Editors: Libby Robin, Chris Dickman and Mandy Martin


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All environmental concern, if not anthropocentric, is humanly generated, voiced, and valued. Ecology's mission is restoring not just ecosystems, but the human communities that sustain and are sustained by them.

David Lowenthal 2010
desert channels
THE IMPULSE TO CONSERVE

Edited by
Libby Robin, Chris Dickman and Mandy Martin
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Guy Fitzhardinge (left) and Richard Nelson, Cravens Peak Reserve, 2008. Photo: Angus Emmott.


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Image credits

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This is a book about the impulse to conserve. In a time of rapid global change, it considers what we want to conserve in our landscapes, our communities and our lives. The Desert Channels region is at the heart of this book, but we offer more than just a history and natural history of a large and region in south-western Queensland. Conservation demands that we assess what we value about a place – its biodiversity, its human history, its resources, its community. Each of these defines the edges of the ‘place’ differently.

The Desert Channels are the north-eastern reaches of the great arid zone that extends over 70% of the Australian continent. In this context, the region is the part of the Australian arid zone where all desert rivers rise before draining away towards the great depression of Lake Eyre. From a continental perspective, the deserts of Australia are ecologically driven by fire in the west and water in the east. The braided channels of our region create that difference. In the western shield, there are no rivers or big flood-outs. Waterholes are patchy and more ephemeral than in the east, where irregular but large and dramatic floods make for richer ecological resources. Grasses, trees, animals and people of the desert all depend on floods in the east. Plants and animals are not conscious of political borders (except where they are fenced). And for tens of thousands of years before British settlement, the national boundaries within continental Australia were defined very differently by Aboriginal groups. Sometimes political boundaries can be cruelly inappropriate. When the Simpson Desert peoples came together to make a native title claim in the 1990s, many people met their relatives for the first time. The Aboriginal welfare systems of Queensland and the Northern Territory were so different that families had been separated for generations: they had lost touch with each other and with the country on either side of a border that had no meaning for their traditional culture.

Pastoralists also had a view beyond borders. European settlers such as Sidney Kidman did not immediately take up permanent settlement; rather, they treated this region as part of the Mitchell grasslands stock-droving trail from
New South Wales to the Kimberley. As the water ran out they moved the stock on, leaving the grasslands to recover behind them – water, not grass, was the limiting factor. Young Sidney Kidman and the Durack family, the ‘Kings in Grass Castles’, as Mary Durack famously called them, realised that the unpredictable climate of outback New South Wales could be complemented by pastures grown in the monsoonal north, a different climatic system entirely. They moved cattle northwards into the channel country, then into the Mitchell grass downs of the Northern Territory and beyond. Each time, the stock was moved on before the pasture ran out. The decision to move on and rest the country behind was a key to their success, but it only worked because of the continental scope of the operation.

Most of the Desert Channels region is in Queensland, so that state’s land tenure systems have shaped its land use patterns for the past century and a half. It is now mostly pastoral leasehold and freehold country. There has been little crown land historically reserved as nature reserves or national parks – this was country that could carry stock, and development in the late 19th and early 20th centuries favoured that use. In the era when European explorers and settlers arrived with their stock, there was little interest in the conservation of desert lands for other purposes. Even by the 1930s, when Queensland had developed an active interest in national parks and had one of the first and most active National Parks Associations in Australia, the focus was on forested temperate lands, especially those that were close to Brisbane and perceived as ‘threatened’. The early Queensland National Parks Association did not consider remote outback country as either threatened or in need of conservation.

Queensland is not alone in having its state headquarters in a major city on the seaboard. All the Australian colonies made their intercolonial and imperial connections by sea, and chose their centres in good harbours. In the 21st century, international connections are by air, but major airports are still all on the coast. The desert is, in a sense, the backyard of every mainland state. Within the big state of Queensland, the Desert Channels region is very remote from its administrative centre: Brisbane is closer to Sydney than to Longreach, and closer to Melbourne than to Bedourie. Sometimes the long roads to Brisbane are physically cut by floods. The Desert Channels region, far from the state political headquarters, has learned to make decisions for itself.

