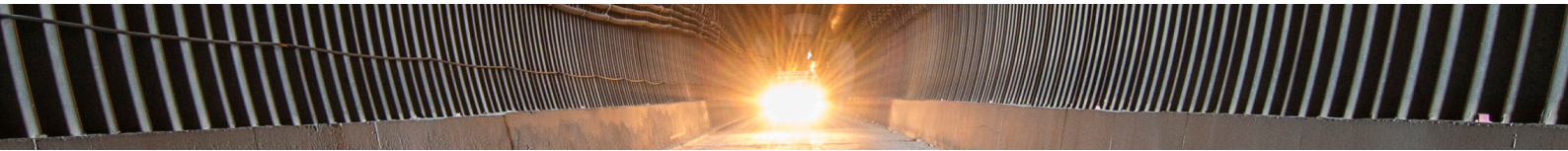


Appendix 14

Social impact assessment



**RANGER 3 DEEPS UNDERGROUND MINE
SOCIAL IMPACT ASSESSMENT
REPORT FOR ENERGY RESOURCES OF AUSTRALIA LTD**

2014



Report Details

Title: Ranger 3 Deeps Underground Mine Social Impact Assessment

Version: Final

Date: July 10, 2014

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Acknowledgements

We would like to thank all individuals and organisations who provided their time, expertise and insights for this project. Banarra would particularly like to thank the Northern Land Council for providing assistance for consultation with regionally affected Aboriginal people and the Gundjeihmi Aboriginal Corporation for its assistance as the representative organisation of the Mirarr Traditional Owners of the Ranger Project Area.

Assumptions and Limitations

The research relies in part on the accuracy of the data provided by participants and published sources. No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made, and the information and documentation provided by third parties. See Appendix B for full details of the methodology applied, including research limitations.

Third Party Reliance

This report is provided to Energy Resources of Australia Ltd (ERA) to meet some of the requirements in relation to Social Impact Assessment set out in the Northern Territory (NT) and Commonwealth Government's *Guidelines for the Preparation of an Environmental Impact Statement Ranger 3 Deeps Underground Mine*.¹ The report and original research informing it was prepared and undertaken for ERA. Banarra's engagement was neither planned nor conducted in contemplation of any third party using or relying on this report.

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¹ See http://www.ntepa.nt.gov.au/_data/assets/pdf_file/0011/347384/ranger3_FinalEisGuidelines.pdf

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GLOSSARY OF KEY TERMS AND ABBREVIATIONS

Term	Description
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
AAPA	Aboriginal Areas Protection Authority
Affected Aboriginal people/communities	Groups of Aboriginal people (in addition to Traditional Owners) who may be affected by exploration or mining activities as defined in the Aboriginal Land Rights (Northern Territory) Act 1976, section 40.
ABA	Aboriginal Benefits Account
Alligator Rivers Region	The Commonwealth Department of the Environment defines the Alligator Rivers Region as, "...centred about 220 km east of Darwin in the Northern Territory of Australia. Comprising an area of about 28,000 sq km, it includes the catchments of the West, South and East Alligator Rivers, extending east into Arnhem Land and south into the Gimbat and Goodparla pastoral leases. The leases were resumed by the Commonwealth and incorporated into Stage 3 of Kakadu National Park in 1987...the World Heritage listed Kakadu National Park is located within the ARR" (Department of the Environment 2014d).
ALRA	Aboriginal Land Rights (Northern Territory) Act 1976
ARRAC	Alligator Rivers Region Advisory Committee
ARRTC	Alligator Rivers Region Technical Committee
Bininj	Term for Aboriginal people living in the north of Kakadu National Park (Parks Australia 2014) ²
The Council	West Arnhem Regional Council (formerly West Arnhem Shire Council)
Cultural heritage	As defined in the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage
DIDO	Drive-In-Drive-Out
EIS	Environmental Impact Statement
EIS Guidelines	Guidelines for the Preparation of an Environmental Impact Statement, Ranger 3 Deeps Underground Mine, Energy Resources of Australia Ltd
EPBC Act	Environment Protection and Biodiversity Conservation (Commonwealth) Act 1999
ERA	Energy Resources of Australia Ltd
ERISS	Environmental Research Institute of the Supervising Scientist
FIFO	Fly-In-Fly-Out
Fox Inquiry	Ranger Uranium Environmental Inquiry
FPIC	Free Prior and Informed Consent

² This report is referenced using the Harvard system with the software Mendeley (see <http://www.mendeley.com/>). It is noted that Mendeley references with some minor variations to the Harvard system.

Term	Description
FTE	Full Time Equivalent
GAC	Gundjeihmi Aboriginal Corporation
GVA	Gross Value Added
Heritage sites	Describes specific places or areas associated with “values”
HRC	Australian Human Rights Commission
ILO	International Labour Organization
Indigenous/Aboriginal	The terms indigenous and Aboriginal are often used interchangeably in historical and contemporary literature and there are many views on which terms are appropriate. Throughout this report the term Aboriginal is used when discussing local and regional indigenous peoples. Indigenous has been used in context when necessary to make clear that the people referred to are not local or regional, or specific named Traditional Owners groups, or when referring to national and World Heritage cultural values. Indigenous is spelled throughout this report in lower case to align with ERA reporting requirements.
Intangible heritage	Refers to cultural knowledge associated with heritage values
JTDA	Jabiru Town Development Authority
KNP	Kakadu National Park
KRSIS	Kakadu Region Social Impact Study
Manaburduma	Also known as Jabiru town camp
Mirarr Traditional Owners	The Mirarr people who are the legally recognised Traditional Owners of the Mirarr Estate that includes the Ranger Project Area defined under the ALRA.
Mudginberri	Outstation also known as Madjinbardi
Natural heritage	As defined in the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage.
NLC	Northern Land Council
NT	Northern Territory
OSS	Office of the Supervising Scientist
Project definition	Proposal components as defined in the EIS Guidelines
Ranger Authority	Section.41 Authority under the <i>Atomic Energy Act</i>
Recorded site	An identified heritage site yet to be officially registered with AAPA
Registered site	A heritage site officially registered with AAPA
The region	Unless otherwise stated, ‘the region’ refers to the Alligator Rivers Region, as defined above.
RJCP	Remote Jobs and Communities Program
R3D	Ranger 3 Deeps
RPA	Ranger Project Area – situated in the Alligator Rivers Region of the NT. The RPA is surrounded by Kakadu National Park (KNP) and is on Aboriginal land. The Mirarr people are recognised as the

Term	Description
	Traditional Owners of the land on which the RPA is located and are represented by the Gundjeihmi Aboriginal Corporation (GAC).
Sacred Site	As defined in the ALRA, Part VII, section 69, a “sacred site” means a site “that is sacred to Aboriginals or is otherwise of significance according to Aboriginal tradition, and includes any land that, under a law of the Northern Territory, is declared to be sacred to Aboriginals or of significance according to Aboriginal tradition.” In plain English, sacred sites may be described as places within the landscape that have a special significance under Aboriginal tradition. Hills, rocks, waterholes, trees, plains and other natural features may be sacred sites. In coastal and sea areas, sacred sites may include features which lie both above and below the water. Sometimes sacred sites are obvious, such as ochre deposits, rock art galleries, or spectacular natural features. In other instances sacred sites may be unremarkable to an outside observer. They can range in size from a single stone or plant, to an entire mountain range.
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
Traditional Owners	Formally recognised Traditional Owner groups, for example the Mirarr, and other Traditional Owners associated with southern parts of KNP.
UN	United Nations
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UN Guiding Principles	United Nations Guiding Principles on Business and Human Rights
Values	As used in the EPBC Act and by UNESCO when referring to World Heritage
Warnbi	Warnbi Aboriginal Corporation – Kakadu
Whistle Duck	Outstation also known as Djirrbiyuk

EXECUTIVE SUMMARY

Energy Resources of Australia Ltd (ERA) owns and operates the Ranger uranium mine (Ranger), located in Australia's Northern Territory. ERA is currently seeking Northern Territory and Commonwealth Government approval to develop an underground mine, "Ranger 3 Deeps", located on the Ranger Project Area (RPA).

The approval process requires an Environmental Impact Statement (EIS), including consideration of the potential social and economic impacts of Ranger 3 Deeps through a social impact assessment (SIA). This report details the results of the SIA conducted by Banarra from June 2013 to April 2014 in response to the requirements of the Commonwealth and Northern Territory Governments' *Guidelines for the Preparation of an Environmental Impact Statement, Ranger 3 Deeps Underground Mine, Energy Resources of Australia Ltd* August 2013 (the EIS Guidelines).

The proposed Ranger 3 Deeps development is an extension of the current Ranger mine. If approved, it will be developed by ERA alongside a number of other existing or proposed activities within the RPA including stockpile processing, progressive rehabilitation works and exploration activities. It is expected that the mining of Ranger 3 Deeps will begin in late 2015 and continue until January 2021, when Ranger's operations must cease according to a Section 41 Authority under the *Atomic Energy Act 1953 (Cth)*.

The proposed Ranger 3 Deeps underground mine would be developed in the context of the long and fraught history associated with the development of Ranger. Ranger is a unique mine that has been at the centre of national and international debate about the uranium industry, both prior to and since its establishment. This includes strong historical and contemporary lobbying for and against the mine (and the nuclear industry itself), as well as intense scrutiny and debate in relation to product stewardship. Ranger was also embroiled in societal debate and government enquiries leading to the establishment of the *Aboriginal Land Rights (NT) Act 1976* (ALRA) and Kakadu National Park (KNP). Ranger is now located on Aboriginal Land and the RPA is surrounded by, but separate from, the World Heritage Listed KNP.

A wide range of people and communities have an interest in, or may be affected by, Ranger 3 Deeps. To establish the potential impacts upon these stakeholders, the SIA included a review of the extensive existing literature available on Ranger, followed by a comprehensive consultation program. Key stakeholder organisations such as the Gundjeihmi Aboriginal Corporation (GAC), Parks Australia (for KNP), the Northern Land Council (NLC), and the West Arnhem Regional Council (the Council) were consulted with and/or took an active role in the process. A broad range of indigenous and non-indigenous stakeholders, other NGOs, government departments and local and regional business were also engaged.

