farmhouse that now serves as a troop shelter highlighted the contrasts between how we

Figure 1. Model pit, Sennybridge Training Area (SENTA) in Powys, Wales, 2009. Credit: Tim Cole, photographer.
approach this site as civilians (and historians) and how soldiers use it daily. As the American geographer J. B. Jackson recalled of his military experience in France during the Second World War, the military constructs its own landscape out of a preexisting civilian landscape. In this essay, we expand our coverage from model pits at SENTA to the larger field of militarized landscapes. We explore the complex interrelationship between the military, civilians, and non-humans on military training bases not just in Britain but also in France, as well as with reference to (former) weapons manufacturing plants in the United States. Unlike the soldiers who cover over the model pits of highly specific local landscapes once they have fulfilled their purpose, and then move on, we aim to bring more sustained focus to militarized landscapes and open them up, within a three-nation comparative context, as sites of enduring importance to historians.

For present purposes, we define militarized landscapes as simultaneously material and cultural sites that have been fully or partially mobilized for military purposes. We concentrate on sites of war preparation rather than battlefields, whose histories are generally far better known. Environmental historians have overlooked militarized landscapes thus characterized. For although there is a body of growing literature on the environmental histories of war itself, environmental historians have paid less attention to the places beyond the battlefield. Instead, it is mainly geographers and other social scientists who have examined how peacetime militarization has transformed physical and cultural landscapes. Although valuable, this work often exaggerates the totality of the military reconfiguration of the landscape, overstates the completeness of military hegemony, and lacks a historical and archival focus.

This article draws together empirical case studies in Britain, France, and the United States based on military and nonmilitary sources to develop the nascent environmental history of landscapes used to prepare for war and national defense. We attempt to carve out a fertile middle ground between those who claim uncritically that military activities are relatively harmless from an ecological perspective (and, in some cases, actually benefit the environment) and those who attack the military’s environmental record as critically damaging. As our case studies and comparative national framework show, the environmental history of militarized landscapes since the early 1940s is far more intricate than this polarized model suggests.

The Ministry of Defence (MOD) training estates we have studied in Britain, in addition to SENTA, include Castlemartin, a tank training range in southwest Wales located within a national park; Dartmoor training estate in the southwest English county of Devon and also within a national park; Salisbury Plain, Britain’s largest and oldest training estate, set amid the chalk downlands of Wiltshire; and Lulworth Range in coastal Dorset. In France, our focus is on Larzac Camp in southwestern France, created in the early twentieth century; Suippes Camp in Champagne, established on land devastated by trench
warfare between 1914 and 1918; and Canjuers Camp, founded in the hinterlands of Provence in the 1960s and 1970s.

The two sites near Denver, Colorado—Rocky Mountain Arsenal and Rocky Flats—that form the study’s main American component differ markedly from our European sites in two central respects. First, they are former weapons manufacturing plants. At Rocky Mountain Arsenal, between 1942 and 1982, the U.S. army produced a bevy of chemical weapons. At Rocky Flats, from 1952 to 1989, the Atomic Energy Commission (AEC) and its successors (the Energy Research and Development Administration and the Department of Energy) manufactured the plutonium trigger for every weapon in the U.S. nuclear arsenal. Second, both sites have undergone demilitarization. Weapons production ceased with the demise of the Cold War and, following major cleanup and rehabilitation projects, portions of Rocky Mountain Arsenal and Rocky Flats became the latest additions to the U.S. National Wildlife Refuge System (in 2004 and 2007, respectively).

With reference to the earlier conversion from “weapons to wildlife” of the U.S. Department of Defense (DOD) bases on the islands of Guam and Puerto Rico, geographer Jeffrey Sasha Davis pointed to what he regards as “a double erasure” on former military sites and within the discourse of military environmentalism. What has been rubbed out is both the “social life that existed in the place prior to its takeover by the military” and “the history of the military’s use.”7 A few years earlier (2001), fellow geographer Rachel Woodward coined the memorable term khaki conservation to characterize the military environmentalism that has become part and parcel of the management and operation of UK training estates. She examines military environmentalism primarily as a form of discourse, with reference mostly to MOD public pronouncements and published materials, and with a single case study in mind (Otterburn in Northumberland, northeast England, the United Kingdom’s second largest training estate). Woodward identifies a tripartite discourse within khaki conservation: assertions of the benefits of military land use (“crater as habitat”) and land management (“environmental management”), and how the military presence keeps other more destructive forces at bay (“paternalism in land management”). Environmental discourse, she argues, is deployed to justify military control of substantial chunks of national territories.8

This essay considers the fit between our own multiple multinational sites, Davis’s notion of double erasure, and Woodward’s interpretation of khaki conservation. We conduct this exercise with reference to four themes that take us through the past seventy years in a more or less chronological sequence: initial militarization through eviction, and subsequent protest; the emergence of military environmentalism; the status and role of nonhuman occupants of militarized landscapes; and the recent and continuing phenomenon of cooperation between civilians and the military that should be set against the earlier, more familiar story of tension and conflict.
EVICTON AND PROTEST

Like many national parks, military training estates and weapons plants are sited on land that was hardly terra nova.9 Local civilian populations, in many cases along with their livestock, were ejected. In the United Kingdom, wholesale expulsions from bases imposed on the Epynt Plateau and from the extension of military lands on Salisbury Plain and at Lulworth took place during the Second World War. The decision to requisition agricultural land during wartime provoked an outcry among the community members affected, who valued the land for its productivity (at a time of rationing and food shortages) above its training potential. Yet these removals were more or less borne as part of the spirit of shared sacrifice demanded by the war effort. More controversial became the decision to retain these lands in the postwar era (when a new, if cold, war provided the justification for sustained military presence). In this context, a story of protest—focused particularly around the village of Tyneham, which was emptied of its inhabitants to expand the Lulworth tank ranges—stretches from the late 1940s to the early 1970s.10

British protests against military training hinged on broken promises to reinstate residents after 1945. At Tyneham, though, two organized campaign groups also shared the core belief that this section of a nationally prized coastline (later protected by UNESCO) was too valuable a corner of England to be sacrificed for military training. Tyneham Action Group and Friends of Tyneham argued that the landscape should be “managed for the public good by experienced organisations” such as the National Trust or Countryside Commission.11 Between 1971 and 1973, Lord Nugent conducted public hearings on the future of this contested site on behalf of the Defence Lands Committee. Responding to the strength of evidence mobilized against the military, the Nugent Report recommended its release.12 However, in the wake of the report and newly sensitive to the environmental worth of its landholdings, the MOD retained the site and swiftly implemented measures to counter criticism. By 1974, after the military initiated advisory panels and working groups that brought in civilian conservation bodies to assist with site management, laid out public footpaths, and loosened access restrictions, Tyneham Action Group had disbanded. The military discovered that a freshly realized military environmentalism could quieten opposition.