Pause for a moment and ask: what makes the desert channels region distinctive? Clearly, it is not just the presence of river systems in the desert; ephemeral rivers occur in other parts of the arid zone. It cannot simply be the striking contrast of channels and floodplains juxtaposed with immense dune fields; this can be found in other areas. Nor is it high environmental variability – the ‘boom and bust’ character of the climate and the country – as this is shared with other Australian deserts. All these are important elements in the character of the region, but for its most distinctive elements we need to look elsewhere.

First, there is the immense scale of the river systems. The catchments of the Georgina, Diamantina, Thomson and Barcoo Rivers begin in northern Australia and extend for more than 1000 km into central and south-eastern Australia. They feed...
floodwaters from monsoonal Australia into Lake Eyre, in effect making this playa lake operate as a gigantic continental rain gauge. Second, the issue of flows is important. The dynamics of the slow movement of floodwater into the heart of the continent, through a variety of sumps and storages, adds another layer of environmental variability beyond that due to fluctuations in local rainfall. Last, these long channels give the country a distinctive grain – sometimes linear, sometimes reticulate – that is more developed than in other Australian deserts.

There is an old idea that the structure of a landscape affects not just the ecology of a region but also its historical geography. The French Annaliste historians called it la longue durée, emphasising that long-term historical structures provided an element of continuity across the various histories of a region, contrasting with the ruptures, discontinuities and nervous ripples of more recent events. In the case of the Desert Channels region, these deeper structures are provided by the arid rivers that create a broad corridor along the eastern margin of the arid zone. They form a chain of ecological, cultural and historical connections across 10° of latitude, a vast swathe across the interior of the Australian landmass.

We can see this structure in the geography of Aboriginal trade and exchange systems in the Lake Eyre basin. The archaeologist John Mulvaney popularised the phrase ‘the chain of connection’ to describe the exchange of goods, ideas and ceremonies in Aboriginal Australia. He pointed out that the distances travelled by groups or individuals for these exchanges were greater in the Carpentaria-Lake Eyre region than in most other parts of the arid zone. At 400–480 km, these were some of the longest ‘chains of connection’ in arid Australia (and probably the world). Isabel McBryde developed this line of research. She showed that stone axes, red ochre, millstones and pituri were all moved in a broad corridor along the inland river systems, connecting the Mt Isa region in the north with the Flinders Ranges in the south. We know almost nothing about the antiquity and history of the exchange systems. Radiocarbon dating shows that the Innamincka grindstone quarries were operating by 1700 yrs BP (i.e. by about 250 AD, just as the Roman Empire was beginning to decline). But the Mt Isa axes and Pukardu red ochre have so far not been found in archaeological contexts where they can be dated.

McBryde developed a map of exchange networks in the Lake Eyre basin to show their considerable geographic extent. The inland river systems channelled trade and exchange into a corridor, creating a critical mass of intergroup exchange that is probably unique in the desert.
In this picture, one commodity – the psychoactive drug pituri – is the most enigmatic. It is archaeologically invisible and likely to remain so. Although the drug was widely distributed, we know little of its importance in the exchange systems. But pituri is lodged firmly in the European imagination. In many ways, the idea of pituri and its exchange throughout the desert channels region is a contemporary *leitmotif* for the chain of connections the channels create in this striking desert landscape.

In a book about conservation there is a particular reason to think about the region’s natural and cultural distinctiveness. There is also an imperative to think on a continental scale, as many of the people concerned about the conservation of this region come from beyond it. National and international organisations have recognised the unique importance of the Desert Channels region in the megadiverse continent of Australia. They have also recognised the crucial role for partnerships between the people on the ground, governments and private conservation organisations in achieving national and international conservation aspirations. This book documents a grand historical experiment that brings together landholders (both Indigenous and non-Indigenous), governments and philanthropic conservation on a scale unseen before in Australia. It is a crucial experiment that cannot afford to fail, as climate change and global expansion put unpredictable pressures on this region that drives so much of the ecological functioning of the Australian continent.

In the tradition of partnerships, the contributors in this book come from diverse backgrounds. Some of us have lived for many generations in the region and are making livelihoods alongside conservation goals. Some are specialist scientists whose personal experience of this country dates back decades. All of us share an impulse to conserve, and a commitment to maintaining things we value in a time of rapid change. What do we want to conserve? Everyone has a slightly different motivation and a different vision for conservation aspirations. We write, we offer artistic evaluations, historical, ecological and archaeological context and a concern about endangered species. Biodiversity conservation has been the major motivation for groups working on continental and global scales; the conservation of communities and their livelihoods is crucial for those living in the region. There are also concerns about cultural heritage, Aboriginal and settler places of importance, and the conservation of natural resources such as groundwater and pasture. Conserving a community is good for biodiversity, and respecting cultural heritage does not mean losing natural diversity. Working together across the visions for conservation is essential for all of them.

