

ARKAROOLA WILDERNESS SANCTUARY



From the ARK

SPECIAL EDITION

NOVEMBER 2009

Forty-one years ago, Reg and Griselda Sprigg purchased Arkaroola. Unable to persuade the government of the day to convert the pastoral lease into a national park, the Spriggs took a visionary leap into private-sector conservation. Through controlled-tourism, they would use Arkaroola/Mount Painter Sanctuary to promote conservation, public education and geoscience. Four decades on, Arkaroola Wilderness Sanctuary is fighting for its survival as the Rann government promotes Arkaroola's mineral prospectivity whilst failing to provide adequate protection for its ecological, cultural, tourism and geoscience values. The *Seeking a Balance* framework reveals a profound lack of respect for the contribution to conservation made by eminent SA geologist Dr Reg Sprigg. With some flawed evaluation processes and what appears to be tunnel vision, *Seeking a Balance* is perhaps more irony than insult. In this special edition of *From the Ark* we argue why this framework must either be rejected or the methodology significantly revised.

To download this special edition of *From the Ark* visit our Web site at www.arkaroola.com.au/breakingnews.php or www.savearkaroola.com.au

A MESSAGE FROM MARG



Considerable time, effort and taxpayer's money has been spent developing a pretty document that claims to be about balancing conservation with resource use in the Northern Flinders Ranges. However it appears to deliver much more for mineral explorers and miners at the expense of the environment. Given the significant ecological values and iconic beauty of Arkaroola, we had anticipated a much higher level of protection than what is proposed in *Seeking a Balance*. While we welcome protection for Mawson Plateau, its lower mineral prospectivity, remoteness and lack of vehicular access, already affords it great protection. It is the Mount Painter heartland and associated elevated country that is most at risk. Until mining of any description can be achieved sensitively, without any surface impacts, we believe it has absolutely no place in the Arkaroola mountain landscape.

Please support us by making a submission before December 19th. And please send us a copy of your submission to admin@arkaroola.com.au

Marg

SPECIAL EDITION TOO PRECIOUS TO MINE

A Message from Marg

*Seeking a Balance
(or was that Seeking a Billion?)*

New Test for Colour Blindness

A Scorecard for Scenery

Conservation or Contradiction?

Weeds Grow Where Roads Go

What About Bio-prospectivity?

All Just Part of the Act

Thirsty Work, Mining!

Split Rock In But Sillers Out

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NORTHERN FLINDERS RANGES

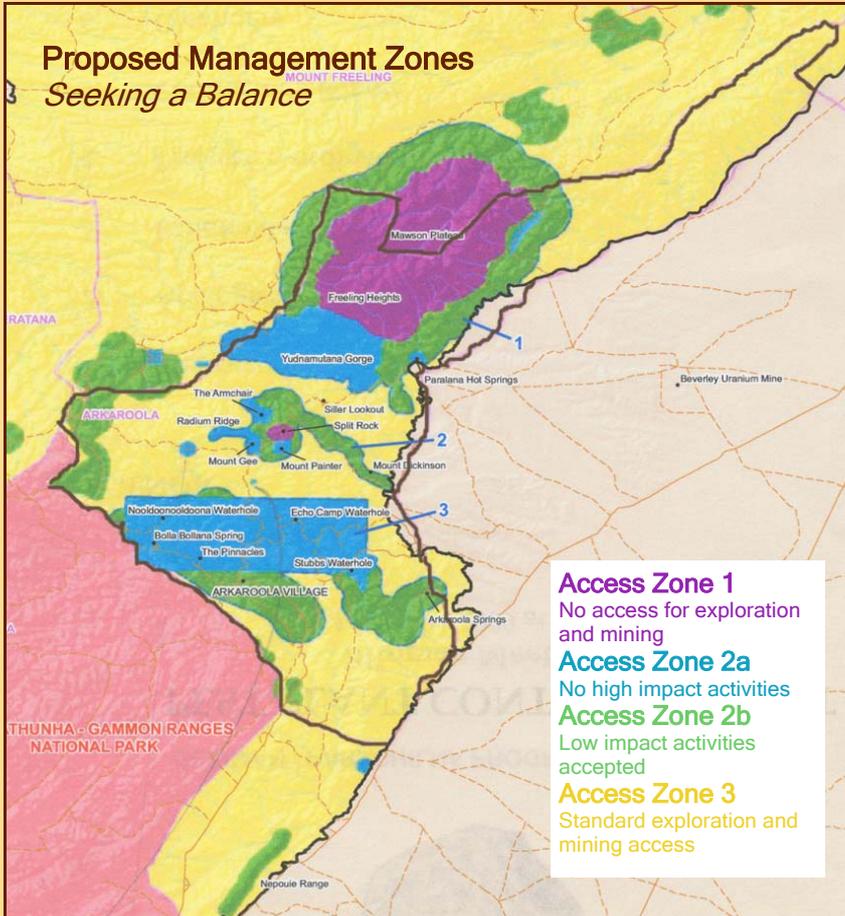
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SEEKING A BALANCE (or was that SEEKING A BILLION?)