Protest against military occupation was just as robust in France as the army sought to expand training grounds and establish new ones. In search of cheap and, supposedly, economically marginal land, planners pinpointed southern France. But locals viewed the creation of further militarized landscapes as an attack on their livelihoods and landscapes. In 1962 the Var’s prefect opposed plans for a new 1,800-hectare firing range near Fréjus, particularly as it threatened forest plantations. Passions ran even higher on Larzac plateau, where a decade-long protest (1971–81) against a proposed camp extension attracted national and international support. On Larzac, protesters directly opposed
military portrayals of the plateau as desolate and worthless by highlighting the coexistence of productive farming and wild nature that would be destroyed.¹³

In Colorado, the criteria governing site selection for weapons factories differed from those that guided the British and French militaries in their search for training land: a dry and temperate climate, an interior location beyond the reach of Soviet bombers, the availability of a skilled labor force, an adequate housing stock, and good transport links. These were the priorities, not isolation and scanty population. Another fundamental point of contrast is that the Denver area’s choice was almost universally welcomed by local politicians, businessmen, and community officials, who hailed the facilities as a boost to the local economy. However, the acquisition methods were the same as in Europe. At Rocky Mountain Arsenal, more than two hundred farm families were given a thirty-day notice of eviction in 1942. Wielding the power of eminent domain, the government’s only obligation was to provide “just compensation.” At Rocky Flats, landowners wanted more money, so condemnation proceedings ensued (1951).¹⁴

The objections of American ranchers whose lands were seized differed substantially from those of other protesters, local and national. They chafed against restrictions on the subdivision of surrounding land, over which hung the stigma of a heavily polluted site. Landowners at Rocky Flats sought compensation in 1974 for “negligent” pollution of their adjacent land and water. Charlie McKay, the nephew of the rancher (Marcus Church) whose land was appropriated and who inherited his property, by his own admission, had nothing in common with the plant’s antinuclear or environmentalist opponents.¹⁵ The emotional attachment of Church and McKay to their land (homesteaded by Church’s grandparents in the late 1860s) appears relatively weak compared to the trauma of dislocation experienced by Epynt’s hill farmers and Tyneham villagers, whose ancestors had established roots over many centuries.¹⁶

Earlier concerns with reclaiming the physical land or securing appropriate recompense have been superseded by more recent efforts to safeguard the memory of civilian pasts seen to be threatened by military obliteration, one half of the “double erasure” noted by Davis. On the Epynt, memorial volumes tell the story of the lost lifestyles of the dispossessed and act as protector of their memory. Attempts of late to mark former civilian occupation have enjoyed some success. The military has erected signs with the original farm names following a 2007 request from the Fellowship of Reconciliation in Wales, a pacifist organization that also protests the ongoing training of military troops at this place that, in their view, represents everything to do with militarism.¹⁷ A far more thorough repeopling of the ruined landscape is on display in Tyneham, where a series of interpretative panels erected in 2006 in the capped ruined homes detail those who lived within these broken walls.¹⁸

In France, the army has made little effort to memorialize civilian traces, although it did allow the Touring Club de France to erect a sign at the ruined village of Hurlus on Suippes Camp. In Colorado, at Rocky Mountain Arsenal,
eviction of the area’s farmers has not been followed by an act of erasure. Awareness of the locality’s pre-military past coexists with the renaturing process that has accompanied the conversion to wildlife refuge. Nor does this recognition of what Davis refers to as “the social life” of the pre-military past stem from lobbying by the descendants of the displaced, none of whom exhibit any residual bitterness. In April 2004, when the U.S. Fish and Wildlife Service (USFWS) received title to more than 5,000 acres of the former weapons manufacturing site, Ernie Maurer (age twenty when his family was resettled) attended the ceremony with other “children-of-pioneers.” Around this time, USFWS interviewed Lucille Egli (now the sole surviving child of the Swiss-born Gottlieb Egli, who built the homestead [1910-11] that is the only remaining pre-military structure at Rocky Mountain Arsenal). Lucille harbored no grudge; she was proud to have occupied such an important place in Colorado’s history. More distressed about the dilapidated condition of her father’s house than anything else, she called for its restoration.

The largely nonexistent physical legacy of the farming era at the Colorado sites does not imply discrimination against the pre-military past. Historic structures from the weapons production era have also been dismantled. What remains of the pre-military years at Rocky Flats is not exactly swept under the carpet either. In May 1999, speaking at a lectern mounted against a

Figure 2. Downtown Denver skyline viewed from Rocky Mountain Arsenal National Wildlife Refuge, which the U.S. Fish and Wildlife Service calls “a premier urban national wildlife refuge,” 2008. Credit: Peter Coates, photographer.
backdrop of prairie and the foothills of the Rockies, U.S. Energy Secretary Bill Richardson announced the creation of Rock Creek Reserve, a wildlife sanctuary representing a foretaste of the coming wildlife refuge, out of an 800-acre patch of the Rocky Flats buffer zone. Rock Creek, which includes prime habitat for the threatened Preble’s meadow jumping mouse, also incorporates the Lindsay Homestead, which occupied a high profile in the photographic record of Richardson’s speech. The Lindsay Homestead furnishes ruins as atmospheric and picturesque as anything in Tyneham or on the Epynt. But there are no remnants of original structures from when the area was first homesteaded in 1868. The Lindsays, who acquired the site in 1941 but lived in Denver, rebuilt the barn in 1945. In 1949 they erected the house, which a caretaker occupied briefly before AEC acquisition.

For the Jefferson County Historical Society, the ranch is a rapidly developing county’s finest remaining material evidence of the early twentieth-century cattle ranching era. The barn was recently stabilized. But the house is in poor shape. Not only was it left to disintegrate after 1951, it was subject to active assault. The structure is riddled with bullet holes; security guards used it for target practice in antiterrorist assault training exercises. Yet every management plan for the wildlife refuge acknowledges the ranch’s value as a cultural resource. USFWS is happy to restore and interpret the site. It simply lacks the resources.

Figure 3. Lindsay Homestead, Rock Creek, Rocky Flats National Wildlife Refuge, 2008. Credit: Peter Coates, photographer.
Whether in Colorado, Wales, or the Larzac, parochial concerns about the visibility of the particular civilian pasts have been reinforced by broader objections to militarism. Welsh nationalists regarded the military requisition of Mynydd Epynt in 1940 as part of a well-established English drive to colonize Wales. “In olden times,” one nationalist complained, “the English drove the Welsh into the mountains; and, now, here they are attempting to drive us from the mountains.” Other Welsh sites had been earmarked by the military—Porth Neigwl on the Llyn peninsula and the Preseli Hills, Pembrokeshire—and were successfully challenged. Other places—Lake Vyrnwy, the Elan Valley, and Tryweryn—had been or soon would be claimed for hydroelectric projects that flooded valleys to supply water to English cities. Protest against the requisition of Epynt was similarly informed by Welsh nationalist anger and rhetoric. In January 1993, the Welsh branch of the antinuclear Campaign for Nuclear Disarmament (CND Cymru) wrote to the British defence minister, extending reports of environmental damage inflicted during the Gulf War to “the damage caused by the military in ‘peacetime’ on the ‘beautiful upland area of Epynt.”24

This jump from the local to the global can also be seen in Colorado in the 1970s and 1980s, as well as in France during the 1960s and 1970s. The era of intensive mass protest in Colorado began on April 29, 1978, after a coalition of antinuclear, peace, and environmental groups chose Rocky Flats as the site for one of two simultaneous one-day national demonstrations.25 Five thousand demonstrators marched on the plant’s west gate to demand immediate shutdown. The protest shifted to civil disobedience when some participants blocked the rail tracks leading into the facility, disrupting shipment of plutonium triggers to Amarillo, Texas (where the H-bomb itself was assembled). Another tactic was adopted in October 1983 when a human chain consisting of an estimated fifteen thousand protesters tried to encircle the plant’s 17-mile perimeter.26 Although local organisations were involved, the focus of these and similar protests was the global threat of the superpowers’ arms race rather than the danger to local health and safety. These rallies attracted major national figures, including the anti-Vietnam activist Daniel Ellsberg and the beat poet Allen Ginsberg.27 “Convert Rocky Flats” was their rallying call. But conversion to a wildlife refuge was far from protesters’ minds (reinvention as a solar or other alternative energy research facility was a popular recommendation).28