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Endnotes

1 Deborah Bird Rose, anthropologist in Simpson Desert native title claim, pers. comm. 2006.


Welcome to Iningai Country

The Iningai are a nation of family groups that have lived in central western Queensland for the past 60,000 years. We travelled and lived off the land using years of experience and observation to ensure Mother Earth always sustained and nourished us. Our land ranges from the beautiful desert uplands to the east, to the open Mitchell grass downs to the west.

Iningai country expands from between Lake Buchanan across the headwaters of the Vergemont Creek down to the Stonehenge jump-up country and across to where the Barcoo and Thomson rivers meet. Iningai country then follows the Barcoo River to its headwaters around Mt Enniskillen, then follows the Great Dividing Range back to Lake Buchanan.

Settler records identify many meetings with the Iningai people in the early days of white men’s colonisation of this wonderful country. Some meetings between parties were extremely friendly and led to the forging of long family friendships extending across many generations. One settler moving to this area found lush grass as high as a horse. In his memoirs he mentioned the natives and how he took particular care to befriend them as he could see they had a vast knowledge of this rich landscape.

There are, however, just as many, if not more, facts and stories of conflict between the Iningai and the white pioneers. For many years in the mid 1800s this region was a lawless society and on many occasions Iningai people became victims of the lawlessness. Murder, rape, hatred and desperation were inflicted on both sides. Unfortunately the Iningai were at a disadvantage – they did not have the ‘thundersticks’ and horses that proved a great advantage in the conflict. The Iningai fought bravely, but were outnumbered and outgunned. After the conflict, the remaining Iningai were displaced from their traditional country and removed to missions, never to be heard from again – or so it was thought.

Today there are three custodian families of Iningai country, who proudly care for this country on behalf of the Iningai traditional owners. It is these custodian families who never let the memory of the Iningai be forgotten and who continually work to find descendants of this strong people to welcome them back to country. There are many stories to be told – good and bad, embarrassing and inspiring – no matter what, they are stories that must be told. They are part of Australia’s history – our history.

David A. Thompson
Iningai Custodian
1 | Arriving in the Desert Channel Country

CHRIS DICKMAN

As the car drew closer I could see a large and powerfully built man sitting behind the steering wheel, looking at us intently and perhaps with a hint of displeasure. At his side, also peering at us with evident interest, was a more slightly built passenger – a kangaroo. I glanced nervously at my companions. The six of us had left Sydney a few days earlier, bound for the vast Desert Channels region of far western Queensland. As biologists, we had been lured there in search of the rich assemblages of lizards and carnivorous marsupials that characterise the inland, but had lost our way on the region’s dusty tracks. We were now camped, unannounced and uninvited, somewhere on Ethabuka Station between the Channel Country and the Simpson Desert. The large man, we surmised, was the property owner Mr David Smith. What sort of reception might we expect? More curiously, who was the kangaroo? After David stepped from the car, I introduced myself and the rest of the crew, apologised for trespassing and mentioned as casually as I could that we had travelled 2000 km to look for lizards and small mammals. Doesn’t everyone? Perhaps deciding that we were harmless, and certainly in need of help, David pointed the way to the homestead and explained where we could find both shelter and supplies of drinking water. He then provided detailed instructions about how to find sites where animal activity would be guaranteed. He told us to expect an array of different lizards, snakes, hopping mice and even the predatory mulgara that we had so hoped to find. He finally introduced his passenger – his daughter’s pet kangaroo. After leaving his phone number in case we encountered difficulties, he tipped his hat, bade us good luck, and departed. Bush hospitality at its best!