The resulting SIA Report includes discussion of the social context of Ranger and an analysis of identified opportunities and risks that have the potential to create social impacts related to Ranger 3 Deeps. The assessment focussed on ten key aspects of the social environment: Aboriginal cultural values and activities; rights; national and cultural heritage; political representation, governance and administration; population and communities; health and well-being; services and infrastructure; employment and industries; distribution of benefits and social equity; and environmental quality and natural resources.

The SIA found that the Ranger 3 Deeps development has the potential for both positive and negative impacts, but overall, has greater potential to realise positive social outcomes. Three

potential cumulative impacts, encompassing key risks and opportunities, were identified as follows.

Sustainable community benefits from revenue and royalties: Ranger 3 Deeps presents opportunities to plan for and invest royalty money and other benefits linked to Ranger 3 Deeps into long-term sustainable social initiatives.³ Until very recently, sustainable benefits from Ranger have largely not been realised for a range of reasons. A number of promising social initiatives have, however, recently been established, with the potential to deliver sustainable benefits to local and regional communities. The SIA identified several priority opportunities which indicate how this positive impact can be realised. These are:

- Ranger 3 Deeps could enable the ongoing funding of the Kakadu West Arnhem Social Trust and associated initiatives either directly by ERA or indirectly through royalties.
- Ranger 3 Deeps could enable investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population.
- Ranger 3 Deeps could enable the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population.
- Ranger 3 Deeps could enable the continuation of social initiatives funded/administered by the GAC from royalties.
- The extension of revenue and royalties from Ranger 3 Deeps could provide for the continuation or development of new partnerships or initiatives to deliver social services.
- Through continued revenue, royalties and presence in Jabiru, Ranger 3 Deeps could enable ERA to leverage relationships and networks to reduce socio-economic inequity across the region.

A planned vision for the future for Jabiru: Presently there is no coordinated vision amongst government agencies or other key stakeholders for the town's future beyond 2021. Ranger 3 Deeps presents opportunities to better plan for the future of Jabiru, if supported by considerable investment and coordination between multiple key stakeholders. The following priority opportunities are associated with this cumulative impact:

- Ranger 3 Deeps could enhance the opportunity for key organisations (including those with governance roles) to plan for the future of Jabiru.
- Increased certainty over the future of Jabiru could lead to the retention of Jabiru residents and increased use of the town by orbiting Aboriginal people and casual visitors, such as tourists.

³ See Chapter 10 for details of the royalty distribution system.

- Ranger 3 Deeps could enable the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population.
- The extension of revenue and royalties from Ranger 3 Deeps could provide for continuation of, or development of new partnerships or initiatives to deliver social services.
- Ranger 3 Deeps could enable ERA to support indirect employment linked to Ranger, sustaining the level of employment in the region.

Continuation or exacerbation of existing negative issues: Over its lifespan, Ranger has contributed to some negative outcomes for stakeholders. If Ranger 3 Deeps is approved these outcomes may continue or increase if a “business as usual” approach persists. This includes issues such as the perceived inequitable distribution of royalties, social cohesion problems, the state of well-being of the Mirarr and others opposed to Ranger in its current form, and concerns about environmental contamination. This potential cumulative impact is associated with the following priority risks:

- Traditional Owners and other affected Aboriginal peoples could be aggrieved as Free Prior Informed Consent (FPIC) is not required for Ranger 3 Deeps approval under conditions of the Ranger Authority.
- Ranger 3 Deeps could contribute to continued or increased concern amongst local and regional communities about possible, or perceived, contamination of water and food resources, and the health implications of consuming them.
- Ranger 3 Deeps could enable a business as usual approach in the governance of Jabiru if inadequate future planning is undertaken.
- Ranger 3 Deeps could contribute to continued dependence by Aboriginal organisations on royalties contributing to a socio-economic reliance on mining and a delay to a post-mining economy.
- The distribution of royalties from Ranger 3 Deeps could exacerbate tensions and conflicts between Traditional Owners and other affected people regarding equity in the distribution of benefits from Ranger.

A final key issue identified by the SIA is that the relationships between key organisations in Jabiru and the region are entrenched in a way that undermines good communication and that, at times, involves mistrust, misinformation and misunderstanding. This situation is deeply challenging to supporting good social outcomes from the proposed Ranger 3 Deeps underground mine.

In summary, the SIA identified that the Ranger 3 Deeps development presents an opportunity to address existing impacts of Ranger, and put in place measures for more sustainable outcomes in the future for local and regional stakeholders. This would require considerable investment and collaboration between regional organisations to avoid the continuation of historical impacts associated with Ranger.

1 INTRODUCTION AND BACKGROUND

1.1 THE PROPOSED RANGER 3 DEEPS DEVELOPMENT

ERA owns and operates the Ranger uranium mine, located on the RPA⁴ in the Alligator Rivers Region (the region)⁵ of the NT.⁶ The RPA is surrounded by KNP and is on Aboriginal land. The Mirarr people are legally recognised as the Traditional Owners of the land on which the RPA is located and are represented by the GAC.

ERA is seeking approval to develop an underground mine to access the Ranger 3 Deeps mineral resource, currently estimated by ERA at approximately 34,000 tonnes⁷ of uranium oxide (ERA 2012b). The proposed development is wholly within the RPA and within the footprint of the existing mining operation⁸ (ERA 2012b; ERA 2013b) (see Figure 1).

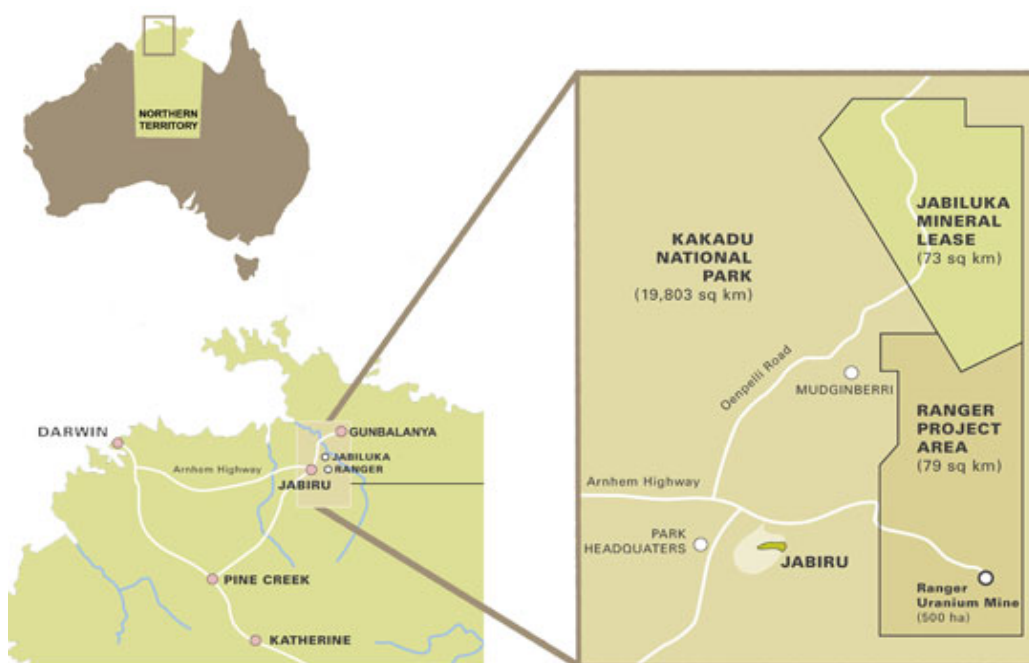


Figure 1: Map of RPA, Jabiru town and Jabiluka mineral lease⁹

⁴ The RPA is a 79 square kilometre area of land that has been authorised for commercial exploitation of uranium under the *Atomic Energy Act 1954 (Cth)* and leased to ERA until 2021. Refer to Section 1.3.5 for more information on the geographic boundaries relevant to this SIA.

⁵ Also known as the “ARR.”

⁶ Rio Tinto, a diversified resources group, owns 68.4 per cent of ERA shares. The balance of the Company's shares are publicly held and traded on the Australian Securities Exchange (ERA 2014e).

⁷ Refer to *Ranger 3 Deeps Referral for Proposed Action* for further information (ERA 2012b).

⁸ The footprint of the current mining operation (including Jabiru airport), comprises an area of approximately 2,270 hectares in the southern part of the RPA (ERA 2012b).

⁹ <http://www.riotinto.com/ourbusiness/energy-resources-of-australia-ltd-4711.aspx>

Open pit mining at Ranger ceased in November 2012 and at the time of writing ERA was processing stockpiled ore and rehabilitating its open pits. If the underground mine is approved, the existing infrastructure at Ranger will be used to process the ore from Ranger 3 Deeps and it will become the primary source of ore for ERA. In addition, stockpiled ore will continue to be processed.

ERA commenced exploration of the Ranger 3 Deeps ore body in 2006 and began construction of an exploration decline in 2012 to enable underground drilling to further define the resource. Underground exploration drilling commenced in 2013 and will continue to mid-2014 (Rio Tinto 2012b).

If approved, ERA anticipates that the mining of Ranger 3 Deeps will begin in late 2015 and will progress in line with the current timeline for cessation of mining and processing at Ranger by January 2021 (with active rehabilitation to 2026).

If Ranger 3 Deeps is not approved, ERA is authorised to process ore until January 2021, but will do so only as long as is economically viable. Closure prior to 2021 has not been considered within the scope of the SIA.

In March 2013 it was determined by both the NT and Commonwealth Governments that the Ranger 3 Deeps development requires an assessment in the form of an EIS. This includes an assessment of the social and economic impacts of the Ranger 3 Deeps development and a Social Impact Management Plan (SIMP) to address the risks identified through the assessment. This report presents the results of the Social Impact Assessment (SIA) commissioned by ERA and conducted by Banarra¹⁰ in response to these requirements. The SIMP is included in Appendix 15 of the EIS.

1.2 SOCIAL AND HISTORICAL CONTEXT

Whilst the scope of this SIA is limited to assessing the social impacts likely to arise from the Ranger 3 Deeps development, the proposed development is effectively an extension to the existing Ranger mine. It is therefore necessary to understand the history of Ranger and its impacts to better predict and contextualise possible impacts from Ranger 3 Deeps. Due to Ranger's particular history, this includes the broader context of early uranium exploration in Australia, the indigenous history of the region, the creation of KNP and the changes brought by the development of Ranger and the town of Jabiru.