The South Australian government recently released a new framework for conservation and resource use in the Northern Flinders Ranges (NFR). *Seeking a Balance*, jointly developed by the Department for Environment and Heritage and Primary Industries and Resources SA, proposes a set of new management policies and access zones.

The new framework, it is claimed, will balance resource use and conservation, and provide more certainty for mining and exploration companies, landholders, traditional owners and the community.

The project methodology was primarily a desktop mapping exercise, supported by an independent landscape assessment that established and ranked landscape values using an online survey instrument. Values for the NFR were identified as landscape, biodiversity, wilderness, cultural, mineral prospectivity, mineral occurrences and mines, geoscience and tourism.

Although the study area was defined as "those areas of the NFR elevated from the surrounding plains", it focused upon the north-eastern corner where the highest concentration of landscape, environmental, and mineral prospectivity values were identified.

In the articles that follow, we will argue that *Seeking a Balance* is inconsistent with other natural resource management policies, is flawed in its methodology, and is skewed toward exploration and mining at the expense of the environment.

Seeking a Balance Conservation and resource use in the northern Flinders Ranges

To read the document online or download, go to:

www.minerals.pir.sa.gov.au/public_notices/northern_flinders_ranges_project

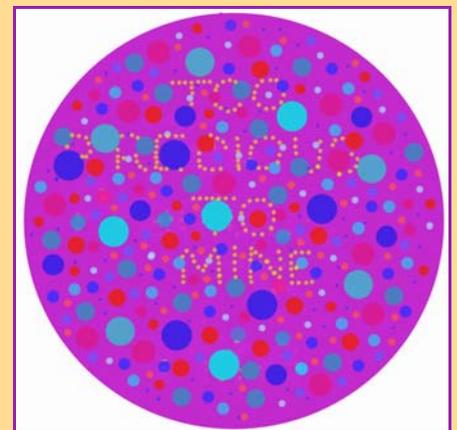
www.environment.sa.gov.au/biodiversity/ecosystem-conservation/nthn-flinders-project.html

NEW TEST FOR COLOUR BLINDNESS

Red-green colour blindness is relatively common, particularly among males. However a much rarer condition known as *gottamineopia*, has recently been discovered in Adelaide. *Gottamineopia* is characterised by an absence of red and blue sensitive pigment in the retina. People who have this condition tend to spend a lot of time in cities and unfortunately see only in yellow, perhaps with a hint of green.

Arkaroola has developed its own Ishihara* test for *gottamineopia*. To determine if you have the condition, we have included a new colour testing chart in this newsletter. If you have *gottamineopia* you will see no colour other than a faint message embedded in the chart. But don't despair, help is available. Unlike other forms of colour-blindness like tritanopia, in which sufferers are blind to the blue end of the spectrum and cannot detect blue or yellow, a cure for *gottamineopia* is available. Increasing the amount of time that you spend with others of clearer vision should see the condition improve over time.

* Ishihara colour charts are used to diagnose colour-blindness.