Since that event in January 1990 I have returned to the Desert Channels many dozens of times to study the secret lives of its varied animals and plants. Each trip has had its own objectives – to track animals to their nests or feeding sites, to examine how they cope with very hot or dry conditions, or to study how the whole system responds to wildfire or flood. Revelations and discoveries have abounded – from exposing the extraordinary diversity of desert ants to uncovering a new and highly aberrant spider that lives in slits in the sand, from documenting the astonishingly rapid growth and
maturation of plants that occurs after rain, to finding that small mammals can move great distances to exploit these ephemeral pulses of growth. Each trip has also had its adventures. Fan-oven conditions are common in summer, while plagues of sticky bush flies, burrowing frogs and inquisitive long-haired rats can be expected after good rains. Vehicles have bogged, broken or caught fire too many times to recall. For all this, one event was sufficiently memorable to enter local folklore. After cyclonic rains in April 2000, 13 desert trekkers became stranded on Ethabuka, including my daughter and my wife on her first (and last) visit. The police helicopter that ferried us to safety afforded a panoramic view of the desert’s braided channels in their full majesty after rain, and a reminder of the power of this extraordinary landscape to transform itself with no warning.

The opportunities to do good science, achieve conservation goals, train students and enthuse colleagues and volunteers are compelling reasons for my continuing hajj to the Desert Channels. But they are not the only ones. After 20 years I am still pulled back irresistibly by the stark beauty of this unique part of the Australian heartland and by the people who, like David Smith, accept the oddest of strangers into their midst with generosity, bush wisdom and laconic good humour. In the pages that follow I will describe the location of the Desert Channels, attempt to sketch the ecological processes and human endeavours that make the region so distinctive, and look at the overarching challenges and opportunities for continued production and conservation – the impulse to conserve.

The Desert Channels

The Desert Channels region that we define here is the north-eastern part of the great Lake Eyre Basin in far western Queensland. It extends from Camooweal in the north-west to Torrens Creek in the north-east; Tambo, Windorah and Eromanga fall within the regional area further south. Although the Lake Eyre Basin extends into the Northern Territory, South Australia and New South Wales, these jurisdictions form convenient boundaries to our region in the west and south, respectively. This vast arid area, covering more than 500,000 km², encompasses a stunning array of landscapes and landforms. It is also home to 14,500 people and their manifold enterprises, an enormous variety of animals, plants and fungi, and bewilderingly diverse combinations of these species that interact in myriad ways.¹

For all its diversity, this heartland region’s essential character is defined most sharply by its arterial network of rivers. Rising in the northern reaches of the region, the waters run in a southerly direction towards the Lake Eyre depression. The Georgina, Diamantina, Thomson and Barcoo are the region’s major rivers, the latter two joining to form Cooper Creek. The channels of these rivers can fill from on-site rainfall, but the most dramatic surges follow flood rains in the north. Indeed, one of the most distinctive aspects of the Desert Channels region is that extensive flooding can occur in the absence of local rainfall – beware if you decide to camp in a dry creek bed without a weather forecast! The flows of the major rivers are highly variable. In years of low rainfall free water will be found only in the deeper...
waterholes and larger swamps of the region, but in good years floods cover thousands of square kilometres. In the upper reaches the rivers simply burst their well-carved banks, but the more southerly channels often fray and lose definition so the waters cover the land in a complex reticulate pattern. Here the land is often so flat that the channel paths can be identified only by the riparian ribbons of green shrubs that they sustain. At the ends of many minor channels the water sinks and flows under the ground, then supporting only larger shrubs and trees that have roots long enough to tap the deeper watertable.

Large flows are crucial for recharging wetlands and swamps throughout the Desert Channels region, as well as for replenishing the Coongie Lakes, Embarka and Tirrawarra Swamps and other large wetland areas in the more distal reaches. Exceptional floods will fill Lake Eyre itself. In the last century this happened in 1950, 1974 and 1984 (partial fillings occurred in 2000 and 2009), with waters snaking their way languidly to the continental sump over a period of several months. Arid Australia is famed for its unpredictable rainfall regime, especially in the northern areas where summer rainfall predominates, but the extensive channels of our region ensure that the resultant floods occur on a broader scale than anywhere else in the inland. These events generate sporadic but extensive pulses of productivity that drive the region’s dramatic boom and bust cycles and shape the culture and psyche of its inhabitants.