Ranger has long been a focal point of national political and societal debate regarding the Australian nuclear industry, the social and environmental impacts of mining and development, and Indigenous Australians' rights to land and self-determination. From the early 1970s to the gazetting of the ALRA, the proposed mine was the subject of significant debate about the national economic interest in uranium mining balanced against three factors: NT Aboriginal peoples' desire for land rights, the policy platform of the anti-nuclear movement and the conservation movement. Throughout the late 1970s and 1980s, Ranger remained in the national spotlight as KNP was established in three stages, leading to the situation today where a World Heritage listed area now surrounds Ranger.

¹⁰ Banarra is a sustainability consultancy with specialised expertise in the social impacts of resource development. Refer to Appendix A for an overview of Banarra's capabilities.

The complexity of this history has led to conflicting viewpoints on the context and social changes occurring around Ranger. While Ranger has not been the only factor, there is no doubt that the mine and the establishment of the town of Jabiru has contributed to significant social change in the region for over 30 years. The following sections provide an introduction to the social and historical context of underlining events of most relevance to Ranger and the present SIA. As noted above, later chapters provide further detail on the current social environment including social baseline data and the risks and opportunities identified by the SIA.

1.2.1 Enduring indigenous culture and non-indigenous history

The region is recognised and valued internationally due to the enduring presence and adaptation of Aboriginal people over the past 50,000 years (Commonwealth of Australia 2013). In the present day, the region is home to about 16 clans of Traditional Owners. Before colonisation, 12 languages were spoken in the region and today three are spoken on a regular basis: Gundjeihmi, Kunwinjku and Jawoyn (Parks Australia 2013). The Mirarr are the clan group who are the Traditional Owners of the RPA.

A key element of the enduring cultural history of Aboriginal people in the region is the presence of over 10,000 rock art sites that are considered to be “the longest historical record of any group of people” (Chaloupka in Press & Lawrence 1995b, p.22).¹¹ These and other archaeological sites document the experiences of Aboriginal people adapting to dramatic changes to landscape and weather patterns. These changes have included sea level rises of 100-150 metres, the flooding of river valleys, the spread of mangrove forests and rainforests and finally the emergence of the freshwater wetlands that exist today. Prior to European colonisation the region sustained a relatively sparse indigenous population (Press & Lawrence 1995b, p.40; UNEP WCMC n.d., p.4).

It is understood that from about 6,000 years ago, more rainfall and a greater diversity of food sources helped to sustain increasing populations until the arrival of Europeans in the area. At this time it is estimated that the region's population of 2,000 had “...a stable yet dynamic Aboriginal hunter-gatherer culture, well-adapted to local conditions and quick to take advantage of new opportunities as they arose” (Press & Lawrence 1995b, p.57).

From around the 17th century, visits from Macassan fisherman from parts of present-day Indonesia, as well as European explorers, led to increasing contact between the region's Aboriginal people and other cultures. A more permanent non-indigenous presence began in the mid-1800s in the form of miners, buffalo hunters, missionaries and settlers (Press & Lawrence 1995b, p.43; Aboriginal Project Committee 1997b, p.2). This early contact with Europeans has been argued to have had a devastating effect on the Aboriginal population, largely as a result of introduced diseases (Press & Lawrence 1995b, p.26).

By the early 20th century, the continuity and stability that had characterised the region for millennia was disrupted by the rapid and significant social change that followed. This pattern

¹¹ Banarra understands that the area within the RPA immediately surrounding Ranger has been surveyed for cultural sites (including rock art) by an independent specialist and also by the AAPA with the involvement of the GAC and that no rock art sites have been identified. The northern area of the RPA, which is comprised of low lying swamp/scrubland, has not been surveyed to date due to its distance from Ranger and lack of rocky outcrops where rock art is commonly found.

of colonisation and transformational change mirrors the experience of indigenous people across Australia, alongside specific local elements, such as the buffalo industry, the establishment of pastoral stations, the mission at Oenpelli and the relatively recent period during which a significant European presence was established in the region. It was not until the early decades of the 20th century that population centres were established across the region including near road and rail infrastructure at Pine Creek and Adelaide River (Director of National Parks 2007; Fox 1977; Kakadu National Park 2013; Scambary 2013).

The past 50 years have seen the establishment of mining at a number of locations and the region has become a focal point of debate around Aboriginal land rights, nuclear industry policy, environmental and cultural heritage protection and the impacts and distribution of benefits from resource development.

1.2.2 Development of an Australian uranium industry

The NT has long been known for its rich uranium deposits. In addition to Ranger, the area includes other well-known deposits at Coronation Hill (Guratba), Koongarra, Jabiluka and Nabarlek. All of these sites have been focal points for debate, with each having markedly different socio-political histories and outcomes relating to mining, conservation, Aboriginal land rights and/or economic opportunities (Fox 1977, p.19–20).

Uranium was first discovered at Ranger in 1969 around the same time as the nearby Jabiluka and Koongarra deposits. By this time, uranium mining had already been occurring in the NT for around 20 years, supplying ore to the United States of America and United Kingdom for various purposes (Harris 2011, p.2). With the *Treaty on the Non-Proliferation of Nuclear Weapons* coming into effect in 1970 and the rapid development of nuclear-powered electricity generation worldwide, the future of Ranger uranium mine (and Australia's uranium industry more broadly) became a focus of significant national political debate.

Following a five-year period of extensive environmental and technical studies of the region and the proposed Ranger development, a public inquiry was established (chaired by Justice R. W. Fox and known as the Fox Inquiry) to evaluate what was then known as the “Ranger uranium mine proposal” (Fox 1976, p.2; Fox 1977, p.2–7). The findings of the inquiry were delivered in two parts, with the first report (completed in 1976) considering the national interest and the role of Ranger in developing a uranium industry within Australia. The second report (completed in 1977) was more locally focused and examined the various competing interests for land use within the region, including Aboriginal rights, mining, agriculture and tourism (Fox 1977, p.7–9). The main conclusion of the Fox Inquiry was that the evidence considered, including the opposition of the Mirarr and other Aboriginal groups to Ranger, did not provide sufficient reason to prevent the development of Australia's uranium industry or the Ranger uranium mine. The Fox Inquiry therefore concluded in favour of the development of the Ranger deposit and the uranium industry more broadly.¹²

Since the 1990s, societal and political debate about Australia's uranium industry has continued with issues including: government policy regarding sales of uranium to India (which

¹² Other recommendations included: the creation of KNP along with the granting of Aboriginal title to a number of areas of land in the region (including the RPA), and setting up the system of environmental monitoring and research in the Alligator Rivers Region overseen by a federally appointed Supervising Scientist (ATNS 2005).

is not a signatory to the *Treaty on the Non-Proliferation of Nuclear Weapons*); the role of nuclear energy in combating climate change; the location of Australia's first low-level radioactive storage facility (intended for medical non-uranium isotopes) proposed for the Muckaty land trust area in the NT; and most recently the Fukushima nuclear disaster in 2011 (Australian Broadcasting Corporation 2013; Australian Government 2013a; Commonwealth of Australia 2006; Milman 2013; Parnell 2013). This period has also seen the emergence of national and global anti-nuclear and environmental movements, which have contributed to significant scrutiny and targeted campaigns directed at Ranger and other nearby proposed mines, such as Coronation Hill and Jabiluka.¹³

The Australian anti-nuclear movement was most prominent in the 1970s and 1980s. In the early to mid-1970s, campaigns were run against the establishment of an Australian uranium mining industry in the context of French nuclear testing in the Pacific and the global nuclear disarmament movement. By the mid-1980s, the broader Australian community was also aware of the impact of British atmospheric nuclear testing at Maralinga in South Australia and the Montebello Islands off the coast of Western Australia, and there was also growing awareness of its impact on Aboriginal people, particularly at Maralinga. The mid-1980s also saw Palm Sunday anti-nuclear rallies across all major Australian cities with numbers reaching into the 100,000s. It could be argued that the lack of an Australian domestic nuclear power industry is partly due to the long history of anti nuclear campaigning from the 1970s to the present (Martin 1980, Tame 1982, Pugh 1989, P.118, Parkinson 2007).

Environmental and anti-nuclear opposition to Ranger has paralleled, and sometimes converged with, opposition from Traditional Owners and other Aboriginal groups who have sought recognition of their land rights. Examples include the 1990s campaign against the development of the Jabiluka mine and in more recent times the proposed nuclear waste dump to be situated on the Muckaty Aboriginal Land Trust (Commonwealth of Australia 1999; Scambary 2013, p.60; Gundjehmi Aboriginal Corporation 2002; Parnell 2013; Australian Broadcasting Corporation 2013).

It is also the case that Ranger, as well as Australia's other uranium mines, Olympic Dam and Beverly in South Australia, continue to operate in the context of policies at Territory, State and Commonwealth Government levels that, while at times the subject of intense debate, have effectively seen ongoing bi-partisan support from Australia's two major political parties

¹³ These groups have included:

- The Australian Conservation Foundation (ACF). The ACF have a policy aim to stop all uranium mining in Australia (<http://www.acfonline.org.au/be-informed/northern-australia-nuclear/uranium-mining-australia>);
- Greenpeace. Greenpeace has had a comprehensive anti-nuclear policy since its formation around 40 years ago (<http://www.greenpeace.org/australia/en/what-we-do/Nuclear/>);
- Friends of the Earth (FOE). FOE have run an anti-nuclear campaign lasting 40 years (<http://www.foe.org.au/anti-nuclear>);
- The Greens. Greens policy calls for closure of Ranger (<http://www.greens.org.au>);
- The Northern Territory Environment Centre (ECNT). The ECNT's stated key policy objective is to close Ranger (<http://ecnt.org/>);
- The Campaign Against Nuclear Energy, which has been disbanded;
- The Nuclear Disarmament Party, which was deregistered as a political party in 2009;
- The Movement Against Uranium Mining which was formed in the mid-1960s as a lobby group against uranium mining in Australia. In 1994 it reduced its activities to distributing information (<http://trove.nla.gov.au/people/469914?c=people>); and,
- The Australian Labour Party, which in 1977 had a "moratorium" policy on uranium mining, and from the 1980s a three uranium mines policy.

for uranium mining to supply the nuclear power industry (noting that the Greens have not formed government in any relevant jurisdiction). As mentioned previously, it is also the case that in recent years, uranium mining has seen renewed focus in debate about potentially reducing greenhouse gas emissions from fossil fuel electricity generation through the use of nuclear power. The Intergovernmental Panel on Climate Change supports nuclear energy being part of the world's energy mix (Intergovernmental Panel on Climate Change 2014)).¹⁴ At the national level of Australian politics, both the Federal Labor Party and the Federal Coalition government support the uranium industry (Clayton Utz 2013).