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A SCORECARD FOR SCENERY

The Romans called it *genius loci* or spirit of place, those qualities that define the essence of a landscape, town or place. A distillation of tangible and intangible elements, spirit of place, has been written about by travel writers and novelists like Barry Lopez and DH Lawrence. But *genius loci* appears to have no place in the Rann government's approach to scenery assessment.

In order to attribute objective ratings for landscape, the government engaged consultants* "to provide a landscape context for the Arkaroola area thus enabling its scenic significance to be assessed." A compilation of 127 landscape images of the Flinders Ranges, plus twenty from elsewhere in South Australia, was placed on the Internet. Hundreds of South Australians were contacted by email with an invitation to respond to the online survey. Respondents were asked to place a score against each image in a consistent manner relative to other images in the survey. The results would provide a state-wide benchmark for Landscape Quality. The consultants described the process as "robust, reliable and effective".

Let's consider the methodology. The consultant spent four days at Arkaroola in October 2008, photographing a landscape dulled by a decade of drought. He photographed places that could be reached by car. As any photographer knows, the act of photography involves aesthetic judgements. Choices about angles and aspects are often informed by unconscious processes. The survey required respondents to go online to access the images. Some respondents with dial-up connections and low download speeds had difficulty completing the survey before the connection dropped out. Thirty percent of all respondents who started the survey failed to complete it, (1191 of 3549)**. However, ratings by anyone who looked at 110 or more images were used. Were this a herbicide or pharmaceutical product trial, such a high abortive rate may render the trial invalid. Yet this data was used as the basis for defining Landscape Quality and, by inference, Arkaroola's tourism values. The integrity and appropriateness of this assessment methodology is questionable. Although there did not appear to be any photographs in the survey, Mawson Plateau has been ascribed a high landscape value. Clearly other criteria have been used for some landscapes.

The Landscape Quality Assessment completely ignores other elements that are intrinsic to how visitors experience landscape. The time of day, the season, the light, the space, the solitude, the places that one walks or climbs to, being alone with Nature, familiarity with place, revelation through new knowledge provided by guides - these are all part of the experience of landscape. A more holistic and consultative process is required to capture these elements in any evaluation of Landscape Quality and by implication, tourism values.

A Couple of Questions:

As tourism and conservation are the principal land uses in the Arkaroola Wilderness Sanctuary, why were no values attributed to tourism assets and services, given that they are likely to be seriously impacted should mining be approved in the future.?

What other criteria were used to determine Landscape Quality?

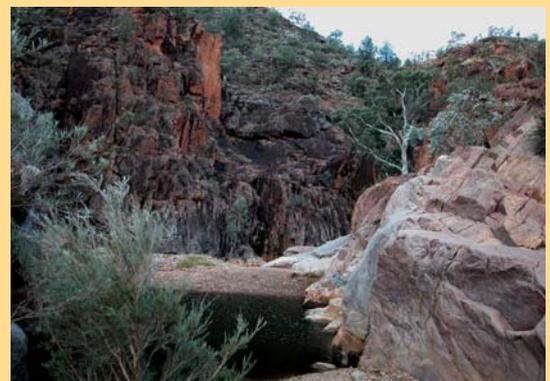
* www.scenicsolutions.com.au ** Flinders Ranges Landscape Quality Assessment Project pdf.

HOW WOULD YOU SCORE THE 'SCENERY' TO THE RIGHT?
Compare your scores with the results of the Landscape Quality Assessment process.

From top to bottom:

Mawson Plateau	Survey score of 6
Headwaters of Yuda Gorge	Survey score of 4
Tillite Gorge	Survey score of 4
Nooldoonooldoona Waterhole	Survey score of 4

In *Seeking a Balance*, a key of 7 colours was used for mapping Landscape Quality. We have converted colours to numbers: 1 (low) to 7 (high).



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CONSERVATION OR CONTRADICTION?

Remember the colouring books of childhood in the pre-digital age? There were always a few pages with a mystery subject that emerged as the dots were joined. Perhaps colouring books should replace computers on desks to help politicians and public servants make sense of their own policies.