Biogeographic regions

While rivers distribute their waters throughout the Desert Channels, geographical differences in the soils and the physical environment mean that the effects of rains from above and floods from other places vary throughout the region. These differences in turn create varied habitats with communities of plants and animals that are so distinctive that they can be recognised as separate biogeographic regions, or ‘bioregions’. These large areas also support quite varied enterprises for people. Seven bioregions occur in the Desert Channels, and another ten in the broader Lake Eyre Basin.

The largest of our seven bioregions is – appropriately, but also confusingly – the *channel country*. The towns of Birdsville, Bedourie and Windorah are established here. This is the stronghold of the gibberbird *Ashbyia lovensis*, the fawn hopping mouse *Notomys cervinus* and kowari *Dasyuroides byrnei*, a feisty carnivorous marsupial. It is also one of the only three places where stands of the strange and ancient waddy wood tree *Acacia peuce* can be found. During dry times the undulating plains of dark red gibber soil make this bioregion look uncompromisingly harsh, and it is difficult to imagine that it can sustain life. It feels ancient; indeed, its clay and stony soils hark back to the mid-Cretaceous, 100 million years ago. It is the archetypal wide brown land – the only place in Australia that I know where you can stand on a rise and view the entire horizon without seeing a shrub or even a blade of grass. But with water, this moonscape turns green. After flood, life springs back near the great irrigation channels of the major and minor rivers and remains for many months in the vegetated lake beds and clayspans. After rain, even the higher ground regains its mojo and the land can

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be, temporarily, among the most productive on the continent. These are the times when native plants and animals flourish and regenerate, and when conditions are ideal for fattening livestock. Pastoralism is the mainstay of the local economy, with cattle run throughout the bioregion and sheep run in the higher-rainfall areas to the north-east.

Stock are also run throughout the extensive *Mitchell grass downs* bioregion, providing livelihoods for people in Longreach, the largest town of the Desert Channels, as well as the smaller communities of Boulia, Winton, Blackall and Tambo. Lying to the north and north-east of the channel country, this bioregion contains rich cracking clay soils that support productive tracts of tussock grassland dominated by *Mitchell* grasses in the genus *Astrebla* and smaller patches of bluegrasses in the genus *Dicanthium*. Trees are scarce, their roots unable to survive the summer inundations that turn the soil into black glue, and the deep rents that appear in the soil as it dries. This ancient landscape provides refuge for large numbers of seed-eating birds such as flock bronzewings *Phaps histrionica* and budgerigars *Melopsittacus undulatus*, and secure shelter for crack-dwellers such as brown snakes and tiny flat-headed marsupials in the genus *Planigale*. Spencer’s goanna *Varanus spenceri* is restricted to the Mitchell grass downs, pursuing common death adders *Acanthophis antarcticus* and other snakes both above and below ground.

Outliers of the *Simpson Strzelecki dunefields* bioregion occupy the southern and south-western corners of the Desert Channels region. Characterised by long linear dunes of flame red sand that rise 10–30 m above the valley floors, this bioregion remains little visited, remote and mysterious. There are no large settlements in the immense and implacable sand dune sea. Indeed, the bioregion is used primarily for conservation and for cattle grazing, with the dominant cover of unproductive spinifex grass *Triodia basedowii* ensuring that cattle can be grazed only at densities of 1–2 per square kilometre. Yet, for all its apparent hostility, this region supports a great variety of shrubs, small trees, ephemeral herbs and grasses that burst from the soil after rain, and extraordinarily rich communities of ants, termites and other invertebrates, lizards and insect-eating marsupials. Among the latter is a sand-surface specialist, the hairy-footed dunnart *Sminthopsis hirtipes*. One of the most beautiful of all the small marsupials, this delicate creature has large broad feet with hairy hobbit-like soles that enable it to run on loose sand. We had the privilege of discovering this delightful dunnart in the Simpson Desert as recently as 1992.
KOWARI (Dasyuroides byrnei)

If you were to take a walk across a searing gibber plain in the Channel Country on a hot day, you would be forgiven for assuming that apart from a few small lizards, insects and transient birds, few animals could possibly survive here. At night, however, you might be surprised by a small marsupial darting busily across the gibber and sandhills. The kowari Dasyuroides byrnei is a nocturnal carnivorous marsupial, the size of a small rat (70–140 g), which inhabits the gibber plains and sparsely vegetated sandy regions of the Lake Eyre Basin. It is a handsome animal, with a stocky powerful body, a pointed fox-like face with large eyes and erect pinkish ears. It has a magnificent tail tipped with a broad black brush. Its smooth dense coat is buff-coloured above with whitish underparts, and its large dark eyes are ringed with pale fur.