1.2.3 Indigenous land rights

In 1976, the Commonwealth Government enacted the *Aboriginal Land Rights (NT) Act 1976* (ALRA), which to this day is widely considered the strongest form of indigenous land tenure in Australia. This is, in part, due to the ALRA having a mechanism that is commonly referred to as a “right of veto over mining”. The ALRA's right of veto was one of the earliest (and remains one of the strongest) forms of legislated Free Prior and Informed Consent (FPIC) in the world.¹⁵ However, in the case of Ranger and the Mirarr, the ALRA was legislated with a specific provision excluding the RPA (and other areas such as Nabarlek) from what could be termed the FPIC provisions of the ALRA. These provisions allowed for the Mirarr to have the land of the Ranger lease determined as Aboriginal land, but explicitly excluded them from the right to refuse exploration or mining under the ALRA. This enabled the then government to enact land rights legislation for the benefit of Aboriginal people in the NT, whilst providing no mechanism for those Aboriginal people who opposed the development (including Mirarr and some other affected Aboriginal people) to veto it proceeding. The result was a situation where the Mirarr, having been recognised as the Traditional Owners of the land within the RPA, were opposed to the development of Ranger yet had no choice but to negotiate a mining agreement with Peko-Wallsend Limited, the owner of Ranger at the time.

In 1978, the NLC signed a mining agreement on behalf of Traditional Owners.¹⁶ The agreement was widely criticised as being rushed and inadequate due to the RPA being essentially pre-approved under the ALRA. In the 1980s, the NLC commenced legal action to strike out the agreement, which was ultimately discontinued (pers.comm Ron Levy). However the legal action reflected ongoing resentment towards Ranger by many Traditional Owners

¹⁴ The UN Intergovernmental Panel on Climate Change's third assessment report, published in 2001, focuses on means of reducing greenhouse gas emissions, and concludes that nuclear power should be one of the main reduction measures used to reduce these emissions (Intergovernmental Panel on Climate Change 2001). The fifth assessment report, *Climate Change 2014: Mitigation of Climate Change* continues to discuss nuclear energy as one of climate change mitigation options: “The implementation of climate change mitigation policies increases the competitiveness of nuclear energy technologies relative to other technology options that emit GHG emissions” (Intergovernmental Panel on Climate Change 2014).

¹⁵ In general terms the so-called right to veto gives indigenous people who hold Aboriginal Freehold land via an ALRA Land Trust an ability to refuse certain types of mining exploration on their land (in five year periods). If exploration is refused, mining can also be refused. Without permission from Traditional Owners, roads can also not be built and sacred sites are protected. If exploration is allowed the right to refuse mining is effectively voided. In the context of an SIA, it is perhaps more helpful to understand the rights enjoyed by Traditional Owners as a form of FPIC. Refer to Chapter 3 for further information.

¹⁶ The mining agreement covered matters such as the size and period of royalty payments, relationship protocols and so on. Refer to Chapter 3 for further information.

and underscored a very difficult relationship between Ranger and the broader Aboriginal community.

More recently, the Mirarr have been involved in a process aimed at negotiating a native title settlement (under the Commonwealth *Native Title Act 1993*) over the township of Jabiru, an area of 68 square kilometres adjacent to the RPA, within KNP. These negotiations are ongoing. Since its establishment, the Jabiru town lease has existed as a separate tenure held by the Commonwealth Director of National Parks. If settlement negotiations can be concluded in favour of the Mirarr, the Commonwealth *Aboriginal Land Rights and Other Legislation Amendment Bill 2013* provides the necessary framework to enable settlement arrangements for the Jabiru claim area to be finalised and granted as Aboriginal land under the ALRA.

1.2.4 Kakadu National Park and World Heritage Site

The origins of KNP go back to a proposal in 1965 for a significant national park to be established in the region by the NT Reserves Board (Press & Lawrence 1995a) and then through the 1974 Woodward Commission, which sought to identify appropriate ways to recognise Aboriginal land rights in the NT. The Woodward Commission included recommendations for the creation of national parks with joint management status between Traditional Owners and relevant government agencies. As noted previously, the creation of KNP was also one of the key recommendations of the Fox Inquiry. As noted in the Kakadu National Park Management Plan 2007-2014:

...[The Fox Inquiry] tried to work out a compromise between the problems of conflicting and competing land uses, including Aboriginal people living on the land, establishing a national park, uranium mining, tourism and pastoral activities in the Alligator Rivers Region. In August 1977, the Australian Government responded to the recommendations of the Ranger Inquiry. It accepted almost all the recommendations including those about granting Aboriginal title to areas in the Alligator Rivers Region and establishing Kakadu in stages. An arrangement was made for the traditional owners to lease land granted to them to the Australian Government for management as a national park. Mining would not be permitted in the Park but was provided for on areas excluded from the Parks (Director of National Parks 2007, p.6).

KNP was established in three stages between 1979 and 1991. The World Heritage Listing was similarly staged over the same period, with the entirety of KNP area listed by 1992 (Director of National Parks 2007). The World Heritage area was recently expanded again in 2011 with the addition of the Koongarra area, which had previously been set aside for uranium mining. Significantly, KNP is listed on the World Heritage List for both its natural and indigenous cultural values.¹⁷

Competing land uses, differing land tenures and land interest regimes continue to characterise KNP and the area remains a focal point for contest. Indigenous (including the Mirarr) and environment groups have previously lobbied UNESCO's World Heritage

¹⁷ A complete list of the World Heritage Values of KNP is available at <http://www.environment.gov.au/node/19778>.

Committee to list KNP 'in danger' in 1998 and 1999 because of uranium mining.¹⁸ More recently, the NT Government has called on the Commonwealth to hand over management of KNP (Aikman 2013), while the joint management regime has been criticised in the media, including by conservationists and Traditional Owner groups from across KNP (Aikman 2013; Callinan 2013; Lawrence 1997).¹⁹ KNP has also seen significant scholarly focus in relation to the effectiveness of joint management and resulting competing land uses (Haynes 2013; Stacey et al. 2013;).

The World Heritage values of KNP highlight the significance of the region's outstanding indigenous and environmental heritage. KNP is critical for understanding the operating context of Ranger and its impact and place within the region.

1.2.5 Ranger and previous studies

There have been many major studies undertaken of Ranger and the region more broadly and these inform much of the discussion which follows. The most notable examples include: the Ranger Uranium Environmental Inquiry (Fox Inquiry) (1976-77), the Social Impact of Uranium Mining on the Aborigines of the NT (1979-84), the Impact of Uranium Mining on Aboriginal Communities in the NT (1997) and the Kakadu Region Social Impact Study (KRSIS) (1997).

The Ranger uranium deposits were discovered in 1969 by an exploration joint venture between The Peko-Wallsend Operations Limited and Electrolytic Zinc Company of Australasia Ltd. The joint venture partners established a new company, Ranger Uranium Mines Pty Ltd, to manage the development of the proposed mining operation. Following a change of policy direction, the Australian Government, through the Australian Atomic Energy Commission, provided investment funding and claimed a stake in the new company. As has been noted in previous sections, extensive environmental and technical studies were also undertaken, culminating in the Fox Inquiry and the subsequent approval of the project in August 1977.

Construction of Ranger uranium mine began in January 1979 and later that year the Government divested its interest in the project and ERA was formed to acquire the development. In May 1980, mining commenced and Ranger has been operated by ERA since that time. The original ore body (Pit 1) was mined until 1995 and a second ore body (Ranger 3 or Pit 3) was mined from 1997 to 2012 (ERA 2014a).

Over this time, the mining operation has been overseen by an extensive regulatory regime and significant public scrutiny, focused predominantly on the monitoring, investigation and reporting of environmental incidents. The Commonwealth Government has also held several inquiries into different aspects of Ranger and uranium mining more broadly.²⁰ The monitoring

¹⁸ Whilst the committee decided not to inscribe the site on the 'List of World Heritage in Danger', it expressed significant concerns regarding the lack of trust between Australian authorities and Aboriginal Traditional Owners in the region and the government's decisions regarding mining at Jabiluka (UNESCO World Heritage Centre 1999).

¹⁹ For example, management of feral animals and the role of Traditional Owners in decision-making on key KNP management issues (see Callinan 2013).

²⁰ Previous inquiries include: *Ranger Uranium Environmental Inquiry First Report* (Fox 1976) , *1977 Ranger Uranium Environmental Inquiry Second Report* (Fox 1977), *1997 Senate inquiry, Impact of Uranium Mining on Aboriginal Communities in The Northern Territory* (Wilson 1997), *1999 Jabiluka: The Undermining of Process - Inquiry into the Jabiluka*

of social impacts, whilst less frequent, has also been extensive and the region is considered by some professionals to be one of the most studied social environments in the world (pers.comm Richie Howitt). As Professor Ben Selinger commented in relation to Ranger during the Commonwealth Government's Jabiluka enquiry:

It is my belief that it is the most watched and studied mine that I have ever seen, and I have seen a few (Environment Communications Information Technology and the Arts Reference Committee 1999).²¹

The first major study undertaken by the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS)²² between 1979 and 1984 involved the collection of information on the existing social environment surrounding Ranger (social baseline data), the monitoring of changes to the social environment and regular reporting to the Federal Minister for Aboriginal Affairs. The final consolidated report from the study found mixed results as follows, though it should be noted that they remain the subject of debate:

... has uranium mining brought disease, particularly venereal disease, and an increase in ill-health? No. Has the machinery of mining forced Aborigines to relocate physically, or to change their diet? No. Have miners preyed on Aboriginal women or engaged in a sly-grog trade? No. Has mining, or the mining town, produced racial tension? No. Has mining delivered Aborigines to a promised land of apprenticeship and employment? No. Has mining reduced Aboriginal poverty, individual neurosis, and internal decline generally? No.

Has mining created or attracted 'fringe-dwelling' communities? Yes, to the extent that Jabiru has become an attraction point... Has mining directly changed the traditional culture by disturbing sacred sites and/or ceremonies associated with them? Yes, possibly, in several ways and instances... Has mining produced alcohol devastation? No, except in the matter of mining moneys with which Aborigines can and do buy more alcohol. Has mining produced a desire for and a greed about money, in deleterious ways? Yes. Has mining impinged upon or affected the Aboriginal civic culture, albeit one in transition from inmateship to independence? Yes... (Australian Institute of Aboriginal Studies et al. 1984, p.242).

