



# Pilanesberg National Park, North West Province, South Africa: Uniting economic development with ecological design – A history, 1960s to 1984

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In the late 1970s, a ground-breaking project began in the Pilanesberg district in what is now the North West Province of South Africa to create a wildlife conservation and eco-tourism venture from degraded marginal farmland in an aesthetically attractive extinct volcanic crater. The establishment of this national park was innovative in a number of respects, including a partnership between landscape and ecological designers, local community development and participation, regional tourist satisfaction, trophy hunting, environmental education, ecological restoration, and wildlife conservation and management. This paper briefly explored the park's early history, explaining its landscape, its early peopling and historical land use. The narrative then concentrated on the first five years of the park's existence, from its inception in 1977, under the aegis of Agricor, Bophuthatswana's rural development agency, to 1984, when responsibility for the park was given over to Bophuthatswana National Parks, a parastatal agency, and a new era began.

The article contended that 1984 is an appropriate date on which to conclude the early history of the Pilanesberg National Park (PNP) because it was then that the experimental phase of the park ended: its infrastructure was sufficiently developed to offer a satisfactory visitor experience, the management plan was revised, its bureaucratic structures were consolidated and an attitude survey amongst the local community was undertaken. Embedding the originating period of the PNP in its historical, political and socio-economic context, the paper foregrounded those elements in the park's beginnings that were new in the southern African protected area arena. Thus, elements that relate to socio-politics, landscape and ecological design and restoration, and early relations with neighbouring communities were emphasised. This paper has been written by an historian and is therefore conceptual and historical, conforming in language and structure to the humanities style (environmental history). It relies on published and unpublished literature and oral information and the critical evaluation of these sources.

**Conservation implications:** The pioneering example of the PNP as a protected area is relevant to the field of conservation science because, as human population densities increase, as the tourism sector develops, as marginal farmland becomes available for new uses, and as it becomes important to include neighbouring communities in conservation activities, a study of this park's early history and socio-political and economic context may be of assistance in the development of similar projects elsewhere in South Africa and beyond.

## Introduction

Conservation managers and wildlife biologists in southern Africa are familiar with the fact that national parks and other protected areas are often advertised and marketed as 'unspoilt nature', although they are, in fact, manipulated to meet objectives such as tourist satisfaction, carrying capacity, pasture and biodiversity management together with a variety of other key goals that may change over time. It is also true that many protected areas are far from being 'pristine wilderness' unaffected by past human activities, but are the consequence of 'fortress conservation' (Brockington 2002) and the people (or their descendants) who were removed, often forcibly, in the interests of wildlife conservation have grievances that play out in the political arena. Because of the human dimension involved in land use and present management, protected areas are not neutral spaces or landscapes without history; they are definitively shaped by their pasts.

The Pilanesberg National Park (PNP), situated in what is today the North West Province of South Africa, was established in 1977. At the time, the area formed part of the western Transvaal (a province of South Africa until 1994) in an African reserve that was about to transform from an apartheid Bantustan consisting of a number of 'Tswana homelands' into Bophuthatswana,



nominally an independent state, an enclave within White South Africa. It is an unusual national park from both points of view mentioned earlier. This particular area did not appear 'natural' at the time of its foundation. It was fully recognised to be property that had been heavily utilised and altered by many groups of people over the preceding centuries. It was deliberately and carefully redesigned as a national park, being restored ecologically from farmland and into which a wide variety of indigenous animals were reintroduced. Once the White farmers had been expropriated (as will be explained at a later stage), the African people who returned to live in the Pilanesberg were not to be forcibly removed as had been the case elsewhere; rather, their consent was sought and they were promised that the establishment of the national park would not be to their detriment but to their economic advantage. Indeed, the very rationale of the PNP was that it was to become an engine of regional economic development.

## Pilanesberg landscape and early politics

Some 50 km north of the town of Rustenburg lies the root zone of an extinct volcano – roughly circular, some 572 km<sup>2</sup> (c.50 000 ha) in extent and measuring between 23 km and 28 km in diameter. It appears as a complex series of eroded rings of low mountains and hills that rise approximately 300 m – 600 m above the surrounding land. There is one perennial river and a number of freshwater and saline springs; however, the largest permanent body of water is Mankwe Dam (covering an area of approximately 2 km<sup>2</sup>), which was constructed by White farmers in the late 1950s. The climate is benign; the average rainfall is 600 mm – 700 mm per year, although there are regular droughts (Farrell, Van Riet & Tinley 1978; McCarthy & Rubidge 2005; Mucina & Rutherford 2006). In terms of vegetation, the Pilanesberg is significant because it is a transition zone between the Arid Savanna and the Moist Savanna Biome. Owing to the complex substrate, there is a wide variety of landscapes and habitats for both plants and animals (Farrell *et al.* 1978; Mucina & Rutherford 2006). This landscape within the crater is aesthetically attractive and was the subject of comment by many 19th century travellers and explorers, amongst them Thomas Baines, who painted the ring of hills in 1869 as he journeyed into what is now Botswana.

The region had been inhabited continuously by Tswana-speaking people probably for many centuries. At the time of permanent White settlement in the mid-19th century, the Bakgatla baKgafela clan lived in the Pilanesberg area under their chief Pilane (d. 1850), who gave his name to the modern district. According to Makgala (2009) and Mbenga (1996), this community can also be referred to as the 'Kgafela-Kgatla', 'Bakgatla-baga-Kgafela' or 'Bakgatla-ba-ga-Kgafela' – meaning the 'Kgatla people of Kafela' in various forms of the Tswana language. Kgafela was the *kgosi* (chief) who originally gave his name to the community. The current head of the clan is Kgosi Kgafela II, who resides in Mochudi, Botswana, whilst Kgosi Nyalala Pilane leads the group at Saulspoort.

The Bakgatla was one of the few groups that did not resist the arrival of the Boers but became their allies, assisting them in exploits of war and ivory-hunting. Their association with White settlers and access to firearms enhanced the Bakgatla powerbase and enabled them to increase their cattle herds and vanquish some of their local rivals and enemies. In later decades, however, the Bakgatla lands were commandeered and carved up into settler farms on which the Bakgatla became rent-paying or labour tenants. Many of the community settled at Saulspoort (Breutz 1953; Makgala 2009; Manson & Mbenga 2009; Mbenga 1996, 1997; Mbenga & Morton 1997; Morton 1992, 1995; Schapera 1953). In 1913, the *Natives Land Act (Act No. 27 of 1913)*; Union of South Africa) confined Black South Africans to very limited areas of the country and, in 1936, the *Native Trust and Land Act (Act No. 18 of 1936)*; Union of South Africa) attempted to provide more land for Africans by designating 'released areas' that were to be purchased by the South African Native Trust and added to the African reserves. The Pilanesberg was one of these released areas and the White-occupied farms were very slowly expropriated until the exercise was complete in the early 1960s. The Bakgatla were thus allowed to return to their ancestral land. In 1961, the growing severity and oppression of apartheid politics affected the Pilanesberg directly when it became a designated 'Tswana homeland'. During the 1970s, these various Tswana homelands were consolidated into a number of islands within White South Africa and became the 'independent nation' of Bophuthatswana in 1977. Regional politics were fraught. Tidimane Pilane, *kgosi* of the Bakgatla, and Lucas Mangope, head of the Bahurutshe clan, were rivals, Pilane supporting the African National Congress (ANC) and Mangope the apartheid state (Butler, Rotberg & Adams 1977; Jones 1999; Lawrence & Manson 1994).