The State Government's *No Species Loss* framework and its *NatureLinks* and *Bounceback* programs are built on the notion of landscape scale conservation. Rather than managing individual species in isolation from the ecosystems of which they are a part, a whole-of-landscape approach is advocated. Healthy, resilient ecosystems are much more likely to support threatened, endemic and relict species, than fragmented systems. Landscape scale conservation is about joining the dots.

Connectivity is the keystone of landscape scale conservation. Biodiversity corridors connect habitat and facilitate movement, enabling species to respond to short and long-term environmental and climatic perturbations. Species are more likely to struggle in an archipelago of island habitats. Corridors may prove to be critical for the survival of some species, as they adapt to climate change.

Some of the wildest, most elevated, least modified and most biodiverse landscapes in the Flinders Ranges occur in north-eastern districts. Five properties, all de-stocked and managed for conservation, create a corridor that stretches from Lake Frome to Warraweena on the edge of the western plains. Arkaroola Wilderness Sanctuary, Vulkathunha Gammon Ranges National Park (VGRNP), Nantawarrina Indigenous Protected Area, Pinda Springs and Warraweena Private Conservation Park, exemplify the NatureLinks model. These contiguous lands provide refuge for remnant, endemic, rare and threatened species, some of which are found nowhere else in the world. They also provide a corridor of connectivity for the movement of dispersing rock-wallabies.

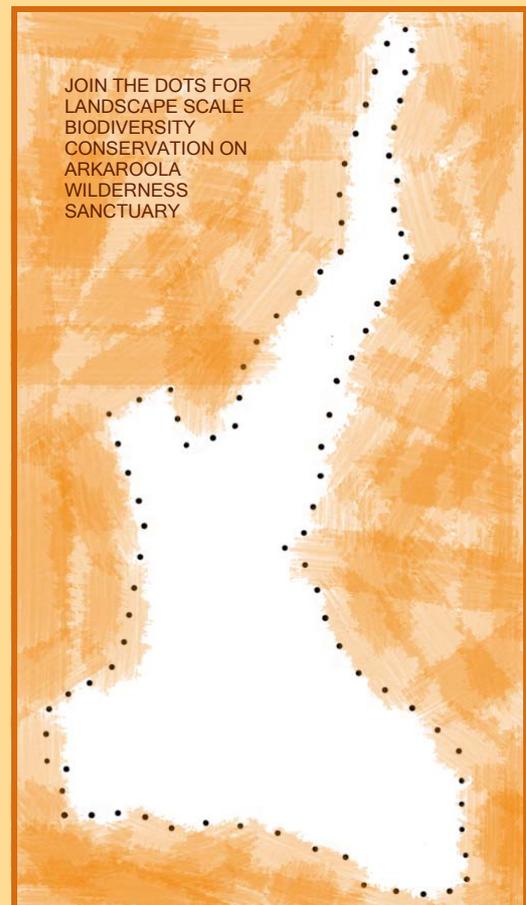
With its unique geology and landforms, lack of weediness, intact plant communities, and position as the northernmost protected area in the Flinders Ranges, Arkaroola Wilderness Sanctuary is a critical part of a greater Northern Flinders corridor. Despite this, in developing the *Seeking a Balance* framework, the South Australian Government has failed to deliver appropriate levels of protection for individual species and ignores its own policies that advocate landscape scale conservation, "regardless of tenure".

Consider the following:

A Flinders Ranges endemic, Spidery Wattle (*Acacia araneosa*) is found only along the Arkaroola/VGRNP boundary. Its distribution covers less than ten square kilometres. Identified as one of eight conservation priority plant species in the SA Arid Lands NRM Region, Spidery Wattle is struggling to survive. There is currently a proposal before the Native Vegetation Council to fund a conservation program for the long-term protection of a five square kilometre Spidery Wattle community on Arkaroola. DEH supports this proposal. However, under the proposed new management framework, most of the population occurs in Access Zone 3 where standard exploration and mining conditions apply.

