

Seeking a Balance

Conservation and resource use in the Northern Flinders Ranges



Government
of South Australia







Protecting the values of the Northern Flinders Ranges


The Flinders Ranges has some of the most recognisable and loved landscapes in South Australia, with outstanding environmental, cultural, and tourism values.

The Northern Flinders Ranges is also one of the most geologically diverse and prospective areas in Australia, with a long history of exploration and mining and potential mineral and energy resources of national and international significance.

The concentration of all of these values in one region is unique. Making decisions requires care to ensure that there is a balance between conservation and resource use.

The State's *Development Plan for the Flinders Ranges (Land not within a Council Area (Flinders))*, established under the *Development Act 1993*, was last consolidated in 2003. Much of the Northern Flinders Ranges lies within the Development Plan's Environmental Class A Zone. The prime objectives of the Environmental Class A Zone seek to conserve the natural character and environment of the area and to protect the landscape from damage by mining operations and exploring for new resources. Reflecting these objectives, Government already places strict conditions and regulatory controls on mineral and energy exploration and on proposed mining activities in the region.

Given the unique values of the region, the South Australian Government recognises the need to further refine the existing management and regulatory framework for ongoing resource activities. In doing this, the key environmental values of the region will be protected, and there will also be greater certainty for exploration and mining companies, landowners, traditional owners and the community.



Building on existing knowledge

DEH and PIRSA have been undertaking a project to identify the icon sites of the Northern Flinders Ranges and to develop future management arrangements for balancing resource use and conservation in this unique part of South Australia. In particular, the project will establish a set of management policies and zones to protect the most important environmental and landscape values while providing for ongoing access to areas of high mineral prospectivity and for geoscience teaching and research.

The project has had a number of guiding principles, including:

- Develop a policy using existing knowledge to inform decision making and recognise that the policy will require refinement over time as new information becomes available.
- Strive to balance ongoing access to mineral resources with protection of landscapes and the environment.
- Important areas should have a management framework that specifically protects the values that make them important.

The project methodology involves a spatial analysis of all available data sets to identify the environmental, landscape, wilderness, heritage, geo-heritage, tourism, and mineral and energy prospectivity values.

An independent landscape assessment by Scenic Solutions was commissioned which involved public surveys to establish and rank landscape values based on images of a range of landscapes through the Northern Flinders Ranges.

Scientific and policy officers worked closely together on this study and the data sets that have been considered include the following themes:

- Threatened ecological communities and species
- Endemic ecological communities and species
- Species and communities at risk
- Significant landscape features including permanent and semi-permanent waterholes
- Wilderness quality
- Visual amenity
- Tourism and recreation locations
- Surface and structural geology
- Geological monuments and type sections
- Mineral deposits
- Former diggings, mines, occurrences and prospects
- Geochemical sampling
- Airborne, magnetic, radiometric and gravity surveys
- Current and historic exploration tenements
- Exploration drillholes
- Prospectivity analysis for all mineral commodities

The boundary of the study area is those areas of the Northern Flinders Ranges elevated from the surrounding plains. Following analysis of data, the study area was refined to focus on the north-eastern corner where the highest concentration of environmental, landscape and mineral prospectivity values is found, and where there is a need for establishing improved management arrangements.

Of interest is that the analysis has confirmed that many high landscape and environmental values are already protected within the Vulkathunha-Gammon Ranges National Park.







The values of the Northern Flinders Ranges

Landscape

The Northern Flinders Ranges is an area of diverse landscapes and great scenic beauty. The landscape assessment revealed that the Mount Painter region, together with the Gammon Ranges and Freeling Heights, are of high value.

Biodiversity

There is a high abundance of national and state conservation rated and endemic species in the Vulkathunha-Gammon Ranges National Park and Arkaroola Wilderness Sanctuary in particular. The large topographic variation provides a diversity of micro-climates which in turn increases the diversity of species surviving in the area. Some of the region's most unique species, such as the Flinders Ranges Purple-spotted Gudgeon and the Spidery Wattle, are found nowhere else in the world. The region also contains many species that are at the extremities of their range or are relictual populations that have survived past periods of climate change. Permanent and semi-permanent waterholes and springs also provide critical refuges for many arid zone species. Other species of significance include the iconic Yellow-footed Rock-wallaby.

Wilderness

Areas within the Gammon Ranges and Mawson Plateau are identified as being of very high wilderness values, largely supported by a sympathetic management regime. The Mawson Plateau in particular is identified as wilderness of potential national significance located within one of the most elevated regions of South Australia.

Cultural

The physical landscape of the Flinders Ranges is central to the Adnyamathanha people who retain a living connection with their country today. The region forms a significant part of the cultural landscape of the Adnyamathanha people.

Mineral prospectivity, mineral occurrences and mines

The region has long been identified as having high prospectivity for copper, gold, and other metals. It is one of the most important uranium provinces in the world. The area is also now recognised for having high prospectivity for the development of geothermal energy.