## Origins of the Pilanesberg National Park – The 1960s and 1970s

The principles underlying wildlife and conservation management in southern Africa were changing during the 1960s and 1970s (Carruthers 2007a, 2007b, 2008). In terms of philosophy, the idea of utilising wildlife sustainably by cropping and translocation gained ground in parts of Africa, replacing an older tradition of strict preservation. At the same time, there were technical improvements in the transporting and immobilisation of wild animals that led to the easier movement and sale of wildlife (Dasmann 1959, 1964; Dasmann & Mossman 1960, 1961; Eltringham 1984; Johnson *et al.* 2008; Mossman & Mossman 1976). In conjunction with Bophuthatswana politics, these developments were relevant to the formation of the PNP. Indeed, the park could not have come into being in a pre-translocation and pre-game sales era.

Apartheid social planning gained momentum during the 1960s and there were government initiatives to make the Bantustans more self-sufficient economically and thus able to sustain a larger number of Black Africans outside of 'White' South Africa, with a view to separating the homelands permanently from the other 'White' parts of the country. In



1969, there was a recommendation from 'apartheid's social engineers' – a 'Potchefstroom-based team of "development experts" commissioned to find ways of enhancing the economic viability of an "independent state"' (Van Onselen 1996:477) – that the crater be made into a recreation resort and nature reserve. However, for reasons that are unclear, nothing came of the idea at the time, but it was raised again in 1973. The following year Mangope established a feasibility study (Brett 1989; Johnson *et al.* 2008; Magome & Collinson 1998). The matter received a boost when the Southern Sun Hotel Group – which, through managing director Sol Kerzner, had close ties with the Bophuthatswana president and his government – finalised a plan to build a casino and hotel resort in the Pilanesberg (to be named 'Sun City') that would bring revenue into the region. At a time of strict petrol rationing and thus the curtailment of long-distance motor car travelling, it was expected that a game reserve adjacent to the hotel would provide an added attraction for tourists from Johannesburg and Pretoria, who would flock to Sun City for the kinds of entertainment not available in White South Africa, such as multiracial mingling, soft pornography and gambling. Having first considered the location of Mankwe Dam for the hotel, the facility was relocated to its present site and construction began in 1978 (Bureau for Economic Research re Bantu Development [South Africa] 1978; Boonzaaier pers. comm., 01 March 2010).

After gaining independence, Bophuthatswana established a number of organs of state. One of these was a parastatal development body tasked with promoting rural self-sufficiency. Named the Agricultural Development Corporation (Agricor), this body fell under the Bophuthatswana Department of Agriculture and was to play a decisive role in the establishment of the PNP. Through its managing director, David Beuster, Agricor raised the funds for the game reserve and, despite the fact that many Bakgatla people and livestock lived in and used the crater, and that it contained numerous farm houses, roads, dams and fences, the Pilanesberg was formally proclaimed a nature reserve in 1977. It is worth emphasising that Agricor, a parastatal body specifically responsible for economic and community development in the rural sector, was given the administration of this future national park rather than the Department of Nature Conservation, because it was regarded as a rural improvement project and not a nature conservation exercise.

What was audacious for the period was that Beuster and Mangope employed landscape architects to design this game reserve adjacent to Sun City. The firm that was instructed to act as consultants to draw up a management plan was Farrell and Van Riet, Landscape Architects and Ecological Planners, then a recently established Pretoria-based company, and it was instructed to act as consultants and to draw up a management plan. By the time he established the partnership of Farrell and Van Riet, Willem van Riet was a leader in the field of landscape architecture in South Africa and he was primarily responsible for linking landscape architecture with ecological planning in the country. Van Riet had initially

qualified as an architect at the University of Cape Town but thereafter, from 1972 to 1975, he had benefited from studying at the University of Pennsylvania under Ian McHarg, the renowned landscape architect and author of *Design with nature* (1971), a book that is widely regarded as one of the most influential of the 20th century (Schnadelbach 2001). In his autobiography, McHarg explained that the genesis of *Design with nature* lay in a meeting between himself, Russell Train, the President of the Conservation Foundation and Ray Dasmann, a noted ecologist and the Foundation's chief scientist. Apparently, Train said, 'Ian, Ray and I have decided that the time has come for a book on ecology and planning' and McHarg agreed to write it (McHarg 1996). Train and Dasmann were correct: the book was perfectly timed and widely used and quoted. In *A quest for life* (1996), McHarg describes landscape architecture as a discipline very close to nature and its preservation and he was particularly keen to encourage planning that was appropriate to specific environments. McHarg sought out trained architects such as Van Riet for his postgraduate landscape architecture programme, providing not only a stimulating academic environment but substantial financial subsidies (McHarg 1981). In this way, and through Van Riet, ideas around ecologically apt planning and design from the USA made their way into southern Africa.

Sharon Kingsland argues that the science of nature reserve design emerged in tandem with the interdisciplinary field of conservation biology. She explains that the basic rationale for such design is to protect biodiversity, using ideas from island biogeography, prioritising conservation of the indigenous species of plants and animals of the area, and employing operational research and mathematical techniques for linear programming (Kingsland 2002a, 2002b). If this is the norm, then the Pilanesberg was highly unusual because the biodiversity had been totally compromised by farming activities and there were extremely few remaining indigenous plants and animals – certainly large mammals had become locally extinct. The creation of the Pilanesberg involved little conservation biology and focused, at first, entirely on ecological restoration and landscape design. The national park emerged from the collaboration between Van Riet and Ken Tinley, a young ecologist who had also been inspired by McHarg. As a university student, Tinley advocated McHarg's *Design with nature* to his contemporaries (Huntley 2010). Tinley was one of an emerging new generation of wildlife ecologists in South Africa (many of whom were educated at the University of Natal). In partnership with Van Riet, he worked on a number of nature reserves, particularly in the 'homelands', where there was scope for new ideas because the reserves in these localities were not in the control of the various philosophically and bureaucratically entrenched provincial nature conservation authorities or the National Parks Board. These included locations in Pondoland (including Mkambati), in Maputaland and in the Gorongosa National Park in Mozambique, as well as private game reserves (Farrell & Van Riet Landscape Architects and Ecological Planners 1975; Tinley 1978; Tinley 2010; Van Riet 2010).