Naturelinks focuses on ecosystem management at a landscape scale, regardless of land tenure.

www.environment.sa.gov.au



Bounceback recognises the importance of taking a landscape approach to conservation, rather than managing patches of country in isolation from their surrounds.

www.environment.sa.gov.au

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CONSERVATION OR CONTRADICTION?

No Species Loss emphasises a landscape approach to biodiversity management.

www.environment.sa.gov.au

And what about rock-wallabies? In 1981 Reg Sprigg had seventy-five square kilometres set aside to protect critical rock-wallaby habitat on Arkaroola. Aerial surveys undertaken as part of *Bounceback* have quantified the wisdom of Reg's timely action when wallaby numbers were plummeting across their historical range. Today, Arkaroola has a greater concentration of rock-wallaby colonies than any other property in the Northern Flinders Ranges. However, under proposed new zoning there is no uniform protection for known rock-wallaby habitat across Arkaroola. No connectivity has been provided between colonies along Arkaroola Creek where most of the Sanctuary's permanent waters are found, with East Painter Gorge, Mount Gee and the Armchair, Wild Dog Creek, Yudnamutana Gorge, and Mawson Plateau.

The government proposes a management framework that perpetuates islands of biodiversity. In desktop conservation, biodiversity hotspots sit as isolated orange blobs in a sea of yellow. Contributors to the framework acknowledged that lack of data was a serious constraint. Yet there is little scope in this management framework to provide for what is not yet known. Once the framework is adopted it is very unlikely that zoning will be revised, even as new information becomes available. This would diminish the *provision of certainty* that the government is seeking to provide to the mining industry and others.

If it implements the proposed new management framework, the Rann government will squander an opportunity to demonstrate its commitment to biodiversity conservation in South Australia. Arkaroola epitomises the values, philosophy and collaborations that underpin the government's policies for off-reserve conservation. We must be able to protect what we will come to know, through biosurvey and other studies, about a special property with very high bio-prospectivity values.

We can no longer modify habitat, fragment ecological communities and populations, introduce invasive species, and alter environmental water flows ...

www.environment.sa.gov.au



A healthy stand of endangered Slender Bell-fruit trees in Access Zone 2b where temporary ground-disturbing activities and access tracks will be permitted under new zoning arrangements.

Some More Questions:

Why is the endangered endemic, *Acacia araneosa*, which is found nowhere else in the world, and covers only ten square kilometres, not afforded full protection in the new management framework?

Why do proposed Management Zones provide no connectivity between areas of known Yellow-footed Rock-wallaby habitat? In particular, why has only the north-eastern side and floor of East Painter Gorge, an important area for yellowfoots, been given some level of protection, whilst the south-western side of the gorge has been designated as an Access Zone 3?

Why has the government chosen not to support landscape scale conservation on a property that has been managed for conservation for four decades, has no replicates anywhere else in the state, and is owned and managed by people deeply committed to private sector biodiversity stewardship?

Proposed new management zones for Arkaroola provide no connectivity for the sanctuary's Yellow-footed Rock-wallaby colonies.



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WEEDS GROW WHERE ROADS GO

They're seasoned travellers. You find them all along outback roads and tracks, especially beyond the bitumen. Adept at getting a lift in four wheel drives and trucks, they turn up even in the most remote places. The spread of hitchhiker weeds has been identified as a threatening trend in South Australia's arid areas.

Before opening up Arkaroola/Mt Painter Sanctuary to tourism in 1969, Reg Sprigg made an important decision. He would only provide vehicle access to the periphery of the property. Arkaroola's spectacular central highland region, bounded by Arkaroola Creek in the south and Yudnamutana Gorge to the north, would not be accessible for private vehicles. The wisdom of this decision was acknowledged by inspectors in Arkaroola's last pastoral lease assessment.

Arkaroola remains relatively weed-free, with weeds mostly restricted to day visitor areas and watercourses in the southern and south-eastern sections of the property. Botanists who took part in a recent biosurvey of the central highland and southern areas of Arkaroola, were impressed by the lack of weediness at the sixteen sites they sampled. In many parts of the Flinders Ranges, broad scale environmental weeds such as Onion Weed, Ward's Weed, Salvation Jane and Horehound, have dramatically modified the landscape and its ecosystem health.