The report was tabled in the Commonwealth Parliament in October 1984 and included recommendations to slow down the pace of development in the region, to support skills development for Aboriginal people in the region and to continue monitoring the social impacts of uranium mining in this region (Wilson 1997). It is understood that no direct responses to the report were implemented, although Aboriginal skills development in the region has been a focus of Commonwealth programmes since the late 1980s, particularly under the former Community Development Employment Program.

Uranium Mine Project (Commonwealth of Australia 1999), *2002 Senate Inquiry into the Environmental Regulation of Uranium Mining* (Environment Communication Technology and the Arts References Committee 2002).

²¹ Quoted in *Jabiluka: The Undermining of Process - Inquiry into the Jabiluka Uranium Mine Project* (Commonwealth of Australia 1999, p.150).

²² Known at that time as the Australian Institute of Aboriginal Studies.

Another major study, the Kakadu Region Social Impact Study (KRSIS), was undertaken between 1997 and 2000 and was jointly funded by the Commonwealth and Territory Governments, the NLC and ERA. This study was designed to articulate the “Aboriginal concerns and aspirations arising from the experience of development in Kakadu region [in the preceding] 17 years” (Aboriginal Project Committee 1997a, p.1). The final report of the 1997 KRSIS Aboriginal Project Committee found that “Statistical indicators show the social problems of the region to be unimproved since the 1980s and similar to those of neighbouring communities” (Aboriginal Project Committee 1997e). The study identified needs related to inadequate housing and outstation infrastructure, poor health and nutrition, alcohol-related issues, accessibility of education, support for ceremony and other social activities, and training and employment.

The KRSIS also discussed problems arising “as a consequence of the need for Aboriginal people to organise themselves to manage the benefits of mining”, including unresolved tensions and disputes relating to the definition of the “area affected” and the membership of the royalty-receiving association, at that time the Gagudju Association (Collins 2000, p.60; Aboriginal Project Committee 1997d, p.39).²³ The contested nature of the distribution of benefits between Traditional Owners of the RPA and other affected peoples was also highlighted²⁴ (Aboriginal Project Committee 1997e).

The final section of the 1997 KRSIS report considered challenges arising from the complexity of the region’s administration and the web of organisations involved including the NLC, the Environmental Research Institute of the Supervising Scientist (ERISS), Parks Australia, Jabiru Town Council²⁵ and ERA. Issues noted included: uncertainty regarding the future of Jabiru; a view that the town should be legally recognised as Aboriginal land; concerns around the possibility of “greater openness or ‘normalisation’” of the region; and the need for an independent legal authority to continue the task of social impact monitoring (Aboriginal Project Committee 1997e). It concluded with the following statement:

Insofar as it is possible to articulate an Aboriginal vision for the region, it combines a demand for a stronger legal position based on land ownership of the whole Park, with an expectation of a more open and participatory ethos of dealing on the part of those agencies exercising jurisdiction over some part, or aspect, of the affairs of the country (Aboriginal Project Committee 1997e Executive summary).

Whether the response of key parties to the findings and recommendations of this study have resulted in any significant changes to the social environment is a point of debate.

Further detail on the above key context areas is provided later in this report, as it is relevant to the findings of this SIA.

²³ Refer to Chapter 5 for further information on Aboriginal governance in the region.

²⁴ Refer to Chapter 10 for further discussion of the distribution of royalties and other benefits from Ranger to Aboriginal people in the region.

²⁵ Refer to Chapter 5 for further information on the roles and relationships between these organisations.

1.3 LEGISLATION AND POLICY

Ranger is subject to a unique combination of numerous legislative and policy requirements due to the historical context in which it was established and the regulations for uranium mining. The following section briefly notes the legislation and policies relevant to the SIA.²⁶

The key legislative triggers for the Ranger 3 Deeps SIA are the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Environmental Assessment (Northern Territory) Act 1982*. The SIA is also subject to regulations associated with both Acts.

The EPBC Act provides a national scheme for environment and heritage protection and biodiversity conservation. Under the EPBC Act, actions likely to have a significant impact on matters of national environmental significance (MNES) are assessed.²⁷

The EIS Guidelines developed by the Commonwealth and NT governments, state that “the proposed action” has the potential to have a “significant impact” on all of the above, excluding those relating to the Great Barrier Reef and Commonwealth marine areas (NT EPA & SEWPAC 2013, p.2).

The EAA Act provides for the assessment of the environmental effects of development proposals and for the protection of the environment (NT EPA & SEWPAC 2013). The NT Minister for Lands, Planning and the Environment is responsible for administering the EAA Act and determining the appropriate level of environmental assessment for the development proposal, which depends upon the sensitivity of the local environment, the scale of the proposal and its potential impact upon the environment. The NT Environment Protection Authority assists the Minister in undertaking the assessment.

In August 2013, the NT and Commonwealth Governments jointly published the EIS Guidelines. The EIS Guidelines require an assessment of the social and economic impacts of the Ranger 3 Deeps development and the preparation of a SIMP to address risks identified through the assessment. While the NT and Commonwealth Governments have collaborated on the guidelines, each jurisdiction must assess the proposal within the terms of its own legislation.

In addition, when Ranger was first developed the Office of the Supervising Scientist (OSS) and ERISS were established to monitor and research the environmental effects of uranium mining in the region. Both organisations were established in response to concerns at the time about the potential impact of uranium mining on the region (i.e., recommendations of the Fox Inquiry), particularly in the area that became KNP. Ranger is now the only mine operating in the region and it remains subject to the public reporting and monitoring requirements of the OSS. This situation sees additional scrutiny of Ranger’s environmental operating

²⁶ The full EIS report provides a comprehensive table of all relevant legislation and policy relevant to Ranger and the Ranger 3 Deeps approval process.

²⁷ Matters considered to be of national environmental significance include: World Heritage values (these apply to Ranger via KNP); national heritage values (these apply to Ranger via KNP); wetlands of international importance (these apply to Ranger via KNP); threatened species and ecological communities (these apply to Ranger via KNP); migratory species (these apply to Ranger via KNP); the Great Barrier Reef Marine Park; Commonwealth marine areas, and nuclear actions (this includes uranium mining).

performance and extensive environmental reporting made publically available. Social research, including impact assessment, is also provided to the community via OSS when it is made available. Ranger is also subject to regulations in the Commonwealth *Atomic Energy Act 1953*.²⁸

In addition to the above requirements, ERA has requested the SIA scope align with Rio Tinto's *Communities Standard* (Rio Tinto 2011a), which is in line with international leading practice in the field of SIA. This standard underscores ERA's commitment to see the Ranger 3 Deeps SIA become an opportunity to better engage the community, and in particular, to build on its relationship with the Mirarr, the GAC and the NLC.

A key part of this SIA process (outlined in the following section) is the opportunity to share information and build understanding of the proposed development and its potential impacts.

1.4 THE RANGER 3 DEEPS SOCIAL IMPACT ASSESSMENT

1.4.1 The SIA process

The SIA commenced in June 2013 with a process developed by Banarra to respond to ERA's needs as detailed in its Scope of Services and the requirements of the Commonwealth and NT Governments in the EIS Guidelines. It was informed by Banarra's knowledge and experience of SIA in the Australian resources sector, and peer reviewed by Professor Frank Vanclay,²⁹ an internationally recognised expert in SIA methodology at the University of Groningen, the Netherlands. The analysis and reporting was largely completed by March 2014 and final edits conducted until July 2014.

The process comprised three phases:

- **The scoping phase:** the preliminary engagement and planning component of the project involved initial desktop research and consultation to understand the local context, discussion and agreement on the parameters defining the SIA scope, stakeholder identification and consultation planning.
- **The issues identification and impacts analysis phase:** the main component of the SIA including approximately six weeks of stakeholder consultation over an eight month period. This phase involved an iterative process of consultation, desktop research and analysis. The aim was to gain a deeper understanding of the history and context surrounding the Ranger uranium mine and the social issues of most concern that are specifically related to the Ranger 3 Deeps development. In the later stages of this phase, the potential impacts of the development were identified and prioritised through a process of mapping and rating the issues that have emerged through consultation. Results were tested and validated against social baseline data and feedback obtained from ERA and other key stakeholders. This phase concluded with a workshop with ERA's management and communities' specialists to identify opportunities for enhancing positive outcomes; mitigating negative impacts and

²⁸ An explanation of relevant legislation is provided in Chapter 1 and associated appendices of the main EIS.

²⁹ See appendix H.

assessing the likelihood and consequence of the identified impacts occurring, once management actions are in place.

- **The reporting and communications phase:** the reporting and communications component of the project involved documenting the SIA results in this Report, in an excel-based impacts register, and in a SIMP. A presentation of the main findings was prepared and distributed to stakeholders engaged through the SIA process. A management report comprising additional insights outside the scope of the EIS Guidelines was also delivered to ERA.

The SIA methodology is detailed in Appendix B, supplemented with detail of the alignment of the SIA with the EIS Guidelines in Appendix C.

1.4.2 Aspects of the social environment

A key part of the SIA methodology adopted by Banarra was to conceptualise the social environment surrounding the Ranger 3 Deeps development into 10 inter-related “aspects”. This approach enabled related social impacts to be grouped for the purposes of analysis and communication. These aspects are outlined and defined in Table 1, below. The aspects have been adapted in response to the specific social and historical context of Ranger from a list of social changes commonly associated with resource development (Franks 2012). As noted earlier, the structure of the SIA report reflects these aspects in the chapters which follow, with each chapter providing further information on the social context and the results and findings of the SIA.

Table 1: Definition and scope of the ten social aspects

Aspect	Definition and scope
Aboriginal cultural values and activities	Aboriginal peoples’ ability to access, protect and develop indigenous land, language, sacred sites, cultural values, knowledge, practices and lifestyles.
Rights	The ability of all people to exercise their human rights. This includes labour rights and rights specific to indigenous peoples.
National and cultural heritage	The ability of all people to enjoy and protect for future generations natural and cultural heritage including protected species, ecosystems, parks and landscapes, and cultural heritage sites.
Political representation, governance and administration	The existence, purpose, resources and capacity of governance bodies (including government) and organisations to represent the rights and interests of people and communities.
Population and communities	The characteristics, mobility and pace of change of populations including diversity, balance of community composition and rates of influx.
Health and well-being	The ability of people to maintain their health and a lifestyle that is not detrimental to their well-being (e.g., nutrition and diet, physical and mental health, alcohol and substance abuse).
Services and infrastructure	The quality, availability and accessibility of social services and infrastructure (e.g., health and emergency services, aged and child care, utilities, roads network and infrastructure, public transport, housing and accommodation and recreational facilities).
Employment and industries	The availability and accessibility of employment and business development opportunities and the existence, resilience and role of particular industries.