Van Riet and Tinley were employed to design the PNP and they presented their report in 1978. What they suggested was somewhat revolutionary in the context of southern African national park and game reserve planning and it marked a strong contrast to the fortress conservation and wildlife management practices that then held sway. Entitled 'Pilanesberg National Park: Planning and management proposals for Department of Agriculture, Republic of Bophuthatswana' (Farrell *et al.* 1978), this is an important document and worth summarising in some detail. The report began with what was a provocative premise in an era of fortress conservation: that any conservation measure would ultimately be futile unless wildlife and nature could deliver tangible, visible benefits to humans within a particular socio-economic and geographical milieu. In other words, the survival of wildlife in Africa was dependent on rural African people. Van Riet and Tinley (Farrell *et al.* 1978) argued that protected areas should not be viewed in isolation, but in their regional ecological and economic contexts as productive primary (ecological services) and secondary (tourism, education and wealth-creation) landscapes. The report paid particular attention to wildlife as a source of protein, as well as of traditional medicine and other natural products that might be sustainably harvested by local people, together with wildlife tourism being a source of employment and income.

These principles were in sharp contrast with those espoused by, for example, the National Parks Board (now SANParks) that were focused on settler values that emphasised White, middle class tourist recreation and created places in which:

lessons in tidiness, adherence to and acceptance of rules and regulations ... [were taught] [where] people can be disciplined not to litter, not to pick flowers ... [and that generate] tranquillity ... so desperately needed in a world where people are caught up in the tensions of city life.

(Knobel 1979:233)

In contradistinction to this viewpoint that urban visitors and romantic ideas of wilderness were the focus of nature conservation initiatives, Tinley (1979) had expounded the philosophy that the regional context of any conservation project was decisive. He strongly believed that the needs and aspirations of rural people were paramount and argued on the basis that many conservation departments throughout Africa:

have based their activities on the dogma that tourism and wildlife conservation are two sides of the same coin. Thus staff and funds are used mostly for catering and tourist facilities and the natural areas become filled with urban nuclei to justify the existence of parks. In this way conservation departments continue to be directly responsible for despoiling the last wild places for which they are custodians.

(Tinley 1979:33)

The Pilanesberg was to be different and the aim was to reflect a new vision of conservation practice in Africa.

Not only did they introduce the radical idea of using national parks sustainably as engines of regional development sensitive to local community needs, Van Riet and Tinley also introduced a novel concept of planning and design (Farrell

*et al.* 1978). After surveying the geomorphology and other aspects of the landscape, habitats and vegetation cover, their report proposed that in order to maximise wildlife viewing in the small area and utilise it to the best advantage, all major tourism facilities should be located on the boundaries of the park, thus preserving the interior of the crater from unsightly camps, restaurants and other amenities. This peripheral development was different from other national parks and game reserves which had normally sited major visitor accommodation within the protected area itself. Moreover, using the internal watersheds as ecological borders, Van Riet and Tinley suggested dividing the crater into seven (later reduced to five) distinct activity zones. There would be zones for trails, hunting, visitors, wilderness, special use, multiple use and peripheral development. There would be no roads or amenities in the wilderness and special use zones and a buffer zone would separate these two from the resource utilisation areas, the rest camps and the intensive use areas. There were specific recommendations for planning and using each of these zones so that activities would harmonise with each other (Farrell *et al.* 1978).

The Pilanesberg project was highly unusual in that Van Riet and Tinley had a free hand and a flexible institutional, bureaucratic and policy environment within in which to work. They were not burdened with an entrenched public service, hidebound politicians, an historical legacy of preservation philosophy, or outdated or ill-sited roads and other tourist amenities (Child 2008). Moreover, the Pilanesberg crater, with its rings of hills that hid the plains and human developments beyond from view, was the ideal topography in which to recreate a natural-looking environment. Whilst at the start there were cultivated lands, evidence of stock grazing and farmsteads, alien vegetation, roads, and so on, once these – and the people – were removed, the crater presented an almost clean slate for design. A list of appropriate mammals that should be introduced was provided in the section on 'Management proposals' (Farrell *et al.* 1978) and appropriate herd sizes given. Also departing from the then accepted norm in managing protected areas, Van Riet and Tinley made provision for trophy hunting and prioritised environmental education. In short, the report designed a 50 000 ha national park, literally from the bottom up.

## Pilanesberg National Park 1978–1983

In the opening chapter of their report, Van Riet and Tinley had made strong statements about the holistic philosophy of sustainable national parks and the role of local people within them, but, on the whole, they focused on planning the future ecological management of the PNP (Farrell *et al.* 1978). It appears that they assumed that politicians and sociologists would take care of the human and community dimensions of the enterprise. Unlike other national parks and protected areas in South Africa that had involved forced removals, the idea for the PNP was that the Bakgatla would participate in decisions about the new national park, vacate the crater area



voluntarily, contribute to its social and economic planning, and to its management thereafter. In this regard, the fact that the new Bophuthatswana 'nation' planned a national park was important in terms of nation-building, and the Pilanesberg was to be the public demonstration of these 'civilised', modern and international values (Carruthers 1997).

Early in 1979, negotiations were completed between Van Riet and Tidimane Pilane and, in turn, between Pilane and the other Bakgatla chiefs (Keenan 1984). The Bakgatla, through their *kgosi*, agreed to surrender their grazing and land rights in the crater. Just how 'voluntary' this agreement was, has later been hotly contested in a land restitution claim instigated by the Bakgatla who aver that they were strongly coerced by the 'strong-arm tactics' employed by Mangope and his officials (Mbenga 2011) who were determined to steamroller the game reserve through for the benefit of Sun City and its supporters. In any event, the Bakgatla did not control the entire Pilanesberg crater. The national park consisted of freehold land of 8500 ha, obtained directly from the resident Bakgatla (viz. Schaapkraal, Welgeval and portions of Legkraal, Koedoesfontein, Kruidfontein, Saulspoort, Rooderand and Doornpoort), whilst some 4500 ha came from a newly arrived group, the Bakubung, namely Wydhoek and portions of Ledig and Koedoesfontein. In addition, 1000 ha was obtained from private owners and the rest – the majority of the property – consisted of 46 000 ha of state land that had been expropriated from White people by the Department of Bantu Affairs (as explained earlier) to augment the paucity of land allocated to Africans (Keenan 1984:14).