Geoscience

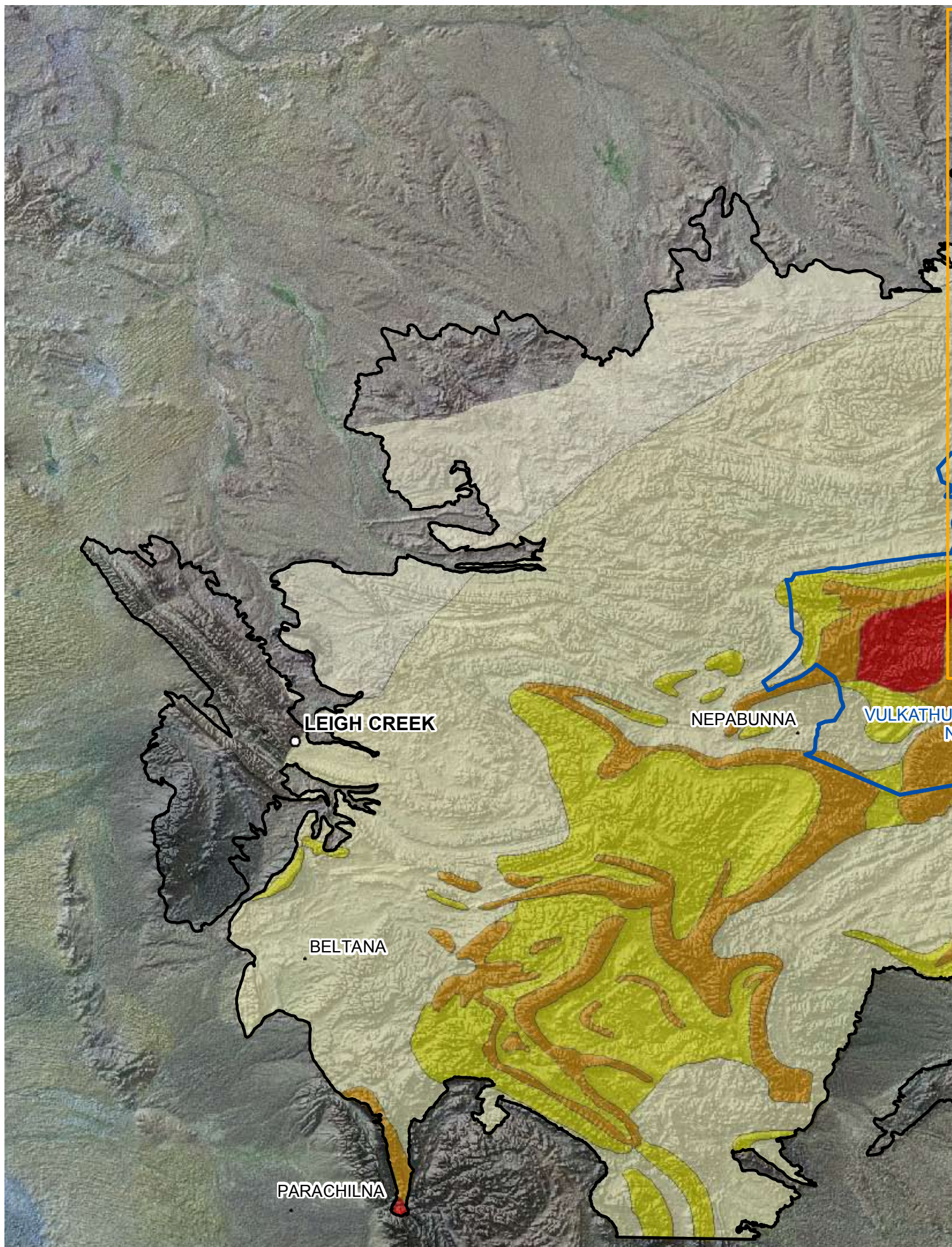
The region is recognised for its outstanding geological features and processes, many of which are unique to science and of international significance. Their high value to science and teaching is recognised in the number of Geological Monuments, the highest proportion of which are located within the Arkaroola Gorge, Mount Gee, Mount Painter and Armchair areas.