Aspect	Definition and scope
Distribution of benefits and social equity	Equal access to education and resources and the fair distribution of the benefits from resource extraction. Equal opportunities to participate in political and cultural life and the ability of individuals and communities to control or self-determine their political, economic, social and cultural development.
Environmental quality and natural resources	The ability of people to access, manage and enjoy the environment and natural resources.

1.4.3 Stakeholders and affected communities

A wide range of people and communities may be affected by, or have an interest in, the Ranger 3 Deeps development. In this SIA all potentially affected and interested parties are referred to as stakeholders. The exception is Aboriginal stakeholders who are specifically referred to in recognition of their special status as Traditional Owners and as affected people under the ALRA. Table 2 outlines the key stakeholder groups that have been identified and consulted as part of the SIA.³⁰

With regard to Aboriginal stakeholders, it is important to understand the specific definition of Traditional Owners in the ALRA. “Traditional Aboriginal owners”, in relation to land, means “a local descent group of Aboriginals” who,

- a) *have common spiritual affiliations to a site on the land, being affiliations that place the group under a primary spiritual responsibility for that site and for the land; and*
- b) *are entitled by Aboriginal tradition to forage as of right over that land.*³¹

In addition, the ALRA also states that statutory Land Councils must consult with “affected communities” in relation to land matters, including mining and exploration.

The above statutory definitions mean that organisations such as the GAC (who represent the Mirarr Traditional Owners on the Kakadu Land Trust) have various rights and roles under the ALRA, while the NLC also has a clear role in consulting with members of affected communities.³² The Mirarr receive benefits as recognised Traditional Owners in the form of royalties and compensation arising from agreements with ERA.

Table 2: Key stakeholder groups considered in the SIA

Stakeholder groups identified as relevant to the Ranger 3 Deeps SIA	
• Businesses • ERA employees and contracting staff • ERA management • ERA suppliers and contractors	• Multi stakeholder organisations • Non-resident service users, including tourists • Non-resident workers • Recreation/interest groups

³⁰ See Appendix B for a description of the process undertaken to identify and prioritise stakeholders and Appendix D for a detailed summary of individuals engaged.

³¹ See ALRA, Section 3.

³² Other aspects of the ALRA define other relationships between both these organisations, particularly how the royalty system works.

• Families of ERA employees • Environmental groups and activists • Governance organisations • Influential individuals • Industry bodies, political parties and lobby groups	• Residents • Service providers • Traditional Owners • Other affected Aboriginal communities/individuals
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Further information on key stakeholders is provided in Chapter 1 and Figure 100 of the EIS report.

1.4.4 Ranger 3 Deeps project definition

If approved, Ranger 3 Deeps will be developed by ERA in the context of a number of other existing or proposed activities within the RPA. These include construction and operation of significant water management infrastructure, major progressive rehabilitation works and exploration activities. Whilst most of these activities are not directly related to the Ranger 3 Deeps development, they have been considered in relation to potential cumulative effects.³³

Banarra's understanding of the scope of activities associated with the Ranger 3 Deeps development includes,

- the construction and operation of surface and in-ground infrastructure;
- mining operations;
- environmental management;
- supply chain management;
- workforce management;
- community relations; and
- closure.

Specifically, the scope of activities includes,

- use of the exploration decline (currently under construction) for underground mine access and transportation of ore to the surface;
- underground workings including mining stopes and a ventilation system;
- construction of a backfill plant for the delivery of a cemented paste aggregate containing tailings, to backfill void spaces in underground workings;
- construction of refrigeration infrastructure to provide cooling in active mining areas;
- additional power generation to run the ventilation, refrigeration, and other infrastructure;
- construction of ventilation shafts situated within the existing mine footprint, including the Magela land application area;

³³ Refer to Appendix B for a definition of cumulative effects and how they are discussed in the report.

- the use of existing facilities to process the ore; and
- a workforce ranging from 180 to 280 personnel, contributing to a total Ranger workforce of 600 to 750 over the life of the mine, peaking in 2016 at the time of Ranger 3 Deeps construction.³⁴ Site staff will be accommodated in residential Jabiru accommodation (250 personnel) and current camp accommodation.

These activities are detailed further in Chapter 3 of the EIS, and in Appendix E, including a description of the project alternative i.e., activities in the absence of the approval of Ranger 3 Deeps. Figure 2 below depicts the provisional layout of infrastructure for Ranger 3 Deeps.

All of the activities outlined above are included in the EIS Guidelines and have therefore been considered within the SIA.³⁵

It should be noted that the SIA considered the potential for environmental or safety incidents, however, it was not within the scope of this assessment to consider potential implications at a technical level (for example transfer of radioactive materials during wet season flooding). Interested readers should refer to the relevant sections of the EIS Report for such analysis.

³⁴ Figures are approximate forecasts estimated by ERA in March 2014 and include all ERA and contract personnel, including Jabiru and Darwin based staff.

³⁵ See Appendix C for detail of the alignment of the SIA with the EIS Guidelines.



Figure 2: Provisional layout for Ranger 3 Deeps infrastructure³⁶

³⁶ Figure provided by ERA, 20th May 2014.

1.4.5 Geographical scope

The scope of the SIA, as required by the EIS Guidelines, includes consideration of local, regional, national and international issues. It was agreed in the scoping phase that the SIA would primarily focus on the region (Figure 4), KNP and the town of Jabiru, as the majority of issues identified in historical sources and in preliminary interviews were associated with these areas. National and international issues have been considered, but have not been the focus of fieldwork or in-depth data analysis in this SIA.

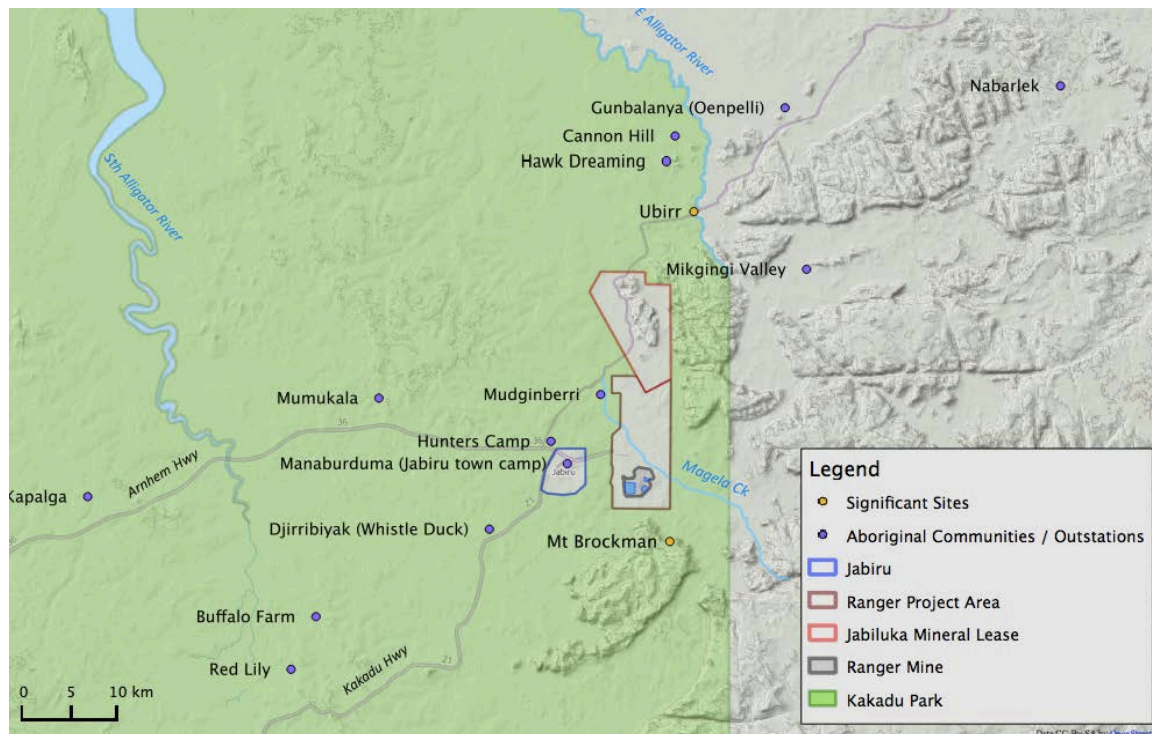


Figure 3: Ranger Project Area and Jabiru town lease in the context of KNP, surrounding communities and significant sites

As noted previously, the RPA is surrounded by, but not part of, KNP. The boundaries of the RPA (see Figure 1) were defined in 1976 in Schedule 2 of the ALRA.³⁷ The controlled Ranger area is located within the RPA and includes the mine infrastructure (e.g., tailings dam, processing and pits) as well as the entrance to the Ranger 3 Deeps exploration decline.³⁸ According to annual exploration plans provided to the Minesite Technical Committee, ERA also has an above-ground exploration drilling programme on the RPA.

Specific areas of focus for the SIA also included Gunbalanya (previously known as Oenpelli) and surrounding Aboriginal communities and outstations. There are four land areas also of relevance to the context in which Ranger operates and to this SIA:

³⁷ The Commonwealth Department of the Environment defines the Alligator Rivers Region as, "...centred about 220 kilometres east of Darwin in the Northern Territory of Australia. Comprising an area of about 28,000 square kilometres, it includes the catchments of the West, South and East Alligator Rivers, extending east into Arnhem Land and south into the Gimbat and Goodparla pastoral leases. The leases were resumed by the Commonwealth and incorporated into Stage 3 of Kakadu National Park in 1987 ... the World Heritage listed Kakadu National Park is located within the ARR" (Australian Government Department of the Environment 2014d).

³⁸ For further detail regarding the project definition and mine infrastructure see EIS Chapter 3; Project Description.