The Bakgatla apparently acquiesced in their relocation from the Pilanesberg crater on the basis that they would be allocated two nearby state farms to replace their lost communal grazing and that they would be fully compensated for the land and structures that were required by the national park. In addition, they would be recompensed for the full costs of removal and also retain the right to enter the reserve in order to visit graves and to collect firewood, thatching material and medicinal plants. Moreover, they were promised an (unspecified) portion of entry ticket sales and Tidimane Pilane was to be appointed onto the national park's governing and management board of trustees, thus ensuring a Bakgatla a voice in a form of joint management (Magome & Collinson 1998; Makgala 2009). It was unfortunate that these agreements were both informal and verbal and thus neither effectively witnessed nor formally contractual (Van Riet 2010). Subsequently, it emerged that Pilane, a political opponent as has been previously explained, had been threatened by Mangope with eviction from other state land if he did not agree to the PNP proposal (Keenan 1984:16–17). Moreover, in later years, complaints surfaced that Pilane, who was not a universally popular leader, had not adequately consulted with the rest of the community (Makgala 2009:33–335) and thus did not speak for everyone. Today, there is considerable sophistication in all quarters when consulting communities affected by national parks and other protected areas, but at the time of the PNP's establishment there were no protocols

to follow and no mechanisms for predicting or resolving disputes or difficulties that might arise between the various parties involved. There were no such examples to follow in the 1970s and in the absence of experience on the part of Van Riet and the Bakgatla – and in the context of high apartheid and Mangope's dictatorship – many details were left vague or unrecorded.

One needs to recall, however, that the Bakgatla were not the only people affected by the establishment of the PNP. Whilst Tidimane Pilane, as a traditional *kgosi*, was in ostensible control of Bakgatla 'communal land', the farm Welgeval inside the crater was inhabited by a community of long standing in the area, who owned part of the property in their own right. They agreed to relocation, provided they were fully compensated and this agreement was formally documented. It is on the basis of this written evidence that the Welgeval community has subsequently been awarded a land restitution claim on this farm and the land has been leased back to the PNP (Manson & Mbenga 2009). Many other local people were also not consulted, presumably either because they were considered to be fractured groups without leaders to give them voice, or perhaps because they lived on the borders of the Pilanesberg rather than within it, or, even, perhaps because they were Mangope dissidents and were thus ignored. Thus many people were dissatisfied with, and disadvantaged by, these arrangements. For example, the farm Ledig (south of the Pilanesberg) was occupied by the Bakubung, part of a disunited Tswana-speaking group that had been forcibly removed from the outskirts of the small town of Boons where they had formed a 'black spot' within White South Africa and were therefore obliged to relocate in the late 1960s. They used the crater for grazing their cattle and goats. Apparently, as far as these people were concerned, 'care was taken to ensure that all talk of the project was kept away from the Bakubung notables and strictly confined to official circles' (Van Onselen 1996: 477). Soon, without warning, there were reports of 'a giant game fence snaking across the Pilanesberg', and excluding them and their livestock (Van Onselen 1996: 498).

There were also large numbers of non-Tswana Nguni-speakers, many of whom had also been forced into a homeland from urban areas or White farms, who also had to make use of the Pilanesberg for their survival.

It seems evident from oral sources and later comments that, whilst negotiations and participation had occurred at top political levels, the views of ordinary people had neither been sought nor taken into account. This particularly included those who were not part of the formal 'tribal' structures of the district, newcomers and outsiders and who perhaps would pay the heaviest price in terms of losing access to land and livelihood opportunities (Keenan 1984:39–43).

Owing to its bold conception and future plan, the Pilanesberg project received considerable local and international publicity. Local people were negative about the creation of the PNP because it impacted directly on their lives, whilst many scientists and conservationists were critical of its



ambitious 'Operation Genesis' – the mass reintroduction of many species of wildlife. Added to the difficulties (and the adverse publicity) was that development and administration did not proceed smoothly. The personnel was generally incompetent and many officials of Agricor lacked experience and, for this and other reasons, they were either removed from their posts or encouraged to resign (Brett 1989:112). It was only in October 1980 that Jeremy Anderson, whose doctoral research in Zululand and subsequent study on lion management in the Umfolozi Game Reserve (Natal) had gained him a reputation as a capable and knowledgeable wildlife manager, was employed by Beuster as director. Anderson – with his scientific expertise, energy, enthusiasm and familiarity with the new scientific thinking emanating from East Africa – was tailor-made for the job (Boonzaaier pers. comm., 01 March 2010). Anderson was joined by Willem Boonzaaier, previously employed in the private sector, as chief administrative officer to handle the financial side of the operation. Between them, they appointed qualified and appropriate staff, including ecologists Roger Collinson and Peter Goodman in 1981. Those involved in these early days recall the magnetism of being associated with what was then an experimental nature reserve, of working in a multiracial environment, and of encountering the dominant personalities and interesting characters who sought to put Pilanesberg on its feet (Owen-Smith, Magome & Grossman pers. comm., 01 January 2011).

The success of the PNP was predicated on that of Sun City, and the resort prospered to the extent that it was expanded in 1981 and again in 1984. The close friendship between Kerzner and Mangope meant that the Bophuthatswana political elite in the Mangope government were extremely supportive of the Sun City development, as was the South African regime; however, Tidimane Pilane was less enthusiastic for a number of reasons. Firstly, he was a member of the opposition party, an ANC supporter with a different vision for the country's future, and he disagreed with many of the policies of the Mangope government. Secondly, he believed that Sun City offered no benefit to local people because employment in the resort went to outsiders to the district (Makgala 2009:322–323), a grievance shared by the Bakubung. Thirdly, tourist revenue, one of the major reasons why the Bakgatla had agreed to vacate the crater in favour of a national park, was minimal, despite the promises that visitors from Sun City would flock to the reserve, and no financial gain came their way.

The PNP was also criticised because wildlife introductions had not gone as smoothly as planned. Owing to the fact that some species were being given away freely by South African conservation bodies that had problems of over-stocking, whilst others were inexpensive to acquire, the Pilanesberg became stocked with an incorrect balance of wild animals. This resulted in some habitats being inappropriately modified because of over-grazing, leading to even further reduction in biodiversity and condemnation from local and international scientists (Van Aarde 2010). For reasons of veterinary and disease control, it was difficult to obtain appropriate species

because wildlife movements were curtailed from places in which cattle diseases were endemic. Wildlife therefore had to be sourced from disease-free populations a long distance away, such as Namibia or the Eastern Cape, and transport was thus extremely costly. Additionally, because adult elephant males can pose a danger during the capture and transport process, fewer of them were translocated in comparison with females and young and thus subsequent breeding success was low and herd sizes and composition were skewed (Garai *et al.* 2004; Hancock 1983). The mixing of gene pools was also a matter of scientific concern. Some introductions were made before the fencing was complete and animals were kept in a holding camp that was too small, which resulted in many animal deaths once the grazing inside the camp was depleted (Collinson & Anderson 1984:169–70).