In France, environmentalist concerns and quality-of-life issues—specifically access–informed various antibase protests. But protesters went further, arguing that military occupation of land spelled the death of nature. According to Larzac’s peasants and their supporters, the wanton destruction associated with militarization was inconsistent with their peaceful agricultural activity and would act as a “process of desertification.”29 The Larzac protesters consolidated the rhetoric of anti-base campaigners at Canjuers, who had produced a poster showing a funeral wreath for nature. A similar warning came
in Ronald Davies’s description of the Epynt. He described how “On 14th June 1940 the valley died, no more was the laughter and chatter heard. The only sounds left were the bleating of sheep and the singing of the birds, but a new sound was on the way: the whistle of the shells and the deafening sound of the explosion when they landed. A quiet, peaceful valley was being slowly transformed into a bleak noisy wilderness.”

However, in direct contrast to this portrayal of the military as environmentally destructive (and of wilderness as a distasteful and blighted environmental condition), a Public Information Leaflet introducing visitors to SENTA described it as a place where “skylark can be heard overhead.” These emerging claims of military environmentalism can be seen, at least in part in the UK case, as a by-product of an inquiry into public access on MOD land. Perhaps the most surprising outcome of Nugent’s inquiry was that conservationists questioned the wisdom of greater public access to bases, given that these virtual no-man’s-lands had unconsciously engendered areas of extraordinary biodiversity. In a dramatic volte-face, Rodney Legg, the leader of protest against military occupation of Tyneham, became an advocate of khaki conservation. This illustrates the broad shift from an era of protest in the 1960s and 1970s to a defence of the military in the 1990s as the lesser of evils. Central to this change in attitudes is the advent of what has been dubbed “khaki conservation” or “military environmentalism.”

EMERGENCE OF MILITARY ENVIRONMENTALISM

Civilian protesters in the 1960s and 1970s equated militarization with destruction and sterility. One military response was to claim that their lands inadvertently provided refuges for wildlife and habitats that were endangered on civilian lands transformed by chemical-fueled agriculture, tourism, and urbanization, a phenomenon identified as “conservation by serendipity.” Since the 1970s, militaries across the globe have developed policies to conserve their unintentionally preserved ecological assets. Yet national differences were also evident. Britain, most notably, was firmly in the forefront of “khaki conservation.” British conservationists, the Nugent Report found, “tended to support the retention of land by the Services, on the general arguments that MOD land holdings are, for the most part, shielded from commercial development and public use, thus allowing the incidental protection of flora and fauna and physical features from destructive agents.” A further inquiry by Lady Sharp (1976) explored the possibility of relocating training on Dartmoor from a national park to a less controversial area. Sharp concluded that on a small and crowded island, a replacement training area could not be found. She accepted that “military training and a national park are discordant, incongruous and inconsistent” but was convinced of the possibility—and necessity—of compromise.
Following the Nugent and Sharp reports, the MOD appointed a conservation officer, authorized the establishment of conservation groups on individual training estates, and launched a publication dedicated to its nature conservation efforts (1976). The name, *Sanctuary*, was evocative and reinforced in the first few issues with a cover image of a church door knocker. As an editorial in the initial issue explained, the military paralleled the medieval sanctuary rights of the church by “offering sanctuary to all forms of flora and fauna on MOD property.” In an age increasingly infused by environmentalism, the editorial shifted from the notion of sanctuary for people to sanctuary for flora and fauna in need of refuge from nefarious modernity.

There were no French or American equivalents to the Nugent and Sharp reports. Nor was there anything comparable to *Sanctuary* beyond Britain. Nonetheless, the French and American militaries did introduce their own initiatives in the 1970s. To combat antimilitary protesters’ claims that militarization

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**Figure 4.** The cover of the 1976 inaugural issue of the British Ministry of Defence’s (MOD’s) conservation magazine, Sanctuary, updates and adapts the medieval ecclesiastical concept of sanctuary rights for an era of environmental awareness. Credit: Defence Estates, © Crown copyright.
equalled nature’s demise, the French army also claimed that many of its sites were refuges for biodiversity threatened elsewhere by tourism, industry, and agriculture. Defence minister Michel Debré claimed that, on Larzac, the army strove to combine military instruction with landscape preservation, and one colonel even boasted that “the military are the premier ecologists in France.” These arguments, geared to winning support for base expansion, contained a kernel of truth. In 1971, the year the Larzac struggle began, a scientific report highlighted the ecological importance of the firing range at Biville dunes in Normandy and identified tourism as the main threat to the dunes’ preservation, rather than the army. Despite this local initiative, however, and unlike its British counterpart, the French Ministry of Defence did not introduce a national program of nature protection.

In the United States, the Conservation Programs on Military Reservations Act (Sikes Act) of 1960 provided the legal basis for wildlife conservation on military lands in cooperation with state wildlife agencies and the USFWS (authorizing DOD to levy fees for this purpose from fishing and hunting). When the so-called age of ecology arrived in the 1970s, formal land management programs were implemented on American military installations. A flurry of landmark federal legislation such as the Clean Air Act (1970), National Environmental Policy Act (1971), Clean Water Act (1972), and Endangered Species Act (1973) confronted the military with fresh challenges. The increasingly apparent biodiversity value of the buffer zones that surrounded most military installations imposed an unanticipated stewardship role. For many military managers, these laws were a nuisance at best, and at worst, they constituted a serious form of civilian encroachment that compromised training activities.

There is no counterpart in the landscape of U.S. military land management to the civilian-military cooperation represented by the United Kingdom’s conservation groups that were established on individual bases in accordance with Nugent’s recommendations. However, a body consisting of professional natural resource managers, many but not all of whom work for DOD, assists the military in its demanding task of harmonizing environmental protection duties with military mission. The National Military Fish and Wildlife Association (NMFWA) was officially chartered by DOD in 1983. Over the years, membership steadily grew (to 400 by 1990), and the responsibilities of DOD natural resource experts, dubbed the “new defenders of wildlife,” expanded from fish and wildlife management to encompass matters “environmental.” “If we weren’t here,” declared James Bailey, an army wildlife biologist (“here” being the Aberdeen Proving Ground in coastal Maryland), “this land would be all marinas and condominiums.”

The preservation of endangered flora and fauna on military lands and their reincarnation as quasi-nature reserves belongs to a wider story of how geopolitics creates unofficial and unanticipated nature reserves. The incidence of abundant wildlife in various militarized environments—such as war zones and buffer zones separating warring nations—was noted in the context of the
early nineteenth-century American West by the Lewis and Clark expedition, which observed a correlation between wildlife numbers and the “country between the nations that are at war with each other.” The most celebrated contemporary example of no-man’s-land that has metamorphosed into wildlife sanctuary is the heavily fortified demilitarized zone (DMZ) between North and South Korea, a 4-kilometer-wide, 250-kilometer-long line across the Korean peninsula established in 1953. Here, it seems, human conflict is a blessing for nonhumans.