- The West Arnhem Shire covers an area of almost 50,000 kilometres² and includes the RPA, KNP and much of the Arnhem Land Trust area. It incorporates the communities of Minjilang, Waruwi, Maningrida, Gunbalanya, the town of Jabiru and is comprised of four wards.
- Jabiru Town Lease (see **Error! Reference source not found.**). The Jabiru town area was specifically excised from the Stage 1 Kakadu land claim (a portion of Aboriginal land jointly managed and encompassed within KNP) and is comprised of 13 kilometres² of land that the Commonwealth Government leases to the Jabiru Town Development Authority (JTDA). The JTDA is responsible to the Northern Territory Minister for Local Government. The Jabiru town lease area is subject to a native title claim, which has yet to be settled and which will determine the future status of the town lease in relation to KNP and ALRA.
- The Kakadu Land Trust (Figure 5) is Aboriginal Freehold land under the ALRA. The trust area makes up a significant portion of KNP and was granted as the Stage 1 Kakadu Land claim.³⁹ The trust area has been leased back to Parks Australia by the Traditional Owners to allow for joint management of KNP.
- Arnhem Land Trust (Figure 5) is Aboriginal Freehold land under the ALRA. This trust constitutes most of the Aboriginal Freehold of Arnhem Land and stretches east from the East Alligator River. Many of the indigenous people who fall into the category of “regionally affected” live in this area, particularly the town of Gunbalanya.

³⁹ Approximately 50% of KNP is not Aboriginal Land Trust land, although these areas are still jointly managed by Parks Australia with Traditional Owners.

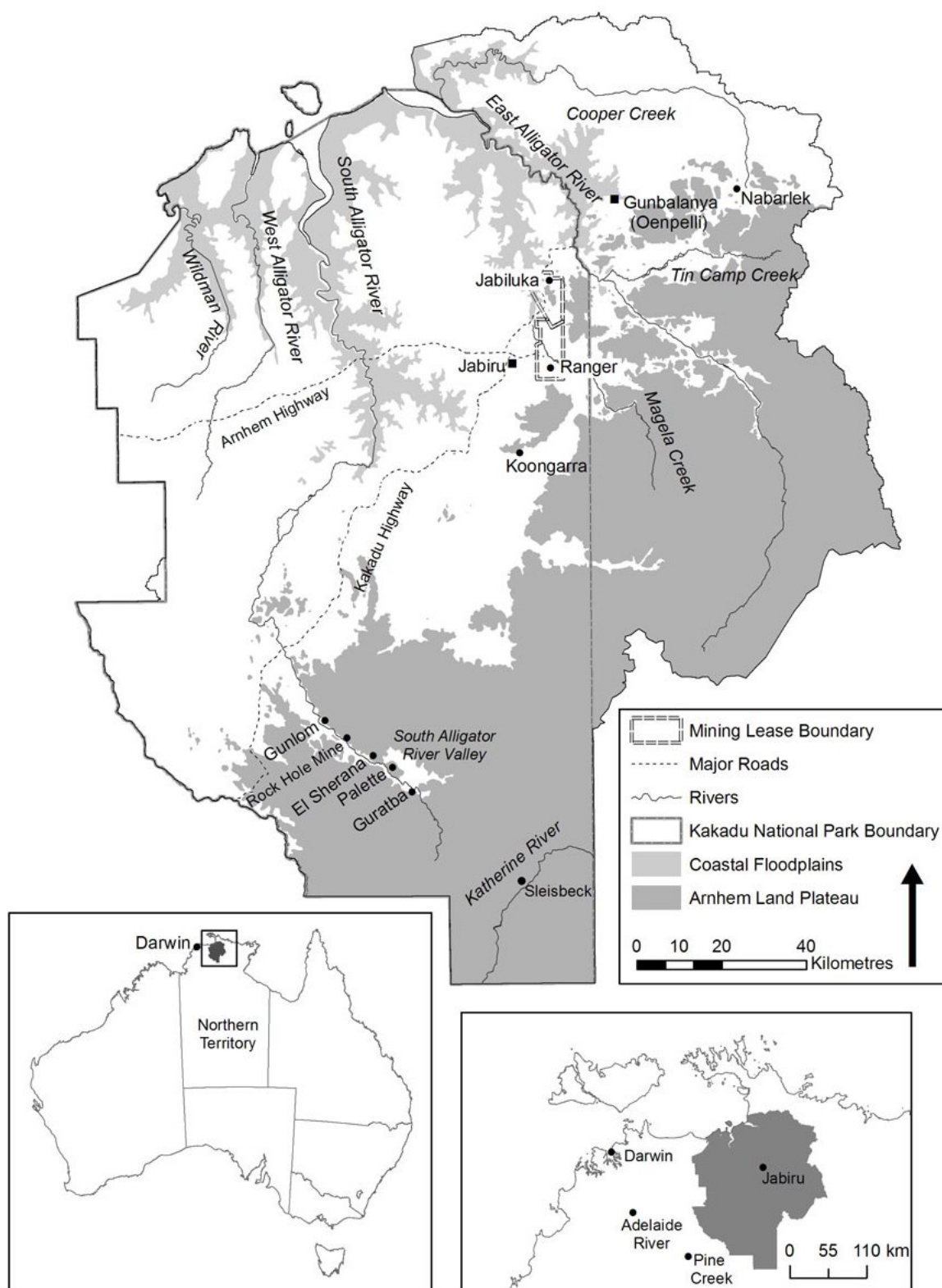


Figure 4: Alligator Rivers Region, Northern Territory⁴⁰

⁴⁰ Department of the Environment at http://155.187.3.82/about/publications/annual-report/10-11/part2_outcome1/part14_program_1_2_supervising_scientist_division.html (Department of the Environment 2014f)

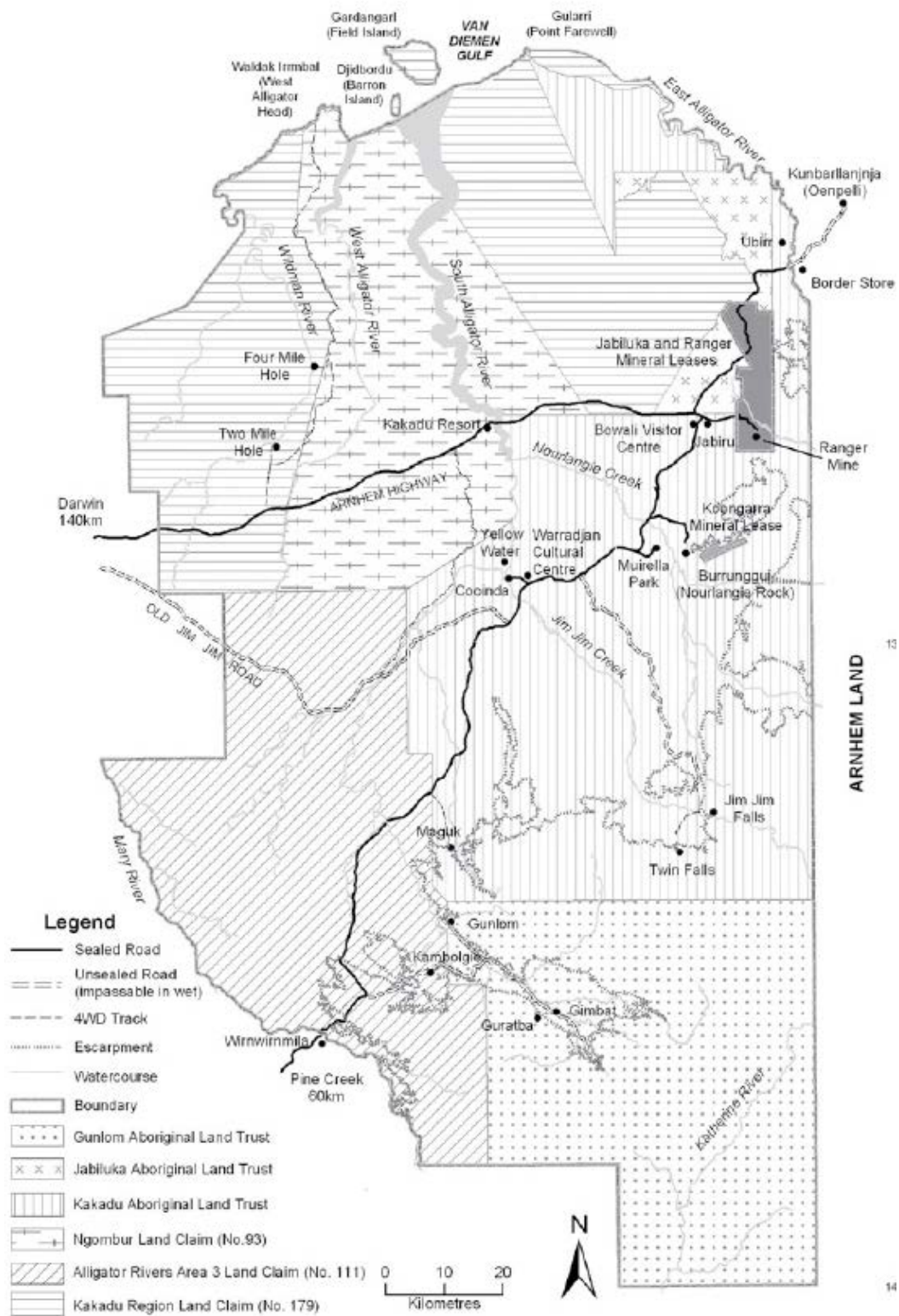


Figure 5: Aboriginal land and land claims in KNP⁴¹

⁴¹ Department of the Environment at http://155.187.3.82/about/publications/annual-report/10-11/part2_outcome1/part14_program_1_2_supervising_scientist_division.html (Department of the Environment 2014f)

1.5 STRUCTURE OF THE REPORT

Chapter 1 (this chapter) provides an introduction to the Ranger 3 Deeps development, the social and historical context of Ranger and a summary of the Ranger 3 Deeps SIA process.

Chapters 2 - 11 are each named after a social 'aspect' considered by this SIA. These chapters form the body of the report

Chapter 12 discusses cumulative impacts and presents summary of the findings of the SIA.

The report is supplemented with the following appendices:

- A: Banarra's capabilities and project team.
- B: SIA methodology.
- C: Alignment of the SIA with the EIS Guidelines.
- D: SIA consultation summary.
- E: Project definition.
- F: Social baseline data.
- G: Impacts register.
- H: Peer review.