These introductions of large mammals were extremely costly and the Bophuthatswana government was not able to fund them. The money came from the South African Wildlife Foundation (SAWF), founded in 1968 by Afrikaner business magnate Anton Rupert, who was a trustee of South Africa's National Parks Board and who had close ties with the National Party. In 1979, Rupert presented the PNP as a project to the World Wildlife Fund International and the International Union for the Conservation of Nature and received approval to fund it (Schwarzenbach 2010). Given Rupert's personal belief in cultural and linguistic ethnicity, assistance to the 'nation' of Bophuthatswana through the SAWF was entirely in character. Indeed, Bophuthatswana may have held special significance for the Rupert family, for his wife, Huberte (née Goote), came from the western Transvaal and she spent some years at Derdepoort on the Botswana border (Domisse 2005:353).

As can be appreciated from the aforementioned explanations, the early years of the PNP presented huge challenges to those involved. There was no existing institutional policy framework – either scientific or bureaucratic – within which to operate. Whilst this meant freedom from precedent, it also meant that the enterprise moved slowly. Owing to the limited number of rangers and labourers that could be employed, the process of restoring a natural environment – a 'mammoth task' that Hancock (1984) referred to as 'renaturalisation' – was extremely slow. Anderson (pers. comm., 23 February 2010) recalled that in terms of basic infrastructure virtually nothing in existed and a perimeter fence, off-loading ramps, translocation stations, bomas, feedlots and pens had all to be constructed by the small staff. More than 1000 km of internal farm fencing had to be removed, as had the many solid concrete cattle dips, farm reservoirs and windmills, about 30 large farmhouses and over 100 smaller houses, outbuildings and huts. These were bulldozed and the rubble was used to fill large dongas (Hancock 1984). Borrow pits, landscape scars and old lands had to be rehabilitated and general farming detritus (e.g. old vehicles and heavy, rusted implements) cleared. Invasive alien plants were abundant, not only jointed cactus (*Opuntia* spp.), but huge old trees, especially Australian eucalypts – all these had to go, some being felled, others poisoned (Anderson pers. comm., 23 February 2010; Hancock 1984).



In addition, there was no living or office accommodation for game guards, management or labourer staff or for stores. Prefabricated buildings were erected to meet some of these needs but, for a few years, all management personnel and their families lived in caravans. Workshops and vehicle maintenance points were also needed. The construction of permanent buildings, game-viewing hides and visitor amenities such as camps and entrance gates proceeded slowly, as did re-siting of roads to make them suitable for game drives (old straight farm roads had to be obliterated). The local staff was unskilled and thus training, education and mentorship had to be provided. At this time there was no regular telephone communication in the park and only radio phones could be used – a scarce and expensive resource (Anderson pers. comm., 23 February 2010).

Veld and wildlife monitoring systems also had to begin anew and proceed in tandem with applied management tools such as a burning regime. Jules Turnbull-Kemp, a senior game ranger recruited by Agricor from Rhodesia, and who later became warden of the PNP, was responsible for receiving the wildlife introductions. At the time, there were no formal studies to assist with determining the ability of different species to survive or thrive on old farmlands and only by observation and experience did it emerge how animal populations coped with, and altered with, the recovery and restoration of the habitat (Turnbull-Kemp pers. comm., 01 March 2010).

Because large-scale models (such as the Kruger National Park) could not be applied to a small area like the PNP, fire policy also had to be determined from scratch. An innovation in terms of management philosophy was that stocking was carried out at a high rate (i.e. many animals at one time) so that the take-off rate (reducing numbers through hunting) was optimised as soon as possible (Turnbull-Kemp pers. comm., 01 March 2010). Not surprisingly given the dearth of wildlife and abundant unsightly evidence of former fields, houses and roads in the crater, tourism did not take off quickly, indeed tourists were not encouraged for a number of years until a 'satisfactory game viewing experience' could be guaranteed (Hancock 1984). Anderson had doubted that gate revenue from day visitors (which was to be the major source of income for the Bakgatla) was ever likely to produce any substantial income (Boonzaaier pers. comm., 01 March 2010) and so took the decision to introduce trophy hunting to generate some immediate income.

Because the PNP was an Agricor initiative, and was the only project of this nature in its stable, the administrative and financial arrangements were as independent as – and could be as experimental as – those of the conservation management. As administrative officer, Boonzaaier adapted commercial systems to the park's requirements. There was no model to follow: the park had to be up and running as quickly and profitably as possible. The first question was: where was an initial income to come from? In this regard, wildlife management and administration were able to dovetail. Anderson's idea of revenue-producing trophy

hunting could only take place if there were surplus animals to shoot. To determine the optimum stocking rate that would be needed to manipulate species numbers to obtain the best returns, Anderson, Collinson and Boonzaaier designed a complex model to determine how many (and which) species were required to profit most from game sales, hunting, meat production or tourist viewing. Wildlife populations were therefore predicated on formulas that demonstrated the best return on investment, per land unit (Anderson pers. comm., 23 February 2010; Boonzaaier pers. comm., 01 March 2010). The PNP's management was innovative because, instead of a few wild animals of various species being introduced and then allowed slowly to build up their numbers, large populations were introduced at the start and thus numbers increased very quickly, providing a surplus after only a year or two in the case of some species (Anderson 1986). Very careful records of net production versus utilisation were maintained. These calculations were novel because they were being made for the first time in a protected area: wildlife was being taken into account as a financial asset, not merely a 'nature conservation' ethical good. Just as cattle and game farmers entered their herds into their accounting books and measured the profit from them, so too did this national park (Boonzaaier pers. comm., 01 March 2010; A more detailed history of wildlife management and conservation science in the PNP will be the focus of a later paper by the present author.)

However, all these developments took time. Moreover, the early 1980s saw one of the subcontinent's worst droughts of the century. This meant that the rehabilitation and restoration of the PNP grasslands and vegetation took far longer than anticipated; it also meant that the displaced Bakgatla and others were short of grazing on the farms to which they had been relocated and many looked longingly at the recovering (albeit slowly) veld in the PNP that had been free of grazing cattle for a few years (Manson & Mbenga 2009). During the drought, mobile PNP animals wrought havoc on properties outside the reserve. Baboons, in particular, climbed over the perimeter fences and ravaged the maize fields of neighbouring Black communities in Ledig and elsewhere (Van Onselen 1996:510).