If certain Cold War sites, such as the DMZ, unexpectedly became informal nature reserves, it was not until the Cold War’s end that militaries introduced more overt environmental policies and articulated their soi-disant environmentalist credentials on a greater scale. In part, this was in response to the growing public recognition and criticism of the Cold War’s toxic legacy; in the early 1990s, 81 percent of U.S. federal facilities on the National Priorities List for toxic waste cleanup belonged to the military.

After the Cold War, militaries acknowledged they were major polluters and susceptible to civilian criticism. Yet as well as introducing some remedial measures, they also trumpeted ecologically flourishing features to counter the negative image created by toxic waste dumps, decaying military hardware, and deeply buried explosives. What makes the relationship between sites of biodiversity and toxicity on military lands particularly intriguing is that, far than being distant from one another, they are often adjacent and sometimes interdependent.

Furthermore, at the end of the Cold War, Western militaries faced a crisis of legitimacy. What would be their role in societies that, according to Martin Shaw, were demilitarizing? Could they justify continued control over vast swaths of national territory at a time when their mission was unclear and the number of military personnel was shrinking? In response, militaries became more alert to the value of military environmentalism as a way of legitimizing their control over land at a time when environmentalist policies and diction had thoroughly suffused Western societies. Military environmentalism is a significant but neglected aspect of the rise, spread, and institutionalization of environmentalism in Britain, France, and the United States. Like other public and private bodies, the military needed to be seen to respond to environmental concerns. Not only would the military defend the nation, it would also defend the nation’s nature.

As well as aligning military presence with wider societal aspirations for environmental protection, strictly military aims are advanced by showcasing the ecological value of militarized environments. David Havlick, who tends towards Woodward’s critique of military environmentalism, shows how the conversion of operationally obsolete U.S. military bases such as the Savanna Army Depot (now part of the Upper Mississippi River National Wildlife and Fish Refuge), in accordance with the Base Realignment and Closure process launched in 1988, allows the DOD both to spend less on decontaminating its
most heavily polluted lands and to restructure its land holdings to meet changing operational requirements. Military to wildlife refuge transformations, in his view, are therefore “not so much a ‘greening’ of the US military as an attempt to wrap the ongoing (and growing) project of American militarization in a new ecological cloak.”

Paradoxically, military environmentalism developed post–Cold War, within NATO, a transnational network that had been integral to the Cold War’s structure. British geographer Martin Coulson argues that NATO’s Committee on the Challenges of Modern Society (CCMS), established in 1969, acted as a “catalyst” for military environmental issues through its pilot study on Environmental Awareness in the Armed Forces (1987–90), the issuing of an Environmental Principles Statement in 1990, the 1993 NATO Environmental Policy Statement for the Armed Forces, which included videos and leaflets that encouraged soldiers to “train green,” and courses on the environmental management of military lands from 1995 onward at the NATO School in Oberammergau, Germany.

Although military environmentalism expanded substantially post-1989 in the three countries under study here, national differences persist. In France, accords signed in 1995 and 2003 between the ministries of defence and environment paved the way for increased military-civilian environmental cooperation at national and regional levels. But it was not until 2007 that the Ministry of Defence introduced its first environmental plan and established a central office dedicated to environmental issues. In Britain, Nugent’s recommendations constituted a call from above for the MOD to meet the environmental responsibilities of being a substantial landholder and user and led to the much earlier introduction of national policies, such as the creation of conservation groups. Unsurprisingly, though, support for the military mission remains the overriding objective of environmental policies on installations in Britain, France, and, especially, the United States, whose military establishment and military landholdings dwarf those of the other nations.

For all these differences of national emphasis, a central similarity is that the British, French, and American militaries have all pushed the scope of military environmentalism beyond nature protection in line with the evolution of wider civilian sustainability agendas. All have introduced measures to encourage recycling, reduce their carbon emissions, and develop so-called green weaponry. Adrian Parr finds such developments profoundly worrying, especially given the disjuncture between the supposedly life-enhancing aims of sustainability and the lethal objectives that underpin military activity. Although sympathetic to Parr’s concerns and alive to the oxymoronic nature of the concept of “green weaponry,” we maintain our focus on military nature preservation policies, a sphere that includes the ways in which nonhumans inhabit British, French, and U.S. militarized landscapes.
NONHUMAN OCCUPANTS

Military environmentalism has uncovered a range of fauna and flora that flourish on militarized landscapes yet struggle to find a niche within a range of civilian landscapes: agricultural, urban, and recreational. Military activity creates particular environments, memorably dubbed “crater as habitat” by Patrick Wright, that favor certain species. In turn, the military deploys these species (particularly animals) to substantiate claims of responsible environmental stewardship. Stories and images of these species feature in military publications and websites, and independently conducted ecological inventories have confirmed this special relationship with military sites. A prime example comes from Britain’s Salisbury Plain (SPTA) where the fairy shrimp, a freshwater crustacean, has become the surprisingly enigmatic icon of military environmentalism. Inhabitant of puddles, ditches, and ruts worn into the ground by the pressure of tank tracks, it ill-fits the standard mold of an iconic animal, which is traditionally reserved for examples of charismatic megafauna. The fairy shrimp’s makeover as the archetype of charismatic mini-fauna (in the world of iconography, size does not always matter) illustrates the development of a military understanding of and increasing engagement with their territories’ faunal resources. Civilian enthusiasts and conservation groups (through laborious studies and counts) first brought this unassuming creature to public attention. After the Nugent Report, the military bestowed its official support and recognized the shrimp’s value as a potential weapon in the battle for the hearts and minds of those who opposed military land ownership or questioned the benefits of its land management practices. The humble shrimp finds itself on the frontline of the effort to break down the still entrenched assumption that military training necessarily causes unredeemed destruction.

Militaries now clearly associate themselves with creatures that previously had no military connotations or uses and certainly no record of military concern for their welfare. A French example is the Alcon Blue butterfly that lives and breeds in the heathland of the Lande d’Ouée training ground in Brittany and is protected under the 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats. Declaring its determination to preserve the butterfly’s habitat, the 11th Naval Artillery Regiment created a 10-hectare “natural” firebreak of grasses and shallow water pools between its training ground and the butterfly’s habitat at the cost of a million francs, paid for by the Ministry of Defence’s environmental intervention fund. One hundred and fourteen species of birds inhabit the Suippes site, many of which are in decline on nonmilitarized lands, including the little bustard.

Hemmed in by farmland and industrial and residential development, the buffer zones at Rocky Mountain Arsenal and Rocky Flats became oases of biodiversity, reflecting their location at the biologically rich meeting and
overlapping point between two important biomes: the Rocky Mountains and the high Great Plains. The arsenal supports around 330 species, including bald eagles, falcons, burrowing owls, ferruginous hawks, coyote, badger, mule deer, and black-tailed prairie dogs. Meanwhile, the Flats’ buffer zone, which embraces the largest remnant of upland tall grass prairie in North America, houses around 250 species, including mule deer, whitetail deer, porcupine, muskrat, striped skunk, prairie falcon, and Swainson’s hawk; black bear and mountain lion are occasional visitors.