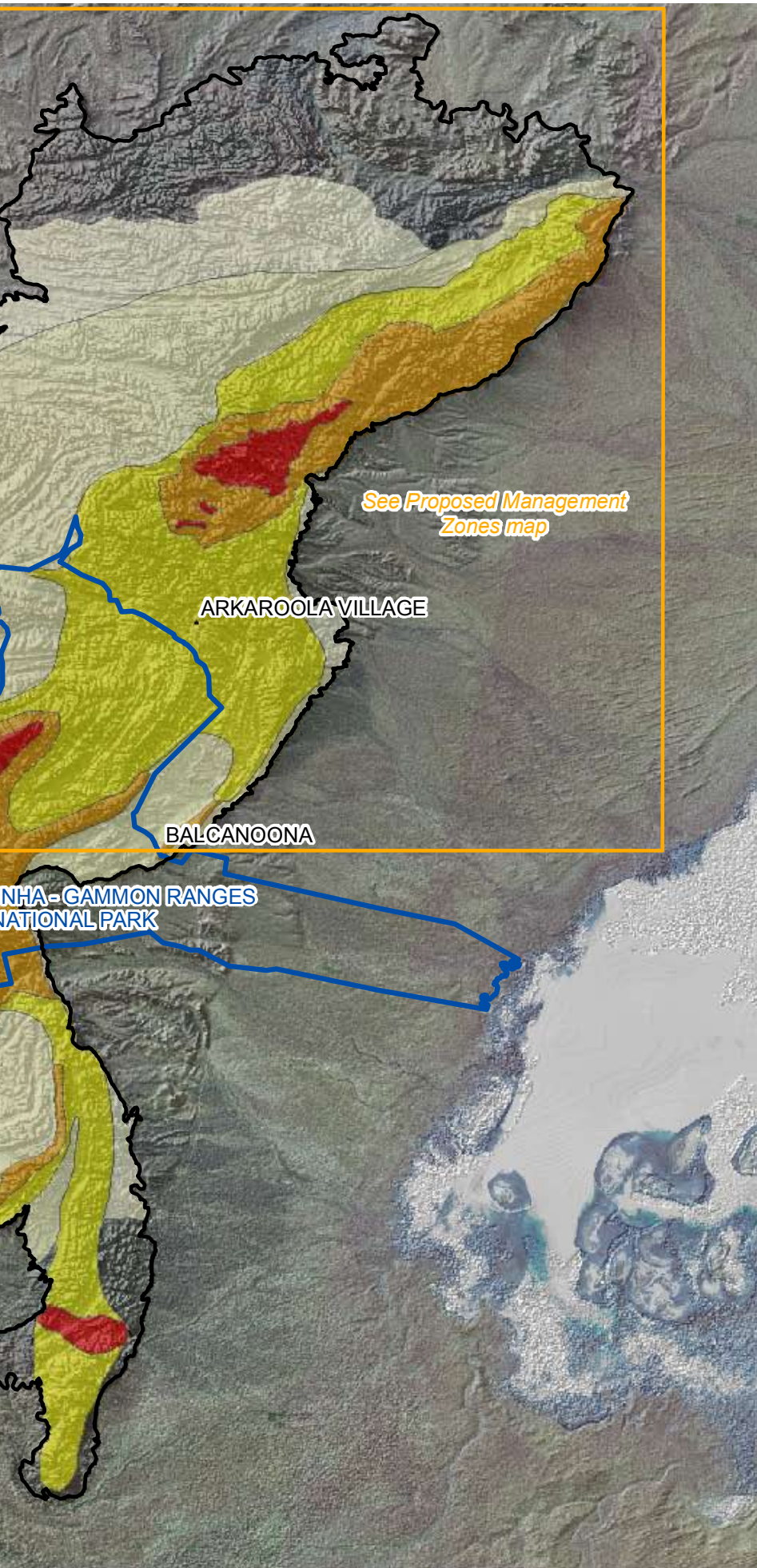
Tourism

Through both the Vulkathunha-Gammon Ranges National Park and the Arkaroola Wilderness Sanctuary, eco-tourism is of high importance which reinforces the region's value to the community.