## The process of revision 1983–1984

By 1984, despite obstacles and slow progress, it could be said that the PNP was maturing and that it had come to a stage when an overall review to guide its future strategic direction was required. In that year, a new management plan was devised, the Bophuthatswana National Parks Board was founded and a community relations survey was conducted.

Considerable experience had been gained by park management during the five years since the park's opening and the PNP began to meet some of its objectives. As Hancock (1984) described in response to those 'wondering exactly what, if anything, has been happening in the Pilanesberg', during this time the park had been fenced, the landscape rehabilitated, buildings razed and obliterated, tourist



roads constructed, wildlife introduced, two visitor camps constructed and foot safaris and trophy hunting operated satisfactorily. It seemed that the experimental phase was ending and that consolidation and review was needed (Collinson & Goodman 1982). Tinley was not involved in the re-planning process as he had left South Africa by that time. The new report, 'A five year development plan for Pilanesberg National Park as requested by the Bophuthatswana Government and the Bophuthatswana National Parks Board, September 1983', was authored by Willem Boonzaaier, Roger Collinson and Willem van Riet. Because the construction of tourist facilities within the national park had been so slow and the project had been so costly, these managers feared that the investment of the previous five years in management, rehabilitation and wildlife introductions might be wasted unless clearer objectives were re-established. The primary goal of the PNP was stated to be to 'maintain and where necessary create an ecosystem comprising a biota of as wide a variety of indigenous plant and animal species' as possible (Boonzaaier, Collinson & Van Riet 1983). The secondary objective was defined as 'to utilise the area and its natural resources in ways that will yield the greatest benefits to Bophuthatswana and its people, both now and in the future' (Boonzaaier *et al.* 1983).

The multiple zoning of the initial plan had proved to be too complex to manage effectively. Boonzaaier, Collinson and Van Riet thus recommended re-zoning the park into two overarching types of areas, a 'managed natural area' and a 'natural environment recreation area,' each subdivided into zones. Within a 'managed natural area' (i.e. well within the park's boundaries), accommodation would be limited and cater for very small groups, with the only permissible activities being walking on designated trails and trophy hunting. The 'natural environment recreation area' would be devoted to general visitor and multiple uses and would include peripheral development at the Manyane, Bakubung and Bakgatla gates. However, these plans would be extremely expensive and the park would probably continue to run at a loss whilst development proceeded through various phases (Boonzaaier *et al.* 1983).

The year 1984 was also significant because the overall managerial and bureaucratic structures of the park were altered when a National Parks and Wildlife Management Board for Bophuthatswana was created along the lines of a parastatal to manage the PNP. This new structure, which was formalised in 1987 with the *National Parks Act (Act No. 24 of 1987; Bophuthatswana Government)*, resulted from the merger of the Division of Nature Conservation of the Department of Agriculture and Forestry and Agricor, thus ending their somewhat competitive and even acrimonious relationship. The new national parks organisation, nicknamed BopParks, was to be managed by an appointed board. This move was significant because it meant that the PNP was now freed from its roots in a rural development organisation and was provided with a more conventional home within a Parks Board. This was to impact on its later trajectory.

The need to review, and if necessary to change, the objectives and management of the Pilanesberg in 1984 may also have been related to political and economic factors inherent in the Bophuthatswana state. At this time Bophuthatswana was economically stressed and, in fact, was experiencing 'an acute financial crisis' (Jones 1999, 2001). There was also growing political dissension and even violence as a rupture developed between the democratic and inclusionist policies of ANC supporters in Bophuthatswana, including Tidimane Pilane, and the Mangope faction, with its ideal of an ethnic Tswana nation in an artificially segregated South Africa (Jones 1999). Within the broader South (and southern) African political landscape, violence, revolutionary activities, harsh repression and military intervention were endemic and an atmosphere of tension was the order of the day. Many of the flashpoints thereof were in the so-called 'independent Bantu states'.

In this atmosphere of political turmoil it was clear that relations between the Pilanesberg's managers and the Bakgatla had deteriorated. The matter was aggravated by the fact that Tidimane Pilane was sidelined when he was not appointed to the BopParks board as he should have been in terms of the 'agreement' with Van Riet (Magome & Collinson 1998; Makgala 2009:321). This affront marginalised and offended the Bakgatla, who were ANC allies and thus opposed to Mangope's regime. Together with the fact that no monetary compensation was accumulating for the community (which is what they had been promised) because there were few visitors and thus little by way of gate fees, relations between the PNP and the Bakgatla were tense because of 'broken promises'. Perhaps the initial undertakings of beneficiation had been over-generous, but the Bophuthatswana government had apparently reneged on agreements about land and financial compensation to people the state regarded as political opponents. In terms of the breakdown in communication between neighbours and the PNP, Magome and Collinson (1998) believe that it owed much to the heavy demand for very rapid development and effective wildlife and administrative management, which meant that park authorities had little time to devote to nurturing community relationships.

In order to identify and address issues of concern, it was decided to conduct a formal survey of the attitudes of the local people to the PNP. In 1984, Jeremy Keenan, a sociologist then employed at the University of the Witwatersrand (and who did not disguise his anti-Bophuthatswana views), was tasked to report on community relations (Keenan 1984:5). Keenan and his researchers uncovered seriously negative perceptions of the national park at many levels. There was discontent over the verbal initial arrangements regarding the evacuation of the crater and inadequate financial and property compensation, particularly as cattle-rustling and other theft of property occurred during the removals. The Bakgatla perceived the administration of Bophuthatswana and its officials as 'dictatorial and deceitful' (Keenan 1984) and they alleged that farms intended for compensation had been given away to government ministers and Mangope





cronies. To demonstrate their discontent, they had decided that they wanted to take back their land in the PNP and, to this end, had begun a court action (Keenan 1984). The fact that Tidimane Pilane was a leading figure in opposition politics exacerbated the situation further. People involved at the time believe that the PNP was used to score political points in these oppositional politics at a time of unrest in South Africa, creating divisions even amongst BopParks staff members (Boonzaaier pers. comm., 01 March 2010).

However, despite the grievances and the misunderstandings about the function of a national park that were reflected, Keenan's report also indicated that there was some local support for the PNP and for its educational outreach programme in particular (Keenan 1984:67–74). Because the report was leaked to the media by Keenan himself, it attracted a great deal of attention that resulted in the managers of the Pilanesberg being caught in the middle of the fracas between the government and the Bakgatla (Magome & Collinson 1998).