Yet the most illustrious animal inhabitant of Rocky Flats—and equivalent to Salisbury Plain’s fairy shrimp, if somewhat larger—is Preble’s meadow jumping mouse. Preble’s body measures just seven centimeters, but thanks to its powerful hind legs, the mouse can leap a distance of up to a meter to elude predators. This high-profile mouse is endemic to the Front Range of Colorado and southeast Wyoming, where its preferred habitat is a moist streamside meadow. Since

Figure 5. The British MOD’s 2004 ‘Green Pack,” a pack of playing cards modelled on the US military’s 2003 “Iraq’s 52 Most Wanted” pack, was designed to raise environmental consciousness among troops training on Salisbury Plain, Wiltshire, the UK’s largest defence estate. The seven of hearts was allocated to the fairy shrimps, tiny freshwater crustaceans that “love living in tank ruts.” Credit: Defence Estates, © Crown copyright.
the 1950s, 90 percent of this dwelling space has been eaten up by agricultural, residential, and commercial encroachment. The mouse’s current status in federal wildlife law (since 1998) is threatened, one category below endangered.

Responsibility for managing the precious creatures that militarization has shielded against a hostile outside world is not confined to natural resource management professionals. Soldiers training in upland Wales have had their surveillance skills (and endurance) tested by mounting round-the-clock protection for the nests of breeding red kites. This particular bird of prey has acquired a significance locally that extends beyond the parameters of the military site. In a sense, the county (Powys) as a whole is “red kite country,” for the bird supplies its logo. The local military has also forged a special connection with the bird. At the Epynt Visitor Centre, located in a whitewashed former farmhouse at the side of the public road that traverses the base’s northern portion, a red kite hovers above the training soldier in the main display.

Despite the soaring profile of SENTA’s red kites, the “green” stars of the estate’s ecological showcase are floral and fungal. The presence of the slender green feather moss earned Special Area of Conservation status for part of the range. Government ecologists who surveyed it for the Joint Nature Conservation Committee (JNCC) judged that the threat posed to the slender green feather moss by “sporadic damage from trampling and the use of small explosive charges” was less than that represented by farmers granted permission to “drain or fertilise more of the range.” Slender green feather moss’ fungal counterpart is the waxcap. The identification and publicizing of the site’s fungal riches was a slow process, activated by the coincidence that a particular range officer was also a keen amateur mycologist. Another vital consideration was the site’s availability for study by nonmilitary scientists. The visit of “the man from CCW [Countryside Council for Wales],” who found “18 species in 20 minutes on one area,” was reported at a meeting of SENTA’s Conservation Group in 1998. This minute was then flagged in an annotation by Defence Estates as a “possible article for next Sanctuary on fungi from CCW,” which duly appeared in 1999. Ray Woods characterized the Epynt as the “land of fantastic fungi” and the feature on “Wild Epynt” at the new visitor centre that opened in 2009 carries an image of the striking pink waxcap.

The impression that emerges from the records is of the slow evolution of the awareness of the floral riches of SENTA (a process that is bottom up and civilian led), which is then disseminated via the pages of Sanctuary and eventually features in the (former) conservation centre and its replacement visitor centre. This is quite different from the top-down and rather conspiratorial process envisaged within Woodward’s perspective on military environmentalism. Moreover, contra Woodward, at Sennybridge, a “crater as habitat” story of dragonflies relishing the craters in the Central Impact Zone remains unpublicized, languishing in obscurity in the pages of conservation reports.
Militarized landscapes not only serve as providers of protection for a preexisting wealth of biodiversity. In Colorado, militarization triggered a process of re-wilding. The capacious buffer zones that surrounded core production areas at Rocky Mountain Arsenal and Rocky Flats hardly qualified as intact or “pristine” ecosystems. The quality of vegetation had deteriorated markedly since the onset of cattle ranching in the late nineteenth century. Heavy grazing on stony ground with a rocky substrate subject to uneven rainfall and harsh dry winds had encouraged the spread of prickly pear, Spanish bayonet (yucca), and thistle, as well as cheat grass and other invasive plants that we call weeds. Wildlife was thin on the ground, as it was in other areas dominated by farming and ranching. The removal of cattle following military appropriation initiated a process of ecological restoration. By the mid-1970s, prairie grasses such as big bluestem, little bluestem, needle-and-thread, and sideoats grama had reestablished their hegemony. In tandem, a host of marginalized native herbivores (the mule deer being the largest resident mammal) and their associated predators reappeared.

Figure 6. The Epynt Visitor Centre opened on the Sennybridge Training Area (SENTA) in Powys, Wales, in 2009. A visitor centre interpretative sign entitled “Wild Epynt” features the pink waxcap fungus, which flourishes on the training area, and states that SENTA is a ‘wildlife island in a sea of cultivated lowlands...a perfect habitat for hardy troops [and] home to many rare and endangered species...that now thrive under MOD care.” Credit: Tim Cole, photographer.
Moreover, as wildlife populations grew within the militarized zone, they dwindled even further beyond military protection. This on-site growth in numbers was in part due to migration. Some creatures made an unscheduled appearance, infiltrating the zones that were off-limits to human entry in search of refuge. According to a former inhabitant of the Arsenal site, Ernie Maurer, wildlife he never saw around his family’s farm while growing up there began moving in during the late 1940s.

Yet wildlife is not the only nonhuman inhabitant. Livestock routinely inhabit some military bases, as they have done for centuries. There are actually more sheep grazing on the Epynt plateau today than there were before the army’s arrival. The current figure rises to sixty thousand during spring and summer, roughly double the number on the eve of appropriation. Dispossessed farmers sometimes succeeded in their efforts to continue to pasture sheep, and rents for grazing on SENTA are well below open market rates. This grazing presence serves military interests too: without sheep to munch the vegetation, training would be impeded. The story of sheep grazing supplies a major strand of continuity between SENTA’s pre- and post-military history, raising questions about the totality of landscape militarization.

However, post-militarization grazing patterns do not simply replicate the pre-military norm. Nor do they work entirely to the military’s advantage. The shift from a more mixed grazing regime (which included cattle in lowland areas) to a monoculture of sheep has compromised the maintenance of effective training conditions by failing to stem bracken infestation. The change has also compromised floral biodiversity because more sheep translates into heavier pressure on rare orchids.

Sheep occasionally have the capacity to interfere with the smooth operation of training activities at SENTA. It was once necessary to close off an area because the quantity of sheep dung posed a “health hazard” to troops. Generally, though, there is a symbiotic relationship between sheep farmers and military: the sheep act as a lawnmower for the military and provide them with a source of revenue. And military activity poses relatively little danger to the sheep; numbers accidentally killed are low. In 2005, of the 51 sheep killed on the range, the majority were victims of road traffic (31) rather than bullets and shells (20).

French sheep can perform a similar role to their Welsh counterparts. A herd was pastured at Souge Camp in 2007 to combat scrub in an environmentally sensitive way (in other words, avoiding herbicide use). But they are also a force for the military to reckon with. Their presence at French sites evokes the use of land for pasture and protest against militarization. During the anti-extension campaign at Larzac, activists turned sheep into anti-military resistors battling against the army’s tanks, the military, and the central state (sometimes portrayed as a wolf). Sheep serve as useful reminders of the histories of civilian dislocation and protest against occupation that the military environmental narrative can subsume.
CIVILIAN-MILITARY COOPERATION

The development and implementation of military environmentalism as a viable method of managing training areas, as distinct from (a mere) discourse, has relied on cooperation with civilian conservationists. In France, the army and regional nature park authorities signed conventions in the 1970s and 1980s to preserve the ecologically valuable impact zone of Bitche Camp in the northeast. In 1997 the Conservatoire des espaces naturels de Poitou-Charentes (CENPC) made an agreement with General Brousse, military delegate of the Vienne département, concerning the management of Montmorillon Camp. Following a CENPC study of the camp’s 1,649 hectares of woodlands, heathland, and bocage and the role of the military training, hunting, and farming within its confines, the various parties arranged a new management plan. In exchange for allowing these civilian activities, the Ministry of Defence gets free advice on site management and a public green stamp of approval. The 1997 convention gave the army an opportunity to advertise the ecological treasures that had been spared the “outrages of intensive agriculture, urbanisation, and industrial pollution” and to position itself as environmentally aware and responsible.