To avoid the extremes of temperature, kowaris excavate deep burrows that often have several entrances. Animals remain in the burrows throughout the day, emerging at dusk to hunt for food, thereby avoiding inhospitably high daytime temperatures (in excess of 60°C at soil surface in mid-summer) and cold nights (sub-zero temperatures in winter). Kowaris are capable of going into torpor for short periods, lowering their metabolic rate to ‘maintenance levels’ when temperatures fall to near 0°C. Occasionally, they can be seen basking in the sun during cooler weather, raising their body temperature after bouts of inactivity. In arid areas, rainfall is seasonal and unpredictable. Kowaris have adapted to this harsh climate where water is often scarce for long periods. Their food provides all their water needs, so they never need to drink free water. Their urine is highly concentrated and very efficient at retaining water.

Kowaris have a broad diet, eating meat and insects. At night, they emerge from their burrows and forage widely, using their acute hearing and excellent sense of smell to find prey. In common with other carnivorous marsupials (the dasyurids), they are brave and voracious predators, prepared to tackle large and dangerous prey such as rats, scorpions and small snakes. Smaller prey are acceptable too, including lizards, small mammals such as mice, and a wide variety of insects and spiders.

Kowaris are solitary animals. They seek the company of others only during the breeding season (May–December). Litters of six or seven young are born after 30–35 days gestation, and are carried by the mother on teats arranged around a circular pouch formed from folds of abdominal skin. The young remain attached to the mother’s teats for seven to eight weeks, and are transferred to a nest in the mother’s burrow when too heavy to carry. After weaning (at around 15 weeks), the young disperse to new territory and continue the solitary tradition.

Kowaris are very sensitive to new predators in their territories, because they occur in such low densities and their habitats offer little vegetation cover. Feral cats and foxes have seriously endangered the species, now classed as Vulnerable. The full consequences of predation are difficult to measure, but kowaris’ range has contracted significantly since cats and foxes were first recorded in the Lake Eyre Basin.

Adele Haythornthwaite
Other bioregions occur more broadly to the north or east of the Desert Channels, intruding only peripherally into our focal area. Lying mostly to the east of Cooper Creek beyond Windorah, but with an outlier to the east of Jundah on the Thomson River, are the **mulga lands**. This is a region of gentle slopes and weathered ranges, with generally infertile red earth soils that support extensive shrublands and woodlands. The dominant tree, mulga *Acacia aneura*, grows so densely in some areas (up to 5000 stems per hectare) that it crowds out other species; its dense canopy structure is very efficient at intercepting rainfall and funnelling the water to the roots, perhaps contributing to its competitive ability. Mulga is also regarded as an important dry season fodder plant that can provide feed for livestock when pastures are scarce. Where grazing is heavy few trees retain their lower branches, producing trees that look like children’s lollipop drawings and a browse line that is evident from many kilometres away.

Further east, and falling just within the Desert Channels, is another woodland-dominated bioregion, the **brigalow belt south**. Occurring on more fertile soils, the once-dense stands of brigalow *Acacia harpophylla*, a beautiful silvery wattle, have been mostly cleared to provide pasture for livestock. Brigalow provided habitat for continental Australia’s only extinct bird, the magnificent paradise parrot *Psephotus pulcherimus*; the brigalow community is itself regarded as at risk in Queensland and was listed as endangered in 2001.

The remaining bioregions within the Desert Channels are the **Mount Isa inlier** in the north and the **desert uplands** in the north-east. Gentle plains are interspersed with rugged ranges in these areas, with both bioregions supporting varied open eucalyptus woodlands with patchy understoreys of spinifex grassland. The Mount Isa inlier is geologically more complex than the desert uplands. Its intensely folded igneous rocks produce spectacular and luminously coloured outcrops that provide habitat for purple-necked rock-wallabies *Petrogale purpureicollis*, rock-rats *Zyzomys argurus*, and endemic rock-lovers such as the gecko *Gehyra robusta*. In the desert uplands, deeply weathered remnants of ancient land surfaces grade into sweeping plains of infertile red or yellow sands. Although few species are endemic to this bioregion, it does contain several range-restricted species such as the skink *Ctenotus capricorni* and a surprisingly diverse range of plant and vertebrate species. Land use is dominated by grazing in both bioregions, with cattle predominating especially where rainfall is less reliable.