## Conclusion

It is now nearly 35 years since the establishment of the PNP and if the argument here has been that circumstances had shifted so much in the first five years of its existence that a review was necessary, then how much more has the context changed in the 30 succeeding years. Not only did Bophuthatswana itself undergo violent revolutions in 1988 and 1994, which saw Lucas Mangope and all that he had stood for overthrown, but the Republic of South Africa itself underwent a peaceful democratic revolution in 1994 that totally transformed the political environment of the country. This had enormous repercussions through every organ of government, as well as impacting greatly on the socio-economic environment, including in the conservation arena. In the post-1994 'new' South Africa, the management philosophy, objectives and style have altered considerably in both the PNP and in other game reserves in what is now North West Province.

Nature conservation – although some argue that tourism income and economic beneficiation determines policy more than biodiversity conservation (Johnson *et al.* 2009) – has expanded in the North West Province and it has retained the use of 'national park' even though the region is no longer a separate 'nation'. Whilst governance of the protected areas in North West has shifted with the changing responsibilities of various provincial departments, thanks to the original mission of the PNP to assist rural development and upliftment, natural resource management as an income-generating, employment-creating and capacity-building exercise remains a high priority in the region. Despite the political uncertainties, the PNP had become successful by 1991 and the Bophuthatswana government then took over marginal farmland on the Botswana border, reclaiming and stocking it in the same way as PNP to create the upmarket Madikwe Game Reserve. After 1994, and the establishment of the North West Parks and Tourism Board (note the inclusion

of tourism in the name of this body) plans were to form a substantial heritage corridor that would link the protected areas.

Events subsequent to 1984 were extremely important and warrant further study. Moreover, the lessons learnt around ecological restoration and wildlife and conservation management require careful research and evaluation, as do their influence in other parts of South Africa. Nonetheless, it is instructive to reflect on how the creation and management of the Pilanesberg National Park during its early years introduced a number of fresh developments into South African natural resource design, management and conservation, some of which have become more important in the current protected area estate. Whilst not adopted universally, some of the experimental aspects of the Pilanesberg, including peripheral development, the consumptive use of wildlife in protected areas, the provision of a variety of visitor accommodation, community engagement and local empowerment, reclamation of farmland, translocation of wildlife, trained African senior personnel, environmental education, and a commercialisation and concession policy, have now become a part of modern conservation practice in both state-owned and private protected areas.

Research relating to how the innovations in landscape design, wildlife management and community issues later influenced developments in other protected areas is currently being undertaken by the present author and it is anticipated that another, more focused publication in this regard will result.

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## References

- Anderson, J.L., 1986, 'Restoring a wilderness: The reintroduction of wildlife to an African national park', *International Zoological Yearbook* 24/25, 192–199. doi:10.1111/j.1748-1090.1985.tb02538.x
- Bureau for Economic Research re Bantu Development (South Africa), 1978, *Bophuthatswana at independence*, Bureau for Economic Research re Bantu Development (South Africa), Babelegi.
- Boonzaaier, W.V., Collinson, R.F.V. & Van Riet, W.F., 1983, 'A five year development plan for Pilanesberg National Park as requested by the Bophuthatswana Government and the Bophuthatswana National Parks Board, September 1983', unpublished report.