Elsewhere, the French army has established conventions with the Office national des forêts regarding woodlands on its bases, and the two organizations work together on the development and implantation of management plans for protected areas on military lands.

On a national level, in its 2009 convention with the Fédération des conservatoires des espaces naturels (FCEN), the Ministry of Defence promises to draw on the expertise of Conservatoires des espaces naturels as much as possible for ecological inventories and advice on sustainable camp management. The FCEN, in turn, undertakes to share its best practices with the Ministry of Defence and to suggest ways of reducing training’s environmental impact. The Ministry of Defence also publishes glossy brochures highlighting its close links with ecologists. Such high-quality productions, rich in wildlife imagery, publicly present the military as an agent for environmental good, with the added weight of external civilian accreditation. The United Kingdom’s Sanctuary magazine similarly publishes sophisticated wildlife photography. Unlike Britain, however, French military lands host no formally constituted conservation groups.

Military-civilian cooperation was encouraged in Britain post-Nugent through site-specific conservation groups. Group meetings tend to be biannual, and membership is open: interested civilians, amateur and professional wildlife and botanical experts, local environmental bodies, and military personnel such as range wardens and Defence Estates conservationists and archaeologists, meet to discuss arising matters. Each report builds on previous ones, gradually constructing a repository of data permitting more sensitive management. Conservation groups also facilitate productive military-civilian dialogue, which focuses on groundwork and cooperation rather than past disagreements,
and they allow civilians to retain a role in management. In return, the military gains approval for its environmental efforts and benefits from the skills of volunteering experts.

This exchange suggests advantages for military and civilians in pursuing a cooperative nonideological military environmentalism, questioning Woodward’s line that civilians are duped and coopted. At SENTA, civilian ornithologists undertake the annual surveys that initially enter conservation group minutes, then the pages of *Sanctuary*.6 Woodward sees these “small stories” as serving the military’s interest in encouraging us to “look down at close range to small protected species rather than focusing on the bigger picture, which tells a more critical story about military activities and their impact on the natural environment.” On the contrary, it is precisely at this close range that the outcomes of military environmentalism can and should be read, to grasp the permutations, permutations, and meanings for landscapes, civilians, and militaries. Moreover, moments of friction between training and environmentalism are occasionally recorded in public but more often in private within conservation group meetings.8 SENTA conservation group’s minutes chronicle specific cases in which troop access was restricted after civilian intervention to safeguard nesting sites or rare habitats.89 Tensions tend to be ordinary and manageable, and they do not escalate to a point that threatens overall working relationships.

In Britain, the return of the world’s heaviest flying bird (extinct there since the 1830s) is the most eye-catching recent example of cooperation.90 When the Great Bustard Group launched a reintroduction trial (2004), Salisbury Plain was the natural site. As an author unaffiliated with MOD explained in a major *Sanctuary* feature, nowhere in Britain so closely approximates the bird’s former habitat.91 David Waters, the initiative’s instigator, underscored this point: Salisbury Plain “lends itself to reintroduction, because it’s a big military area which has changed very little since the Great Bustard was here.”92

Nonetheless, military-environmentalist relations remain problematic elsewhere. Over the past decade, defence establishments have become increasingly concerned about interference with the training mission. In 2000 the U.S. DOD’s Senior Readiness Oversight Committee (SROC) identified eleven forms of “encroachment.” These included not only industrial, (sub)urban, and commercial encroachment but also “cultural” encroachment (the designation of protected cultural sites, usually aboriginal). Another form of encroachment was the intrusion of regulatory agencies seeking to enforce, not least, environmental legislation. The most invasive law from the military standpoint is the Endangered Species Act (1973), which applies to all land in the United States, whether in private or public ownership or in military or civilian hands. Since the DOD’s “islands of biodiversity” (as the SROC report’s author dubbed them) house more threatened and endangered species than the lands of any other federal landholder, Major General R. L. Van Antwerp pointed out that the military shoulders “a disproportionate burden” in complying with legal
demands. Van Antwerp did not try to take the credit for ecological riches or to propound military environmentalism. Rare, threatened, and endangered species were unwelcome, unwanted, and downright inconvenient. Bases were not their original habitat, he explained; they had moved to what had become a de facto haven since the 1960s, having been displaced elsewhere.93

Military-environmentalist tensions also unfold in countries beyond Britain, France, and the United States. “British Army meets its match as German nature lovers halt training.” This recent headline in the London Times gave a sense of the muscle that environmentalists backed by legislation can wield in exchanges with the military. The source of tension in this instance was a proposal to build two new mock Afghan villages on the Military Training Area Senne near Gütersloh in northwest Germany, to help prepare the five thousand British troops stationed in the area for their struggle with Taliban insurgents. This patch of heathland contains a number of threatened and endangered species, including the meadow pipit and the blue-winged grasshopper. Environmentalists have secured a court order that puts construction on ice while impact studies are conducted. A statement by a senior British army officer communicated the military’s feeling that this was not just disruptive of training but smacked of ingratitude—a slap in the face after decades of careful stewardship and effective exclusion: “This hullabaloo ignores the simple fact that the survival of rare species of natural life on training areas is attributable to military use and the exclusion of the public. We have saved this land, not despoiled it.”94

Despite friction between the dual function of militarized sites as bases and quasi-nature reserves, recent events demonstrate the scope for mutually beneficial military-civilian environmentalist collaboration. The U.S. army hopes that the establishment of conservation buffer zones around military installations will not only alleviate the pressure to observe endangered species legislation, as some protected creatures will move out into these additional habitats,95 but also ease conflicts with local communities that have proliferated as housing subdivisions creep closer to the boundary fences.

The alliance with conservationists is not as strange as it might first appear. The Trust for Public Land (TPL) and Nature Conservancy worry about urban encroachment just as much as the commanders of military bases. Conservationists therefore share the desire to preserve undeveloped lands. Residential development now stretches right up to the eastern boundary of Camp Pendleton, a 125,000-acre Marine Corps training base in southern California. Between 70 and 90 percent of southern California’s coastal sage scrub has been lost to urban development and agriculture. Much of the remaining native habitat lies within the camp. While acknowledging that military activities are compatible with conservation of biodiversity, Pendleton’s managers insist that their lands (the main Marine Corps training facility on the West Coast) “cannot be set aside as perpetual environmental preserves.”96
A partial solution to the military’s conundrum has emerged. Land at the camp’s northeastern boundary remains comparatively undeveloped. So TPL is buying up abutting private land to create a conservation buffer zone and selling development rights to the army. “The military is perhaps a natural ally with [conservation groups] because we seek the same things they seek,” explains Jim Omans, natural resource manager of the Marine Corps who is based in Washington, D.C. Their motives are completely different—“We want it for training. They want it for critters”—but the important thing is that “we both want large unbroken areas filled with natural habitat.” Military commanders in France also fear loss of operational control over training grounds, which is potentially compromised by national and international legislation. Yet, in practice, military operational readiness usually trumps environmental considerations.