Exploration and mining increases the risk of weed introduction, as vehicles often enter pristine areas. Heavily-treaded tyres, standard issue on mining industry vehicles, can provide a free ride for weed seed from other regions. Even with management strategies in place, the tiny hitchhikers can slip in quietly. When contractors brought their first drilling rig onto Arkaroola in 2007, we were assured it had been thoroughly inspected at the border checkpoint near Eucla. Insisting on inspecting the rig, Marg Sprigg discovered Pilbara drilling mud in the boot that held the drill stem. As a result, Arkaroola introduced a mandatory inspection and brush-down for all vehicles, mining industry and others, entering the restricted access area.

Even after a decade of drought, the integrity of Arkaroola's native vegetation, particularly in the Mount Painter heartland, is impressive. A fragmented zoning arrangement for sections of this highland area provides little assurance that this condition can be maintained into the future.

This limited track network into the interior of Arkaroola was a conservation strategy by Reg Sprigg to protect the central area of the lease from tourism impacts.

Arkaroola Pastoral Lease Assessment Report

WHAT ABOUT BIO-PROSPECTIVITY?

A lot is known about Arkaroola's mineral prospectivity but what about its bio-prospectivity? *Seeking a Balance* seems to place biodiversity at the lower end of the prospectivity scale. However this might simply reflect a lack of data rather than a lack of species.

In September 2009 the Scientific Expedition Group (SEG) undertook the first stage of a comprehensive two-part biological survey of Arkaroola Wilderness Sanctuary. Capture rates were low and reflected a decade of drought. A similar survey experience occurred on Bimbowrie Station in 2006. However, when biologists and volunteers returned after excellent rains, their catch was much more impressive, revealing an extraordinary capacity for rapid recovery when conditions improve.

Arkaroola had the shortest grazing history of any pastoral property in the Northern Flinders Ranges. Much of the sanctuary's heartland has never carried livestock and plant communities are intact. Great topographic variation provides a wealth of micro-climates and environmental niches. There is great potential for remnant populations of small mammals to have survived on Arkaroola.

In 1993 Lorraine Edmunds found the bones of five native rodent species in a cave above a waterhole on Arkaroola. The bones were later identified by the South Australian Museum. They included the Short-tailed Hopping Mouse, believed to be extinct; the Dusky Hopping Mouse, a vulnerable species; the Long-tailed Hopping Mouse, also listed as extinct; the Plains Rat, a rare species found further north; and the Long-haired Rat that persists in scattered refuges. Amberat, a signature black resinous substance that identifies former Stick-nest rat middens, has been found in caves and caverns across the sanctuary. While they may not fill shareholders pockets with wads of banknotes, biological bonanzas enrich our lives.

Bio-prospectors from the Scientific Expedition Group collecting plant specimens during the September 2009 Biosurvey.



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ALL JUST PART OF THE ACT

Sorry! No infrastructure allowed! This is an Environmental Class A zone. Of course if you wanted to excavate a tunnel, stockpile thousands of tonnes of radio-active rock, draw 5.5 million litres of water a day from outback water reserves, well that's a different matter.

With its central highland core protected under the provisions of the Development Act, you'd think Arkaroola would be spared any further surface disturbance such as occurred in the past. Environmental Class A zoning was implemented to protect the landscape from damage by mineral exploration activities and mining operations. With the Beverley uranium mine operating next door on the plains, Four Mile, Australia's fourth uranium mine, soon to begin production, and the world's largest uranium deposit, Olympic Dam, on the other side of Lake Torrens, any proposal to mine uranium on Arkaroola would not be justified under the Development Act. Not so, it seems.

Through *Seeking a Balance*, the government plans to introduce a new regulatory framework that will likely see parts of the Arkaroola landscape, currently protected under Environmental Class A provisions, re-zoned for standard exploration and mining activities. Iconic Sillers Lookout, an image that has been used by tourism agencies in arrival lounges of Australia's international airports, and the highlight of Arkaroola's Ridgetop Tour, sits in Access Zone 3.