- Bophuthatswana Government, 1987, *National Parks Act*, Bophuthatswana Government, Bophuthatswana.
- Brett, M.R., 1989, *Pilanesberg: Jewel of Bophuthatswana*, Frandsen, Sandton.
- Breutz, P.-L., 1953, *The tribes of Rustenburg and Pilansberg Districts. Ethnological Publications, No. 28*, Department of Native Affairs, Pretoria.
- Brockington, D., 2002, *Fortress conservation: The preservation of the Mkomazi Game Reserve, Tanzania*, James Currey, Oxford.
- Butler, J., Rotberg, R.I. & Adams, J., 1977, *The black homelands of South Africa: The political and economic development of Bophuthatswana and KwaZulu*, University of California Press, Berkeley.
- Carruthers, J., 1997, 'Nationhood and national parks: Comparative examples from the post-imperial experience', in T. Griffiths & L. Robin (eds.), *Ecology and empire: Environmental history of settler societies*, pp. 125–138, Keele University Press, Edinburgh.
- Carruthers, J., 2007a, 'Conservation and wildlife management in South African national parks 1930s–1960s', *Journal of the History of Biology* 41(2), 203–236.
- Carruthers, J., 2007b, 'Influences on wildlife management and conservation biology in South Africa c. 1900 to c. 1940', *South African Historical Journal* 58, 65–90. doi:10.1080/02582470709464745
- Carruthers, J., 2008, "'Wilding the farm or farming the wild": The evolution of scientific game ranching in South Africa from the 1960s to the present', *Transactions of the Royal Society of South Africa* 63(2), 160–181. doi:10.1080/00359190809519220
- Child, B., 2008, 'Recent innovations in conservation', in H. Suich & B. Child (eds.), *Parks in transition: Evolution and innovation in wildlife conservation: Parks and game ranches in transfrontier conservation areas*, pp. 277–287, Island Press, Washington DC.
- Collinson, R.F. & Anderson, J.L., 1984, 'Problems, principles, and policy in the reintroduction of large mammals in conservation areas', *Acta Zoologica Fennica* 172, 169–170.
- Collinson, R.F.H. & Goodman, P.S., 1982, 'An assessment of range condition and large herbivore carrying capacity of the Pilanesberg Game Reserve, with guidelines and recommendations for management', *Inkwe* 1, 1–55.
- Dasmann, R.F., 1959, *Environmental conservation*, John Wiley & Sons, New York.
- Dasmann, R.F., 1964, *African game ranching*, Pergamon, Oxford.
- Dasmann, R.F. & Mossman, A.S., 1960, 'The economic value of Rhodesian game', *Rhodesian Farmer* 30(51), 17–20.
- Dasmann, R.F. & Mossman, A.S., 1961, 'Commercial use of game animals on a Rhodesian ranch', *Wild Life* 3(3), 7–14.
- Domisse, E., 2005, *Anton Rupert: A biography*, Tafelberg, Cape Town.
- Drummond, J.H., 1990, 'Rural land use and agricultural production in Dinokana Village, Bophuthatswana', *GeoJournal* 22(3), 335–343. doi:10.1007/BF00711346, doi:10.1007/BF00192833
- Eltringham, S.K., 1984, *Wildlife resources and economic development*, John Wiley & Sons, Chichester.
- Farrell, Van Riet & Tinley, K.L., 1978, 'Pilanesberg National Park, Bophuthatswana: Planning and management proposals for Department of Agriculture, Republic of Bophuthatswana, August 1978', unpublished report.
- Farrell & Van Riet Landscape Architects and Ecological Planners, 1975, 'Planning and management proposals for the Dwesa Forest Reserve, Transkei', Prepared for the Department of Forestry and Nature Conservation, Umtata, unpublished report.
- Garai, M.E., Slotow, R., Carr, R.D. & Reilly, B., 2004, 'Elephant reintroductions to small fenced reserves in South Africa', *Pachyderm* 37, 28–36.
- Hancock, P., 1983, 'Elephant restocking at Pilanesberg', *African Wildlife* 37(6), 227.
- Hancock, P., 1984, 'Pilanesberg Game Reserve: Four years later', *African Wildlife* 37(1), 47–51.
- Huntley, B.J., 2010, email, 24 March, brianjhuntley@googlemail.com
- Johnson, S.R., Boonzaaier, W., Collinson, R. & Davies, R., 2008, 'Changing institutions to respond to challenges: North West Parks, South Africa', in H. Suich & B. Child (eds.), *Parks in transition: Evolution and innovation in wildlife conservation: Parks and game ranches in transfrontier conservation areas*, pp. 289–305, Island Press, Washington DC.
- Jones, P.S., 1999, "'To come together for progress": Modernisation and nation-building in South Africa's Bantustan periphery – The case of Bophuthatswana', *Journal of Southern African Studies* 25(4), 579–605. doi:10.1080/030570799108489
- Jones, P.S., 2001, 'The etiquette of state-building and modernization in dependent states: Performing stateness and the normalization of separate development in South Africa', *Geoforum* 33, 25–40. doi:10.1016/S0016-7185(01)00010-0
- Keenan, J., 1984, 'Report on the socio-economic effects of the Pilanesberg Game Reserve on the surrounding population and the attitudes of the surrounding population to the game reserve, University of the Witwatersrand, on behalf of the Pilanesberg Game Reserve, South Africa, 1984', unpublished report.
- Kingsland, S., 2002a, 'Creating a science of nature reserve design: Perspectives from history', *Environmental Modeling and Assessment* 7, 61–69. doi:10.1023/A:1015633830223
- Kingsland, S., 2002b, 'Designing nature reserves: Adapting ecology to real-world problems', *Endeavour* 26(1), 9–14. doi:10.1016/S0160-9327(00)01396-X
- Knobel, R., 1979, 'The economic and cultural values of South African national parks', in I. Player (ed.), *Voices of the wilderness*, pp. 230–239, Jonathan Ball, Johannesburg.
- Lawrence, M. & Manson, A., 1994, 'The "Dog of the Boers": The rise and fall of Mangope in Bophuthatswana', *Journal of Southern African Studies* 20(3), 447–461. doi:10.1080/03057079408708413
- Magome, D.T. & Collinson, R.F.H., 1998, 'From protest to pride: A case study of Pilanesberg National Park, South Africa', The World Bank/WBI's CBNRM Initiative, viewed 16 July 2007, from [http://srdisc.ciesin.columbia.edu/cases/south\\_africa-0003.html](http://srdisc.ciesin.columbia.edu/cases/south_africa-0003.html)
- Makgala, C.J., 2009, *History of the Bakgatla-baga-Kgafela in Botswana and South Africa*, Bakgatla-baga-Kgafela Tribal Administration, Moruleng/Saulspoor.
- Manson, A. & Mbenga, B., 2009, 'The evolution and destruction of Oorlam communities in the Rustenburg district of South Africa: The cases of Welgeval and Bethlehem, 1850s–1980', *African Historical Review* 41(2), 85–115.
- Mbenga, B.K., 1996, 'The Bakgatla-baga-Kgafela in the Pilanesberg District of the Western Transvaal from 1899 to 1931', D. Litt et Phil thesis, Department of History, University of South Africa.
- Mbenga, B.K., 1997, 'Forced labour in the Pilanesberg: The flogging of Chief Kgamanyane by Commandant Paul Kruger, Saulspoor, April 1870', *Journal of Southern African Studies* 23(1), 127–140. doi:10.1080/03057079708708526
- Mbenga, B.K., 2011, email, 10 January, bernard.mbenga@nwu.ac.za
- Mbenga, B. & Morton, F., 1997, 'The missionary as land broker: Henri Gonin, Saulspoor 269 and the Bakgatla of Rustenburg District, 1862–1922', *South African Historical Journal* 36(1), 145–167. doi:10.1080/02582479708671273
- McCarthy, T. & Rubidge, B., 2005, *The story of earth and life*, Struik, Cape Town.
- McHarg, I.L., 1971, *Design with nature*, Doubleday, New York.
- McHarg, I.L., 1981, 'Human ecological planning at Pennsylvania', *Landscape Planning* 8, 109–120. doi:10.1016/0304-3924(81)90029-0
- McHarg, I.L., 1996, *A quest for life: An autobiography*, John Wiley & Sons, New York.
- Morton, F., 1992, 'Slave-raiding and slavery in the Western Transvaal after the Sand River Convention', *African Economic History* 20, 99–118. doi:10.2307/3601632
- Morton, F., 1995, 'Land, cattle and ethnicity: Creating Linchwe's BaKgatla, 1875–1920', *South African Historical Journal* 33(1), 131–154. doi:10.1080/02582479508671851
- Mossman, S.L. & Mossman, A.S., 1976, *Wildlife utilization and game ranching: Report on a study of recent progress in this field in southern Africa*, IUCN, Morges.
- Mucina, L. & Rutherford, M.C. (eds.), 2006, 'The vegetation of South Africa, Lesotho and Swaziland', *Strelitzia* 19, 1–807.
- Schapera, I., 1953, *The Tswana*, International African Institute, London.
- Schnadelbach, R.T., 2001, 'Ian McHarg', in J.A. Palmer (ed.), *Fifty key thinkers on the environment*, pp. 228–241, Routledge, London.
- Schwarzenbach, A., 2010, email, 04 May, Alexis.swarzenbach@bluewin.ch
- Tinley, K.L., 1978, 'Mkambati Nature Reserve: An ecological and planning study, 1978', unpublished report.
- Tinley, K.L., 1979, 'The maintenance of wilderness diversity in Africa', in I. Player (ed.), *Voices of the wilderness*, pp. 230–243, Jonathan Ball, Johannesburg.
- Tinley, K.L., 2010, email, 20 September, kentintley@optusnet.com.au
- Union of South Africa, 1913, *Natives Land Act*, Union of South Africa, Pretoria.
- Union of South Africa, 1936, *Natives Trust and Land Act*, Union of South Africa, Pretoria.
- Van Aarde, R.J., 2010, email, 11 March, rjvaarde@zoology.up.za
- Van Onselen, C., 1996, *The seed is mine: The life of Kas Maine, a South African sharecropper 1894–1985*, David Philip, Cape Town.
- Van Riet, W., 2010, email, 26 March, wvanriet@ppf.org.za