In Colorado, another kind of opposition reinforced the objection to the metamorphosis of weapons plants into wildlife refuges on health and safety grounds. However clean the cleanups turn out to be, a strong local constituency feels that “military to wildlife” (“M2W”) threatens the memory of a site’s human past, no matter how unpleasant. These critics identify two competing narratives at these former weapons plants: an uplifting environmental history and a depressing social history, with the former deliberately or inadvertently obscuring the latter. A brief campaign in the early 1990s to establish a “national heritage park” instead of a wildlife refuge protested that Rocky Mountain Arsenal was too historically important to be “lost to development or merely kept as a wildlife preserve in a bombs-to-Bambi amnesia of the full meaning of its history.” But on the whole, these fears have proved unfounded. The full meaning of Rocky Mountain Arsenal’s history is displayed in the all-encompassing exhibit at the wildlife refuge’s Visitor Center.

On Larzac plateau, meanwhile, an eco-museum, built by campaigners in 1981 after President Mitterrand’s decision to annul the camp’s extension, presents a far more radical narrative of a land spared from militarization. It presents the civilian story of protest, leaving the army’s point of view buried in military archives. Militarization and farming remain positioned as diametric opposites. According to a 1982 eco-museum exhibition, the free, radical, and poetic figure of the shepherd is the “perfect antithesis of the soldier.” The eco-museum both reflects and reinforces the image of Larzac as the centre of resistance to militarization and, increasingly, globalization. Tellingly, a sculpture of sheep frames the entrance. The eco-museum is also an important reminder of the tensions between civilians and the military that are prominent features of the militarized landscapes studied here, as they are elsewhere.

CONCLUSION

We finish where we began: on the Epynt plateau in mid-Wales. At SENTA, the recent replacement of the Conservation Centre by the Visitor Centre speaks
volumes about the maturation of military environmentalism and the growing inclusiveness of militarized landscapes. At SENTA, nature and history, as well as the pre-military past and the military past and present, are beginning a creative coexistence. The shift at Epynt from Conservation Centre to Visitor Centre, with its overt focus on “Warriors and Wilderness,” may be the harbinger of a new development in military environmentalism: a move beyond khaki conservation, in which the military is more willing to accept, present, and even embrace, in an official capacity, the multiple histories entangled with its lands. Acknowledging that much of the research on the military and the environment to date has been conducted at a generic level—“too often ‘the military’ is treated as a monolithic (evil) black-box generating practices and landscapes according to a binding script”—Davis has called for a further detailed investigation that is historical as well as ethnographic and discursive.\footnote{This article has attempted to take up his challenge.}
Among the three nations that form our study, the United Kingdom is firmly in the vanguard of military environmentalism. Intact ecosystems, desirable lands accessible for public recreation, and areas suitable for training are all at a particular premium on a small island that is more densely populated than France, let alone the United States, and that has yet to undergo any process of land demilitarization comparable to recent American experience. Moreover, although nuclear sites may become anachronistic and dispensable, there are few indications that the larger UK (and French) military landholdings discussed here will revert to some sort of civilian use (whether wildlife refuge, business park, or golf course). Yet MOD operates not only within a particularly crowded, confined, and contested geographic space in which heavy and multiple uses foster intensive and all-embracing management strategies. The UK military also functions within a distinctive British cultural tradition—traceable at least as far back as the eighteenth-century village parson, Gilbert White—of curiosity about the natural world and enthusiasm for its study. This heritage, which embraces both professional and amateur natural history interests, is arguably more deeply and broadly rooted in Britain than in France or the United States. Yet the values that invest military environmentalism in the United Kingdom emerge from within the organization as well as being imported from the civilian world. The stewardship ethic of some British military officers constitutes an internal resonance of the land management values embraced by seasoned civilian countrymen.

Davis identified the particular importance of how “individuals inside militaries” regard militarized landscapes and their management to the future research agenda of militarized landscapes.\textsuperscript{105} Our research on Britain suggests, in particular, that the personal interests and background of the base commander can be crucial. For example, a conservation group was not started at SENTA until 1986, following the lead taken by the camp commandant at the time, Colonel Roger Hayes (described as “a countryman both by birth and nature”).\textsuperscript{106} Hayes, according to a former range officer at SENTA, brought “a more caring hand” to the stewardship of the range, which, by the mid-1970s, he regarded as dangerously neglected, with parts described as “looking much like the Somme.”\textsuperscript{107}

Just as military officials such as Hayes attempt to negotiate a path through the multiple demands placed on the places they occupy—the ever-louder civilian demand for access, the management of precious biodiversity, and the continuing need to train in a world where there are few signs that armed conflict will be going out of fashion anytime soon—we, as civilians, as scholars, and as historians, have tried to thread our way through this minefield to attain a vantage point from which militarized landscapes and military environmentalism are visible in all their detail, complexity, subtlety, and national distinctiveness.

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NOTES

1. The authors are grateful to the UK government’s Arts and Humanities Research Council (AHRC) for financing a three-year research project, “Militarized Landscapes in Twentieth-Century Britain, France and the United States,” conducted under the auspices of the AHRC’s Landscape and Environment programme (2005-10). In particular, we would like to thank the programme’s director, Stephen Daniels, as well as Chris Sernberg and Ed Mahoney at Sennybridge (SENTA) and Ian Barnes, Richard Osgood, and Guy Hagg of the Defence Estates Environmental Support Team at Salisbury Plain Training Estate (SPTA). Peter Coates wishes to thank Bruce Hastings of the U.S. Fish and Wildlife Service for showing him around Rocky Mountain Arsenal and Rocky Flats.


12. George Richard Hodges Nugent, the son of a colonel and great devotee of the countryside, began his career in the army. His previous roles included service in the National Farmers Union and the Ministry of Agriculture, as well as the chairmanship of the Thames Conservancy Board.


16. McKay possessed what Len Ackland referred to as “a keen sense of history,” which was expressed in the production of a pamphlet about the history of about the ancestral Church ranch and its buildings. Yet this sense of the past did not interfere with McKay’s development of the lands surrounding the ranch as fast as [he] can put together deals.” A gas station, office building, apartments, and movie theater complex are among the manifestations of his business activities. Len Ackland, *Making a Real Killing*, 2.


Architecture Service installed plaques on all the buildings of the marketplace and the main street, indicating the profession and name of the person who once lived or worked there. This new attention to individuals has shifted the emphasis in the ruins away from an evocation of anonymous collective death. Reading the names of professions that for all practical purposes no longer exist (clogmaker, cooper, well-digger) gives the sense not only of a lost town but of a lost epoch as well.”

20. Interview transcript, Visitor Center, Rocky Mountain Arsenal National Wildlife Refuge.
22. Interview with Bruce Hastings, refuge manager, Rocky Flats, October 8, 2008.
30. Undated poster, Archives municipales de Comps-sur-Artuby 1 W 4/2; Davies, *Epynt without People*, 42.
31. Army Training Estate Wales, Public Information Leaflet (n.d.).

34. *Sanctuary* 1 (1976), 1.


39. Proposals to expand training bases at Fort Hood (Texas), Fort Carson (Colorado), and Fort Riley (Kansas) in the 1970s and 1980s encountered considerable local opposition and made little headway in Congress.