Landscape Quality





Landscape Quality

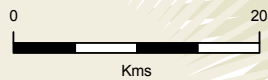


See Proposed Management Zones map

ARKAROOLA VILLAGE

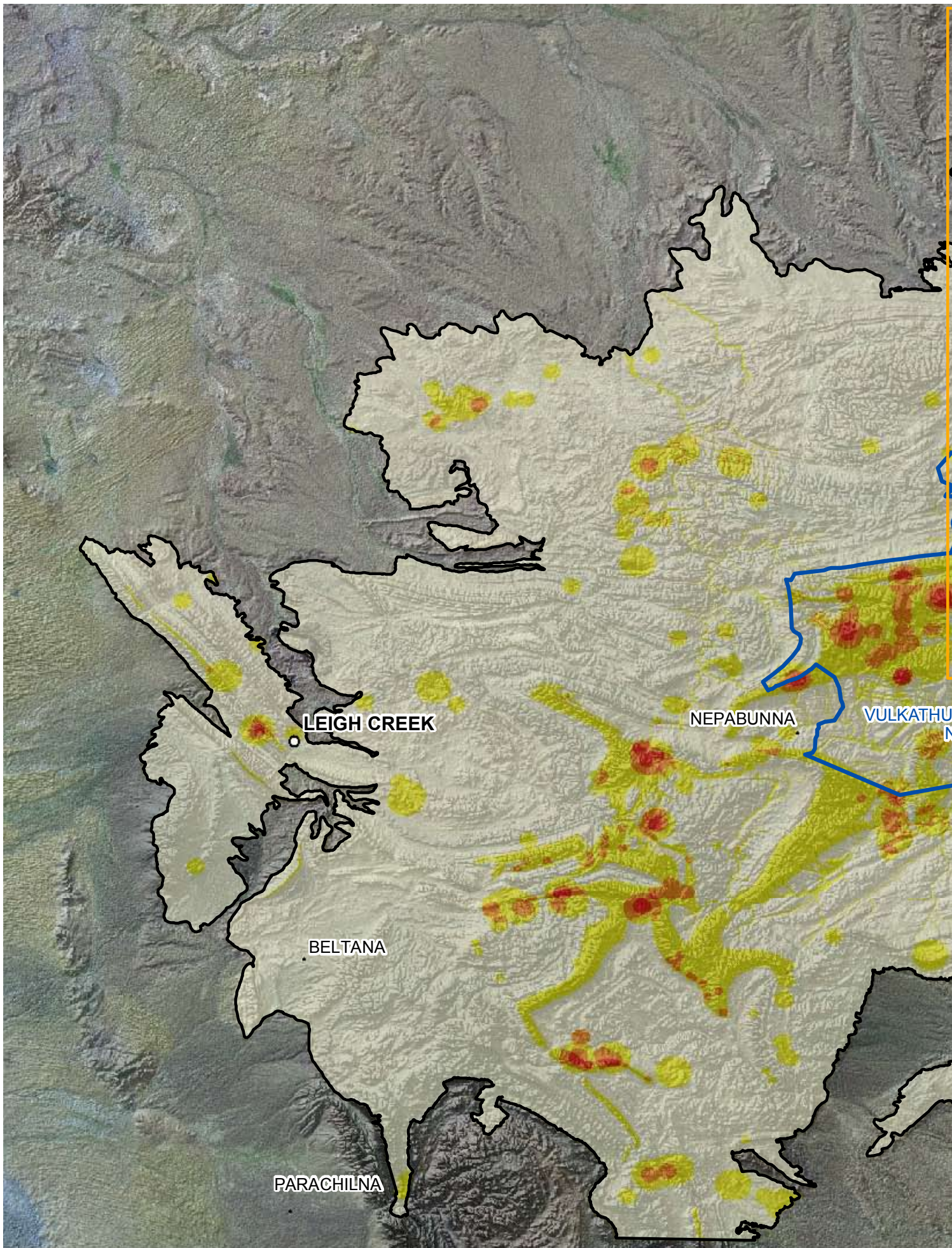
BALCANOONA

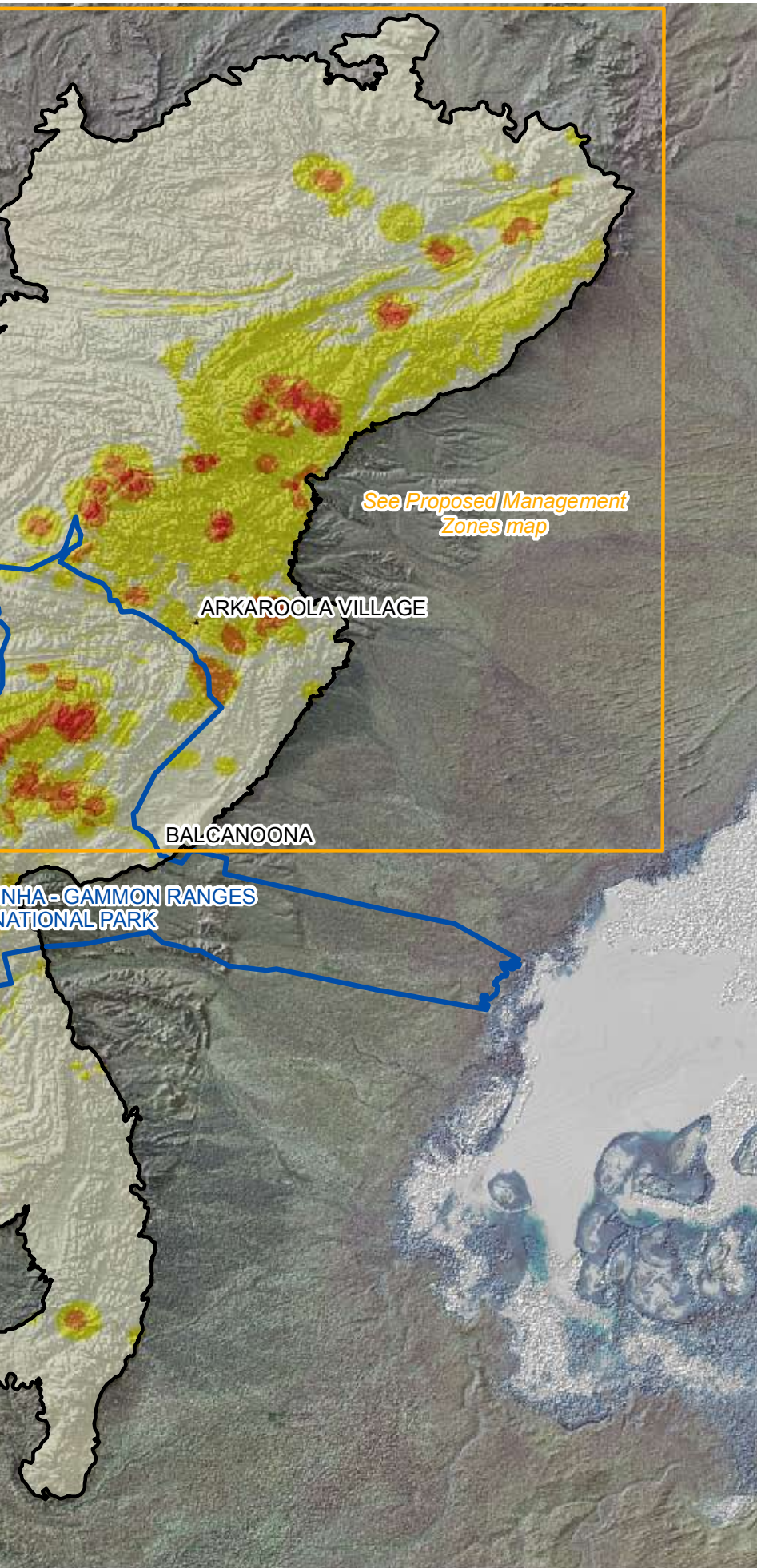
NHA - GAMMON RANGES NATIONAL PARK



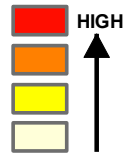
Kms

Biodiversity Values





Biodiversity Values

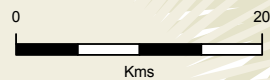


See Proposed Management Zones map

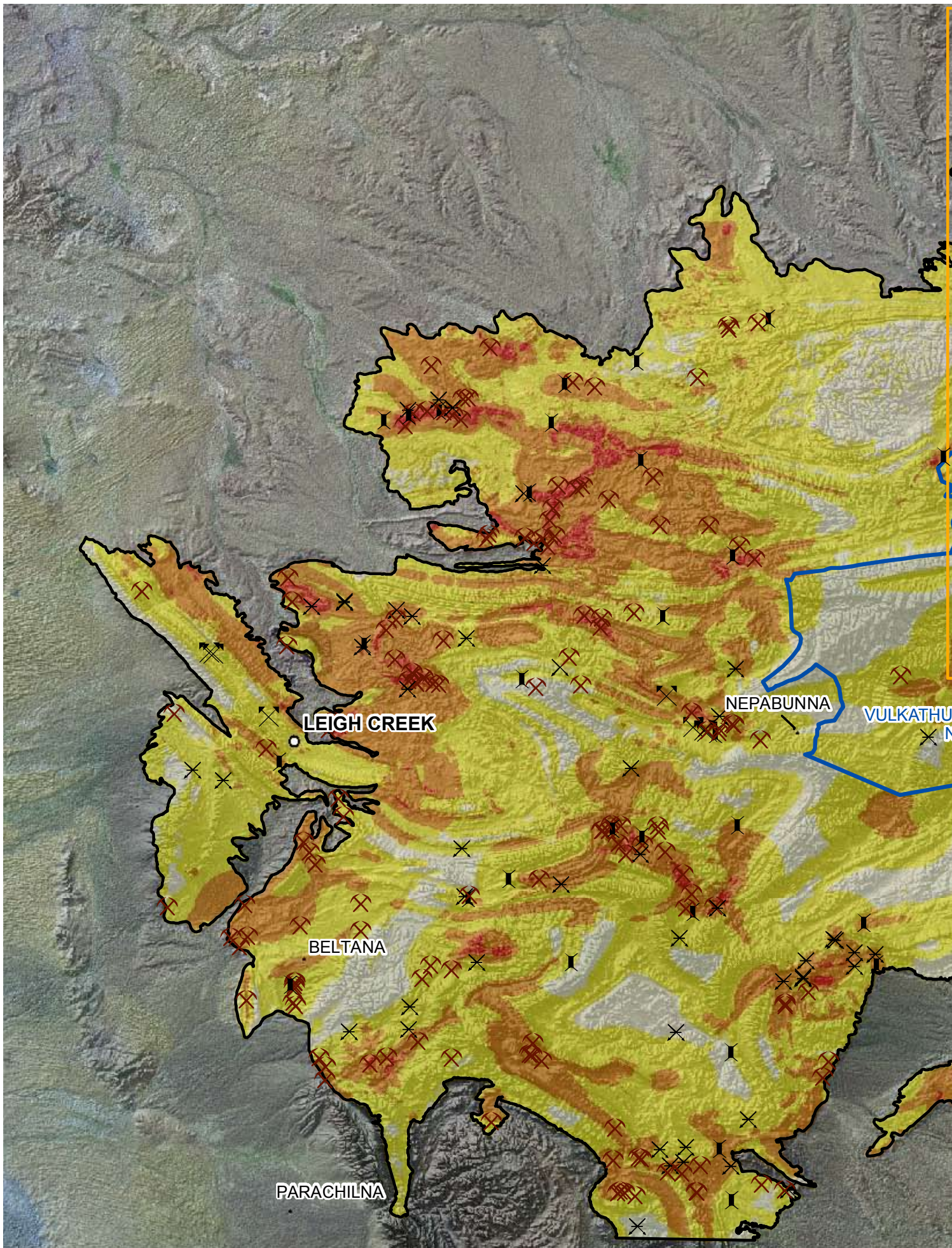