On October 30th Dr Paul Heithersay, Director of Primary Industries and Resources SA, was guest speaker at a SA Chamber of Mines and Industry luncheon in Adelaide. In his presentation, the Director identified Mount Painter as a mineral prospectivity project. Although a final policy document will not be released until 2010 after public submissions have been considered, the government is signalling thumbs up for increased mining activity on Arkaroola Wilderness Sanctuary.

Two Questions

Why did the government not strengthen existing Environmental Class A zoning to provide a higher level of protection for Arkaroola's core environmental and landscape assets?

Why has the government actually diminished protection of some spectacular areas, including Sillers Lookout, by re-zoning them as Access 3 areas available for standard exploration and mining activities?

Mining operations should not take place here unless the deposits are of such paramount significance that all other environment, heritage and conservation considerations may be overridden.

SA Development Act 1993

THIRSTY WORK, MINING!

Springs, soaks and waterholes sustain life in arid places. They determine the pattern of distribution of free-drinking species, that must live within commuting distance of a place to drink.

Surface waters also support the journeys of migratory species and are a magnet for creatures that prey on others that come to slake their thirst. Small water bodies enable many insects to complete their life cycles, providing food for birds and bats.

Little is known about the hydrology of the Flinders Ranges. The relationship of aquifers, their expression at the surface as springs and seepages, and their recharge rates, is poorly understood.

In a submission to the Australian Government in 2007, Marathon Resources advised that it would require 5.5 million litres a day for processing activities should a mining application be approved in the future. This extraction rate would continue for a projected mine life of thirteen years. The company would seek water from a variety of sources on the plains and in the ranges. Any approval to extract this measure of water from the region would contravene the government's own targets and prescriptions around the sustainable use of water resources. It is critical that ecosystems under stress retain their water resources.

A Question: Given their importance why were Arkaroola's permanent surface waters not identified, mapped and afforded the highest level of protection?

Raw water requirements for onsite processing activities and potable water for domestic water requirements are estimated at between 2.0Gl/a and 2.5Gl/a.

Mount Gee Uranium Project—EPBC Act Referral

Water can persist in sheltered places through long summers, providing a lifeline for wildlife.



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SPLIT ROCK IN BUT SILLERS OUT



Two memorable stops on Arkaroola's award-winning Ridgetop Tour.



Seeking a Balance places *Split Rock* (top) in Access Zone 1 with the highest level of protection. But iconic *Sillers Lookout* (bottom) has been placed in Access Zone 3, where standard exploration and mining conditions apply. Great for business!

For more information go to www.savearkaroola.com.au

A trip through the Mount Painter heartland, culminating in the final breathtaking ascent to Sillers Lookout, is an experience that has been enjoyed by hundreds of thousands of visitors to Arkaroola.

The Sprigg family has operated a successful tourism business for four decades in the Northern Flinders Ranges. Pioneering the notion that tourism could be used to fund conservation in South Australia, they established the Arkaroola/ Mount Painter Sanctuary in 1969. Arkaroola is now known as Arkaroola Wilderness Sanctuary, with official sanctuary status under the National Parks and Wildlife Act 1972. Arkaroola has won many awards with a place in the South Australian Tourism Commission's Hall of Fame, (2007).

The business has contributed millions of dollars to the South Australian economy, through wages and taxes. It continues to be an important regional employer.

Exploration and mining, particularly uranium mining, has the potential to seriously damage Arkaroola's tourism business. Is it not a disingenuous government that applauds its founder for his great contribution to the state of South Australia, yet fails to adequately protect the sanctuary he created?

The last words come from the man Sir Mark Oliphant described as one of South Australia's greatest sons.

Arkaroola is intended both as a model in conservation of the arid range environment and a tourist resort. It is dedicated to both public education and the enjoyment of a unique, fragile environment, and to regional research of a wide range.

Reg Sprigg

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