44. On the DMZ’s environmental history, see Lisa M. Brady, “Life in the DMZ: Turning a Diplomatic Failure into an Environmental Success,” *Diplomatic History* 32/4 (2008): 585-611; and Julia Adeney Thomas, “The Exquisite Corpses of Nature and History: The Case of the Korean DMZ,” in Pearson, Coates, and Cole, eds., *Militarized Landscapes*, 151-68. Other Cold War era buffer zones include the former Iron Curtain that bisected Europe laterally from the Arctic to the Adriatic seas. The Grenzland Museum (Eichsfeld) offers a sombre human history and an uplifting


Coulson was a NATO-CCMS fellow between 1999 and 2001, which might partly explain his positive appraisal of CCMS. On the earlier links between the CCMS and environmentalism, see Jacob Darwin Hamblin, “Environmentalism for the Atlantic Alliance: NATO’s Experiment with the ‘Challenges of Modern Society,’” *Environmental History* 15:1 (2010): 54-75.


53. Stephanie McKenna, “From Tiny Snails to the Big Picture,” *Public Works Digest* 16/5 (September/October 2004): 34. *Public Works Digest* is a publication of the U.S. Army Installation Management Agency.


60. The arsenal’s bald eagle supplies a somewhat different example of an iconic military species because it already enjoys the hallowed status of national icon and extensive martial associations. In fact, its appearance at the arsenal triggered the campaign to establish a wildlife refuge. In 1986 a breeding population set up a winter roost in cottonwoods fringing First Creek; two years later, a hundred birds overwintered there. In 1999 USFWS officials reflected on M2W as if it was nature’s divine intervention: “In a way, it was the eagles that made it happen” (quoted in Havlick, “Bombs Away,” 103). The substitution of a sense of natural evolution for human-led historical agency is reinforced by the title of a promotional book funded by Shell, the company responsible for the site’s cleanup: Wendy Shattil and Bob Rozinski (photos) and Chris Madson (essay), *When Nature Heals: The Greening of Rocky Mountain Arsenal* (Boulder: Roberts Rinehart/National Fish and Wildlife Foundation, 1990).


63. www.powys.gov.uk.

64. JNCC, “Natura 2000 Standard Data Form” for Site UK0030221, 2.


66. “Agenda for the 23rd Meeting of the Sennybridge Army Field Training Centre Conservation Group” (February 5, 1998), Site Dossier: SENTA, Westdown Camp Archive.


68. A bizarre, perhaps unique, example of inadvertent protection that is later coopted by the discourse of military environmentalism confronts the visitor to Tyneham passing through the wildlife refuge of Gwyle Woods. Trees in the wood are so (unpredictably and invisibly, but also apparently harmlessly) loaded with shrapnel from live firing activities that they cannot be felled without endangering the chainsaw operator. There was no original intention to protect the trees, but the military can now claim credit for their inability to be used as timber. The sign, coproduced by MOD and Dorset County Council, also shows how the discourse of military environmentalism has gained purchase beyond the military. The paradox of protection through ostensible damage recalls Earth First! activists’ tactic of “tree spiking” to protect old growth redwoods in northern California in the 1980s: Susan Zakin, Coyotes and Town Dogs: Earth First! And the Environmental Movement (New York: Penguin, 1993), 305-306; Christopher Manes, Green Rage: Radical Environmentalism and the Unmaking of Civilization (Boston: Little, Brown, 1990), 10-11.


70. EG&G (Edgerton, Germeshausen, and Grier)/DOE, Rocky Flats Environmental Restoration Update (A Periodic Update on RF Cleanup), October/November 1992, 3.


72. U.S. Energy Research and Development Administration, “Omnibus Environmental Assessment for the Rocky Flats Plant” (draft, May 1976); 2 (107), 3 (34), 2 (108), 1 (12), Rocky Flats Project, RF Monitoring Committee, General Material, Box 2, Folder 9, American Friends Service Committee (Colorado Branch), Archives, University of Colorado at Boulder.

73. The phrase “unscheduled appearance” is borrowed from James Lovelock. In an article on Chernobyl, he referred to the “unscheduled appearance of a wildlife park in the land nearby, which is considered too radioactive for people to enter”: James Lovelock, “We Need Nuclear Power, Says the Man Who Inspired the Greens,” Daily Telegraph, August 15, 2001.


84. Direction des affaires juridiques and Délégation à l’information et à la communication de la défense, *Défense et protection de la nature* (Paris: La Documentation française, 2000).

85. Minutes are taken and deposited in the relevant site dossier at Tilsehead SPTA (the administrative heart of the military in southwest England and Wales, and home of the Defence Estates conservation and environment team). Collected since the groups started (mainly between the mid- to late 1970s and late 1980s), these documents form a paper trail that records not only the groups’ development, but also that of the overseen military lands.


89. “Record of Proceedings for the 18th Meeting of the Sennybridge Army Field Training Centre Conservation Group” (February 1, 1995); “Record of Proceedings for the 19th Meeting of the Sennybridge Army Field Training Centre Conservation Group” (August 8, 1995); “Sennybridge Conservation Meeting” (September 30, 2006), Site Dossier: SENTA, Westdown Camp Archive.
90. Over the previous century, the UK population of this largest of Eurasian land birds had been decimated by a combination of farmland enclosure, agricultural mechanization, global cooling, and overhunting (it survives elsewhere, if in an endangered or threatened status for the most part, across its range from Portugal to eastern China). In its final years, the bird was mainly hunted for sport (a form of coursing developed, with the running bird pursued on horseback with dogs) and to satisfy demand from specimen collectors; but hunting for the table also took its toll.

91. Paul Toynont, "The Return of the Great Bustard," Sanctuary 34 (2005): 14-17. Eggs laid in 2007 and 2008 were infertile, but 2009 was the breakthrough year; the first chicks hatched from parental stock brought over from the Russian steppes. This success was consolidated in June 2010, raising hopes that a self-sustaining breeding population is not too far away.


99. Letter from Christine E. Ford (project manager, Rocky Mountain Arsenal National Heritage Park Project) to Charles Froehlicher (Gates Foundation, Denver), November 20, 1999, Western History Collection, Denver Public Library, Denver, Colorado.

100. These anxieties are also groundless at Rocky Flats, where a campaign to establish a Rocky Flats Cold War Museum enjoys the support of environmentalists, USFWS, and the site’s former owners. The legislation authorizing the refuge (2001) empowered the secretary of the interior to set up a museum. At first, many of the governing board and Friends of the Museum (1998) were retired plant workers. Now, the board, membership, and fund-raising activities encompass the site’s antinuclear protesters as well. The mission is to “document the historical, social, environmental and scientific aspects of Rocky Flats, and to educate the public
about Rocky Flats, the Cold War, and their legacies through preservation of key artifacts and development of interpretive and educational programs (www.rockyflatscoldwarmuseum.org/). The Friends’ newsletter, Weapons to Wildlife, which began publication in January 2007, can be accessed at www.rockyflatscoldwarmuseum.org/.

101. The Visitor Center (funded by Shell) has the feel of a visitor center at a national park. At the gift shop, you can purchase the usual paraphernalia of T-shirts, coffee mugs, postcards, and posters, many of which sport a bison logo (a herd, consisting of surplus stock from Montana’s National Bison Range, was introduced in March 2007 and constitutes the refuge’s prime attraction). For a full schedule of activities at what bills itself as a “premier urban national wildlife refuge,” see the refuge’s newsletter, Wild News, at www.fws.gov/rockymountainarsenal/News%20at%20the%20Rocky%20Mountain%20Arsenal%20National%20Wildlife%20Refuge_www.fws.gov/rockymountainarsenal/WildNewsArchive/wildnews.htm).


105. Ibid.


107. Church, Sennybridge Training Area, 13.