ARKAROOOLA VILLAGE

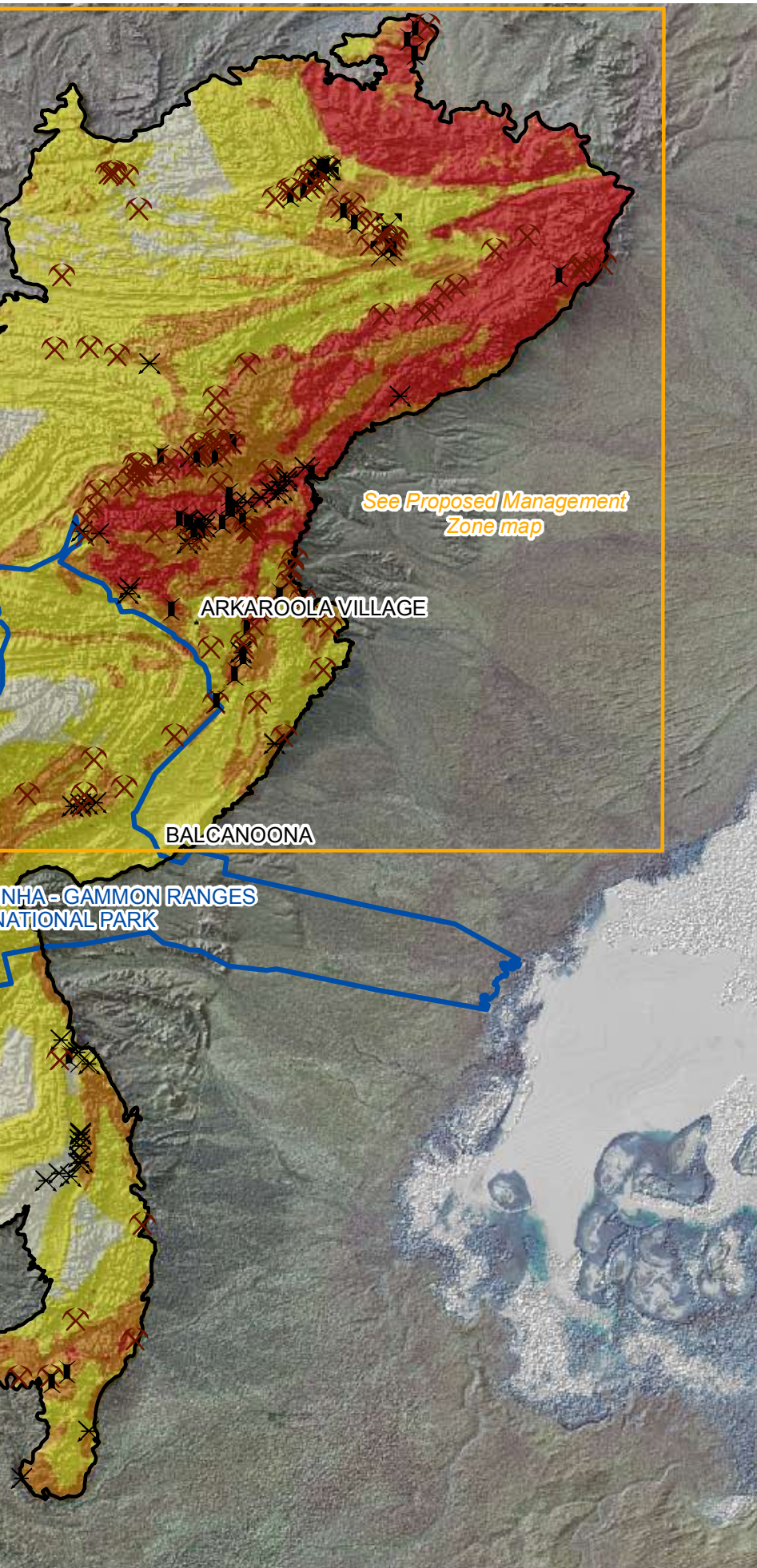
BALCANOONA

NHA - GAMMON RANGES NATIONAL PARK



Mineral Prospectivity, Mineral Occurrences and Mines





Deposits

- ✕ DEPOSIT
- ✕ DIGGINGS
- ✕ MINE
- ✕ OCCURRENCE
- ✕ PROSPECT

Mineral Prospectivity

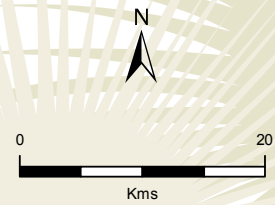
- HIGH
- ↑
-
-

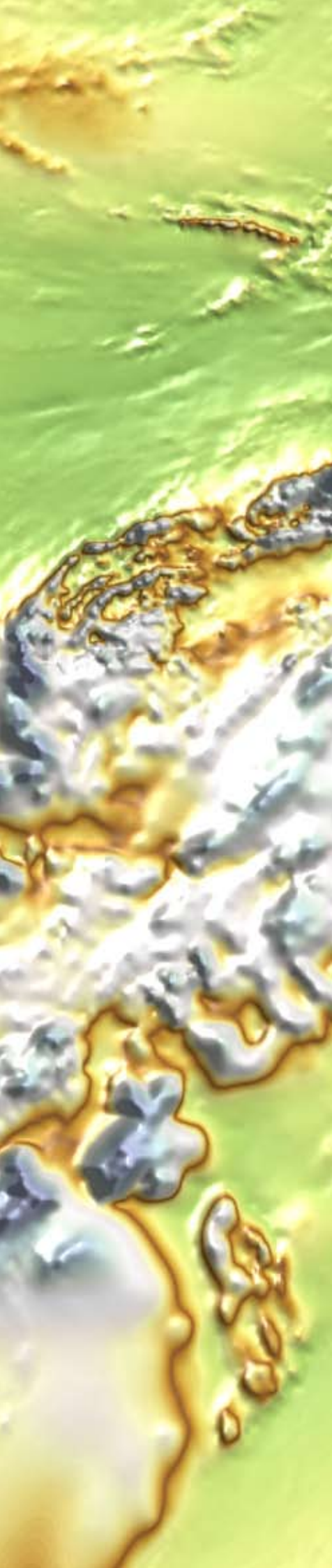
See Proposed Management Zone map

ARKARoola VILLAGE

BALCANOONA

NHA - GAMMON RANGES NATIONAL PARK





Zoning and conditions

DEH and PIRSA have identified zones for all future access for exploration and resource development in the region. These zones are described below:

Access Zone 1

No access accepted.

- No access for exploration and resource development

Access Zone 2a

No high impact activities accepted.

Mineral Exploration

Declaration of Environmental Factors (i.e. proposed exploration work programs) approved by Director of Mines with the endorsement of the Director of National Parks and Wildlife.