**People and land: traditional values**

Despite its superficial austerity, the desert country is a cornucopia to the discerning eye and its diverse resources have been used by people for many thousands of years. In the Desert Channels Aboriginal people long ago learned to read the seasons and the pulses of productivity, how to find and process the plants that would give nutrition, that could be shaped into containers, tools or weapons, that provided medicine, fibre, drugs and other necessities. They learned how to fish and catch game, first using the meat then fashioning the inedible skins and sinewes into apparel and tools. They found...
ochres for painting and rocks to flake into cutting tools. They used fire to renew the land. Evidence of this long tenure can be seen in some areas – there are galleries of rock art, discarded stone cutting tools, grindstones and other implements, middens of shellfish and bone, and features such as clay and stone hearths and wells that were dug to access fresh water.

Culturally different people lived in the uplands of the Mount Isa region and in the catchments and channels of the major river systems, with other groups beyond. Despite these differences, and the existence of perhaps 30 language groups, extensive trade networks throughout the Desert Channels allowed people to acquire the resources they needed and to maintain social and religious connections.15 With the arrival of European settlers in the late 19th century, however, traditional lifestyles were disrupted. The newcomers often failed to recognise the prior rites of the first people, and disputes over land were common. Populations of the original inhabitants declined due to harassment, disease and, on occasions, massacres, so that the Indigenous population of the region is now around 6% of the total. More Indigenous people live in the catchments of the Diamantina and Georgina rivers than elsewhere, with communities at Dajarra and Urandangi among the largest in the region.16

People and land: pastoral values

The lure of the Desert Channels to the early Europeans was the magnificent obsession that drove so much exploration of inland Australia: the quest for the inland sea, and its vast frontages of verdant pasture that were expected to sustain great flocks of sheep and cattle. Some of the early ventures were not promising. Captain Charles Sturt penetrated deep into the Simpson Desert in 1845, turning back in disappointment with his horses in poor condition and some of his party suffering scurvy. In the understated manner of the time, Sturt quoted a companion’s dire appraisal of the interminable sand ridges: “Good Heavens, did ever man see such country?”17 In the same year, Sir Thomas Mitchell set off and more successfully probed the country in the eastern part of the Desert Channels; his deputy Edmund Kennedy returned subsequently to chart the Barcoo and Thomson rivers. Ludwig Leichhardt disappeared in 1848, possibly in the Desert Channels, while attempting to cross the continent from east to west. Robert Burke and William Wills died on the banks of Cooper Creek in 1861 on their return south from the Norman River on the Gulf of Carpentaria.

Other early explorers were more successful. Augustus Gregory produced the first reliable reports on the suitability of land for grazing along the Barcoo and Thomson rivers while looking for Leichhardt in 1858; Alfred Howitt, William Landsborough, John McKinlay and Frederick Walker described conditions in different parts of the Desert Channels while searching for the missing Burke and Wills in 1861. Later explorers such as William Hodgkinson and Charles Winnecke also contributed to the survey and exploration effort, although their conclusions about the pastoral suitability of the Desert Channels varied with the areas they visited and the season of travel. Of course, few of the newcomers at this stage understood the boom and bust cycles of the region or how remote rainfall could lead to grand floods under the region’s intense blue skies.18
Encouraged by the provisions of the *Unoccupied Crown Lands Occupation Act* 1860, which granted settlers access to the ‘waste lands of the Crown’, and risking the possibility of poor conditions, waves of pastoral pioneers moved livestock to the Desert Channels on the heels of the explorers. Many lost everything in the dry years of the late 1860s, but others succeeded against the odds by virtue of good luck and endurance, and a mix of bush and entrepreneurial skills. The struggles to achieve success are outlined in the fascinating biographies of John Costello and Robert Collins, the autobiography of Oscar de Satgé and the later accounts of Mary Durack and (particularly) Alice Duncan-Kemp, whose story is taken up in Chapter 2. As herds of livestock continued to build in the Desert Channels, so did associated myths and tales of heroism. The feat of cattle thief Harry Redford (aka Henry Readford, or Captain Starlight) of duffing almost 1000 cattle in 1870 and moving them from Bowen Downs near Longreach to the point of sale near Marree in South Australia remains celebrated today, as do the heroics of bushman Nathaniel Buchanan, shearer Jack Howe, drover Reg Hart and many other local riders and stockmen.