The following activities will be permitted:

- Aerial surveys
- Walk-in access and use of existing tracks
- Rock and soil sampling under stringent conditions
- Other low impact exploration activities
- Minimal disturbance to flora and fauna

Proposed Mining/ Resource Development

- Permissible if access from outside zone to resources underneath
- Mining proposal assessed in light of planning guidelines and identified values
- Infrastructure may be permitted within the zone on a case-by-case basis provided it protects identified values
- Mining proposals will be assessed by PIRSA and DEH prior to consideration for public consultation under the *Mining Act 1971*

Geoscience Studies

Across all proposed zones there will be conditional access for geoscience teaching and research.

Access Zone 2b

Low impact activities accepted.

Mineral Exploration

Declaration of Environmental Factors (i.e. proposed exploration work programs) approved by Director of Mines with the endorsement of the Director of National Parks and Wildlife.

The following activities will be permitted:

- Aerial surveys and other low impact exploration activities
- Temporary ground-disturbing activities permitted (e.g. exploration drilling) provided they protect identified values
- Temporary access tracks with stringent conditions and rehabilitation
- Minimal disturbance to flora and fauna, and landform

Proposed Mining/ Resource Development

- Mining proposals will be assessed by PIRSA and DEH prior to public consultation
- Mining proposal assessed in light of Development Plan guidelines and identified values
- Infrastructure may be permitted within the zone on a case-by-case basis provided it protects identified values

Access Zone 3

Standard exploration and mining access.

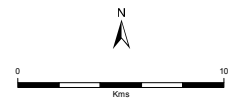
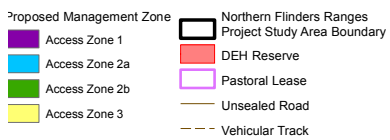
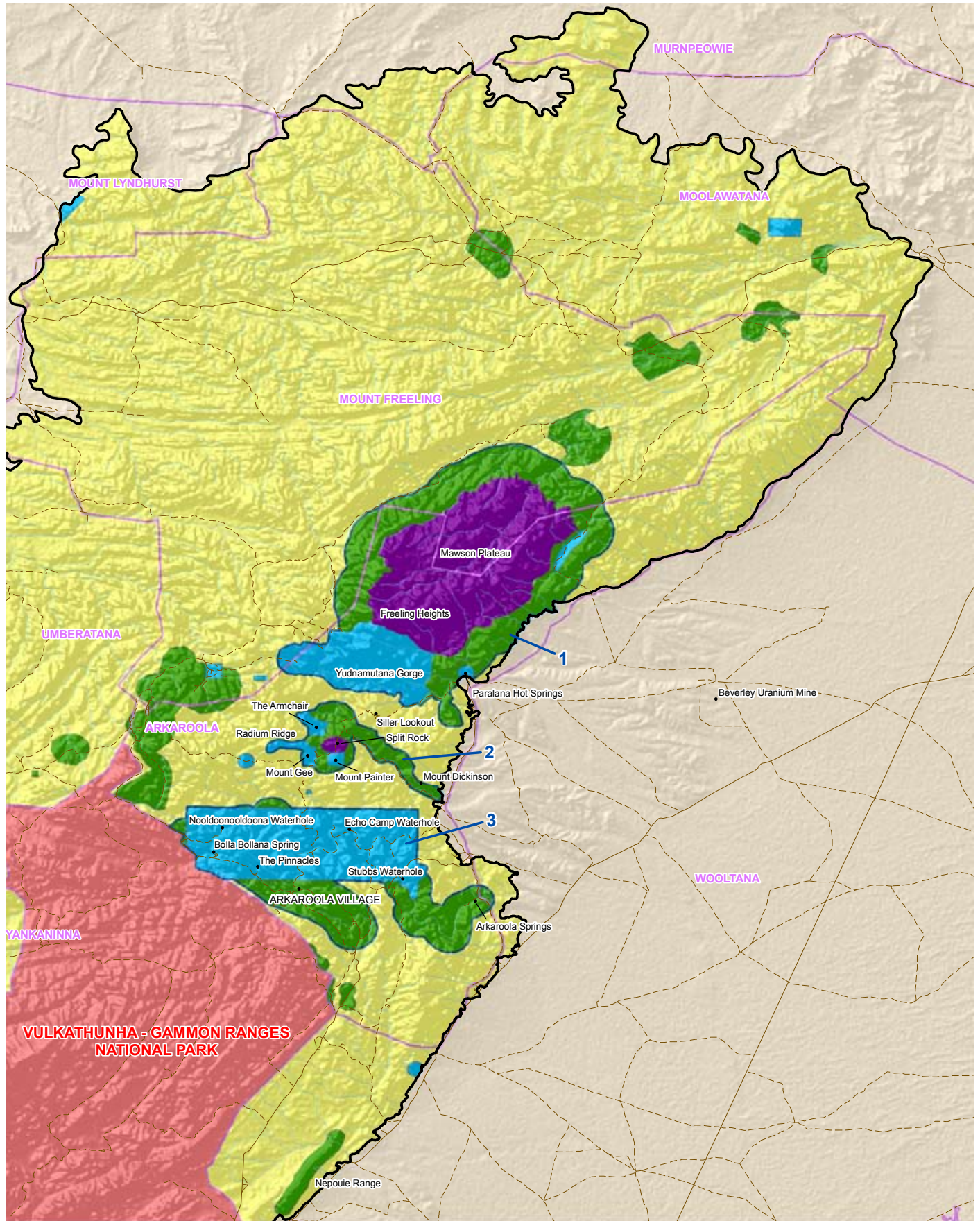
Mineral Exploration

Declaration of Environmental Factors required with DEH (and other agencies) advice on environmental management requirements.

Proposed Mining/ Resource Development

- Mining proposals follow standard Guideline for Mining Proposals in South Australia

Proposed Management Zones





Proposed Areas to be Covered by Access Zones

The zones have been developed around the following locations:

1 Mawson Plateau and Freeling Heights

High value areas of mountain wilderness, tourism landscapes, waterholes, catchments, biodiversity and species of conservation significance. Sites include Mawson Plateau, Freeling Heights, and Paralana Hot Springs.

- Access Zone 1 over Mawson Plateau and associated slopes and ramparts (including part of Freeling Heights)
- Access Zone 2a through Freeling Heights and Paralana Hot Springs
- Access Zone 2b for two kilometre buffer around Mawson Plateau

2 Mount Gee and Mount Painter

Unique landforms, geological monuments, and geoscience value; high tourism and biodiversity value. Sites include Mount Gee, Mount Painter, The Armchair, Split Rock, Streitberg Ridge, Radium Ridge, and Mount Dickinson.

- Access Zone 1 over Split Rock
- Access Zone 2a over Radium Ridge, The Armchair, and Mount Painter
- Access Zone 2b for Mount Gee, Streitberg Ridge, Mount Dickinson, and East Painter Gorge

3 Arkaroola Creek and Village

Core geological monument area; outside of the Vulkathunha–Gammon Ranges National Park, two of the three most important areas for Yellow-footed Rock-wallabies in the Northern Flinders Ranges associated with Arkaroola Creek and Arkaroola Ridge.

- Access Zone 2a over the Geological Monument and Stubbs Waterhole
- Access Zone 2b over remainder of Arkaroola Creek and Arkaroola Ridge

4 Outlier areas

A number of outlier areas of geological or biodiversity value.

- Access Zone 2a around the recorded Geological Monuments
- Access Zone 2b around areas of biodiversity value





Have your say

The management zones outlined in this document will be put in place for managing exploration and potential resource development access to the unique environmental and landscape values of the Northern Flinders Ranges. The zones provide more specific management of iconic areas in line with the objectives of the broader Development Plan for the Flinders Ranges.

The area zoned in this document is the minimum area for protection. Stakeholder input is however needed to ensure that the proposed management zones are the best possible arrangements, based on our current knowledge of the environmental and prospectivity values of the region.

We are seeking your comments on the management policies and zones up to **19 December 2009**. Submissions should be addressed to either/or:

Email: jason.irving@sa.gov.au
Phone: 8124 4707
Post: Mr Jason Irving
Manager Policy and Planning
Department for Environment and Heritage
GPO Box 1047
ADELAIDE SA 5001

Email: ted.tyne@sa.gov.au
Phone: 8463 3033
Post: Dr Ted Tyne
Director, Mineral Resources
Primary Industries and Resources SA
GPO Box 1671
ADELAIDE SA 5001

Copies of this document can be downloaded from:

www.minerals.pir.sa.gov.au/public_notices/northern_flinders_ranges_project
www.environment.sa.gov.au/biodiversity/ecosystem-conservation/nthn-flinders-project.html

What happens next?

The final policy document will be released by DEH and PIRSA in early 2010. This document will take account of the submissions received, and further refinement of the management zones based on the latest scientific knowledge and spatial mapping information.

All future exploration and resource development activities will be required to address the management zones before any on-ground activities will be approved under either the *Mining Act 1971* or the *Petroleum and Geothermal Act 2000*.

As new information comes to light over the years ahead on the region's resource potential and geoscientific values and on the environmental, landscape and biodiversity values (for example, new species records as a result of biological surveys in the region), the management zones will be further refined to ensure that the unique environmental and landscape values of the region are protected.

© State of South Australia through the Department for Environment and Heritage. Apart from fair dealings and other uses permitted by the Copyright Act 1968 (Cth), no part of this publication may be reproduced, published, communicated, transmitted, modified or commercialised without the prior written approval of the Department for Environment and Heritage.

Written requests for permission should be addressed to:
Corporate Communications Branch, Department for Environment
and Heritage GPO Box 1047 Adelaide SA 5001

Disclaimer

While reasonable efforts have been made to ensure the contents of this publication are factually correct, the Department for Environment and Heritage makes no representations and accepts no responsibility for the accuracy, completeness or fitness for any particular purpose of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of or reliance on the contents of this publication. Reference to any company, product or service in this publication should not be taken as a Departmental endorsement of the company, product or service.

Photography:

Department for Environment and Heritage, Bernd Stoecker,
South Australian Tourism Commission, Matt Turner (The Wilderness Society).

Printed on 100% recycled stock
All rights reserved
© Department for Environment and Heritage
October 2009 • FIS 90507



**Government
of South Australia**

For information contact:

Department for Environment and Heritage
For information (08) 8204 1910
Email: dehinformation@sa.gov.au
www.environment.sa.gov.au

Primary Industries and Resources South Australia
For information (08) 8226 0222
www.pir.sa.gov.au