For all the early impetus to exploit the Desert Channels for livestock grazing, it was not until the late 19th and early 20th centuries that settlers began to understand the pulse of the heartland. Those who did gain this insight, most famously Sidney Kidman the ‘Cattle King’, profited immensely. Kidman spent much of his early life in the saddle, moving livestock over large distances in central Australia to take advantage of the fresh pastures created by local and regional rains. He realised the potential of the Desert Channels country to provide good feed on the floodplains even in dry years, and established a chain of properties from the Gulf of Carpentaria south to near Port Augusta that allowed him to shift stock to wherever pastures were available to sustain and fatten them. Kidman’s reading of the Desert Channels and his astute business sense saw him become the largest stock dealer, landowner and businessman in Australia. Throughout his life he was estimated to have owned or had interests in 150 stations covering some 420 000 km², not far off the area of the Desert Channels itself. Founded by the Cattle King in the last year of the 19th century, S. Kidman & Co. still runs cattle on seven properties in the region in the 21st century.

Rangeland grazing of livestock remains the major land use of the Desert Channels and the mainstay of the regional economy, although the industry employs fewer people now than at any time in the past. To some extent this downturn reflects the decrease in rural populations that is occurring in other parts of Australia, but it also reflects the changing benefits and costs of running livestock. For example, a shift from running sheep to cattle in higher-rainfall areas since the 1990s means that less labour is needed on-farm; cattle do just fine without intensive management. Drovers, fencing and many maintenance activities have become increasingly mechanised; this, and the purchase of properties by absentee investors, means that stock can be run more profitably with fewer people involved. The rise of pest animals and intrusive weeds has done little to improve farm profits, thus stimulating shifts to alternative land uses.
Reginald Hart (1915–2004) was born in Charleville, the eldest of four sons. According to Reg, his father was a ‘three-quarter caste Aboriginal’ who was born about 1885 in the Warrego River area, while his mother was born about 1895 in the Paroo River country. Reg grew up and was educated in Charleville where his father worked as a stockman, horsebreaker and kangaroo shooter in the local region. Reg learned many bush skills from his father, but his childhood ambition was to become an accountant. However, the economic conditions of the Great Depression meant his parents could not afford to continue his education; instead, at age 15, he joined a droving team heading to White Cliffs in New South Wales. For the next 14 years he followed the droving game, shifting mobs of cattle from the Northern Territory and gulf country to western and south-western Queensland and occasionally beyond, to north-western New South Wales. He loved the droving life, ‘because every hill and every town was a new experience and a new horizon’.

His longest trip was in 1935 when he helped his father take 1500 bullocks from Wave Hill Station, in north-western Northern Territory, to Walgett in New South Wales. The cattle were first crossed over the infamous Murrani Track, a ‘nightmare’ track according to Reg. On the way he survived a brush with death when his horse fell and rolled on him. From the Murrani the cattle were taken over the immense plains of the Barkly Tableland and on to the Georgina River. At Boulia they were turned eastwards to Winton, then south-east to Longreach and down the Thomson River and Cooper Creek to Quilpie, over to Cunnamulla and finally down to Walgett. The trip took nearly nine months.

During this and other droving trips supplies and equipment were carried on a wagonette made from a cut-down Cobb and Co. coach. Eventually the coach was abandoned at Windorah, but years later was retrieved and restored. It is now a prized feature at the Cobb and Co. Museum in Toowoomba.

In 1937, when Reg was only 21, he became a boss drover in his own right. His first contract was to shift cattle from Alroy Downs on the Barkly Tableland to the western Queensland channel country. He continued droving until 1941 when wartime labour shortages made it impossible for him to continue. He sold his droving plant and for the next three years worked on various stations owned by the Schmidt family, including Cluny Station near Bedourie, South Galway near Windorah, and other family properties. Towards the end of the war he shifted to Brisbane where he worked at a variety of jobs and raised a family. He remained there until his death in 2004, aged 89.

Darrell Lewis