1.5.1 Structure of the chapters

Chapters 2 to 11 are structured in a uniform way to present the key methodological elements and findings of SIA across all the social aspects consistently. It is important to note the following key sections contained in each chapter as these will reoccur throughout the report. The structure is as follows:

- **Introduction:** The introduction section of each chapter provides an overview of the aspect, including key terms and scope.
- **Background:** The background section details the historic and current influences of social change relevant to Ranger. It includes detail on:
 - o Current state: This section, included within the background, provides a summary of the history and current state of the aspect subject (e.g., Aboriginal cultural values and activities) in order to contextualise the findings that follow.
 - o Ranger's past and present contributions to social change: This section details activities contributed to, or initiated by, Ranger that have had an influence on social change (e.g., the provision of employment or generation of royalties).
 - o Other activities contributing to social change: This section introduces elements of social change beyond Ranger, such as legislative and government policy changes, the actions of Aboriginal corporations and broader societal change.
- **SIA findings:** The findings sections include an overview of the social factors, risks, opportunities and impacts identified for each social aspect, along with consideration

of the potential role of Ranger 3 Deeps and other parties in the realisation of each risk or opportunity. The findings presented are limited to the Ranger 3 Deeps development and activities within ERA's control or influence. The SIA findings are discussed in two parts for each aspect:

- o **Social factors, risks and opportunities:** Social factors included in the SIA findings represent different elements of the social environment that could change as a result of decisions and actions associated with the Ranger 3 Deeps development. This section describes each of these social factors and presents the related potential risks and opportunities. Each risk and opportunity has been rated (high, medium or low) based on an assessment of the potential consequences of it occurring and the likelihood of this happening.⁴²
- o **Potential social impacts of Ranger 3 Deeps:** This section introduces the potential impacts identified and details the relationships between the risks and opportunities, and the potential impacts, both in text and through diagrams (impact maps). The impact maps demonstrate direct relationships with bold links and indirect relationships with broken links. Note that where a risk or opportunity does not have any relationship with a potential impact it is excluded from the diagram. This section concludes with a summary of ERA's current and proposed management responses and consideration of actions by third parties that may influence the realisation of potential impacts.

⁴² Banarra conducted a risk and opportunity assessment in partnership with a cross-functional ERA team to predict the likelihood and consequence of each potential risk and opportunity occurring. Each risk and opportunity was assigned a consequence rating based on a four-part scale comprising: extreme, high, medium, and low. Risks and opportunities were assigned a likelihood rating based on a five-part scale comprising: certain; almost certain; likely; possible; and unlikely. The consequence and likelihood ratings were then combined for a final rating for each risk and opportunity based on a four-part scale: very high, high, medium or low. For further detail on the risk and opportunity assessment process see Appendix B, and for detail of all ratings assigned see Appendix G. An overview of the highest rated risks and opportunities across the SIA, and ERA's proposed management responses, is detailed in Chapter 12 and the SIMP (Appendix 15 of the EIS).

2 ABORIGINAL CULTURAL VALUES AND ACTIVITIES

This chapter considers social impacts relating to the cultural values and activities of the Aboriginal peoples of the region, including the Mirarr Traditional Owners of the RPA and other affected Aboriginal people.⁴³

2.1 BACKGROUND

2.1.1 Current state of Aboriginal cultural values and activities

As noted in Chapter 1, it is generally understood that the region surrounding Ranger has been continuously inhabited by Aboriginal people for over 50,000 years (Commonwealth of Australia 2013). Over that period, the cultural values and activities of the region's Aboriginal people have evolved and adapted to changes in the external environment, ranging from climate change and sea level rises to European colonisation and the subsequent incursion of agricultural, mining and conservation interests on their traditional lands. The result is a diverse range of contemporary lifestyles, beliefs and practices that incorporate traditional elements and influences from other cultures to varying degrees.

The Aboriginal population comprises both Traditional Owners, as well as long-term and short-term Aboriginal and Torres Strait Islander residents from other parts of the NT and Australia.⁴⁴

The largely Gundjeihmi-speaking Mirarr clan are the Traditional Owners of the land that comprises the RPA. Other clans with traditional lands in KNP and surrounding areas include Bolmo, Bunitj, Wurrkbarbar, Manilikarr, Mandilarri, Mandjurlngunj, and Gamilkban. Languages in KNP and the West Arnhem region include Kunwinjku, Gundjeihmi, Kune, Kuninjku, Mayali and Kundedjnjenghmi (Gundjeihmi Aboriginal Corporation 2014d). Today only Kunwinjku, Gundjeihmi and Jawoyn are spoken widely in the region (Australian Government 2007).

As noted in Chapter 3, Traditional Owners throughout the region are recognised under Australian law through the ALRA and the *Native Title Act 1993 (Cth)*. Both acts acknowledge traditional systems of law and custom which establish rights in land. These typically include traditional ownership and custodianship established via descent and filiation, knowledge of sites and traditional stories, holding primary spiritual responsibility for an area, as well as other traditional mechanisms.

Traditional Owners have customary obligations and responsibilities for activities and impacts occurring on their lands. These include protecting land and sacred sites, managing traditional resources, protecting visitors from harm, and making decisions about issues affecting land. These obligations may apply to current and future generations of their own clan or Aboriginal people in the region, and be both cultural and practical in nature. The fulfilment of such

⁴³ Chapter 4 discusses specific indigenous cultural heritage values, including those associated with the World Heritage Listing of KNP.

⁴⁴ ABS census regions do not match the ARR, which is the relevant region for organisations such as the OSS. Population figures quoted therefore cover an area larger than the region. For further information on the region's indigenous population refer to Chapter 6.

responsibilities and obligations is an active expression and reinforcement of traditional culture.

As noted in Chapters 1 and 4, the RPA and surrounding region contains a number of sacred sites. The RPA contains archaeological sites but no rock art, while Mt Brockman located close to Ranger, but outside the RPA, is a sacred site. These sites are a historical record of Aboriginal people's long habitation of the region and are also focal points for ongoing cultural practices.

Like many other parts of northern and central Australia, the region's remoteness, relatively recent European settlement and limited interaction between Aboriginal people and European settlers in the early years of colonisation, has meant that Aboriginal languages and many aspects of traditional culture have endured and remain a part of day-to-day life. However, the region has also experienced immense social change over the past century. Traditional Aboriginal society and areas of cultural knowledge have seen rapid change and/or loss due to changing lifestyles, the passing of senior custodians, and processes of modernisation and change that are common throughout regional and remote Australia. In the immediate area surrounding Ranger and in KNP, Aboriginal languages are in a state of decline and major ceremonial practices are now largely restricted to Arnhem Land (Garde forthcoming; Harris 1980; Harvey 2003, p.62).

2.1.2 Ranger's past and present contributions to social change

The development and continued presence of Ranger for over 30 years has contributed to social change in the region and had an impact on the cultural values and activities of Aboriginal people. The extent, significance and precise nature of Ranger's impact has been the subject of debate throughout the life of the mine (Aboriginal Project Committee 1997c; ACIL Tasman 2013; Fox 1977; Scambary 2013).

Some of the ways Ranger is generally understood to have contributed to social change include:

- The development of the town of the Jabiru as a local service centre (see Chapters 6, 8 and 9 for further detail on Jabiru).
- The establishment of Ranger and associated infrastructure (the processing plant, pits, tailings dam, etc.) resulting in changes to the physical characteristics and environmental qualities of the land surrounding the mine.
- The distribution of royalties and other benefits arising from Ranger, resulting in division and contest within and between Aboriginal groups and communities (see Chapter 10 for further detail).
- Occasional extensive consultation of the Mirarr and other affected Aboriginal peoples through processes relating to both Ranger and to traditional land interests. Examples include SIAs, participation in OSS committees, campaigns and negotiations in relation to the Jabiluka mine, participation in joint management of KNP, management of royalty distributions, and other dialogue (see Chapter 5).
- Periods of concern amongst Mirarr and other Aboriginal people in the region in relation to,

- o their ability to manage and safely use natural resources such as water and traditional foods, and sacred sites;
- o the safety of mine workers or community members on Mirarr land or incidents arising from resources extracted from their land;
- o the decisions and actions of governments, mining companies and other organisations in relation to matters that affect the future of their land and culture; and
- o pressure to make decisions regarding, and negotiate the best response to the risks and opportunities relating to mining.

Other significant social changes include recent developments in the relationship between the Mirarr and ERA in the form of,

- the finalisation of a new Mining Agreement and related agreements in January 2013 (refer Chapter 10 for further detail);
- the GAC being appointed as a member of the Ranger Minesite Technical Committee in 2012, since which time, the GAC and ERA have jointly undertaken an independent surface water study for the RPA (ERA 2014c); and
- the passing of the *Aboriginal Land Rights and Other Legislation Amendment Bill 2013* which formalises how arrangements for the Jabiru native title claim will be settled. Negotiations are, however, ongoing regarding the exact way in which land leasing matters will be resolved.

With regard to the above bullet points, it is noted that the relationship between the Mirarr and ERA remains fragile, as demonstrated in public statements by the GAC in response to a recent leach tank rupture in December 2013 (Gundjeihmi Aboriginal Corporation 2013c). GAC have recently been appointed as a member of the government task force investigating the tank rupture.

2.1.3 Other activities contributing to social change

In addition to the development and presence of Ranger and the establishment of Jabiru, there are a range of other activities that have contributed to social change in the region. Below is a summary of those that are most relevant to Aboriginal cultural values and activities, providing context for the SIA findings that follow:

- Legislative, government policy and administrative changes including,
 - o the significant legal empowerment of Aboriginal people in the NT since the passing of the ALRA and *Native Title Act 1993* (refer to Chapters 1 and 3);
 - o periodical fluctuations in the capacity of key Aboriginal organisations, such as the NLC and GAC (refer to Chapters 5 and 10);
 - o from the early 1970s, the gradual establishment of a broad-ranging and significant government welfare system and associated community development initiatives. While the stated policy aim has always been to put in place measures for the

benefit of Aboriginal people, it is widely understood that a range of significant positive and negative social consequences have resulted (Sutton 2009); and

- o since 2007, in various iterations, the Commonwealth Government's Northern Territory National Emergency Response into the management of various areas of Aboriginal policy and governance.
- Changes to the nature and structure of regional industries and employment, for example the pastoral and tourism industries (see Chapter 9).
- The establishment and management of KNP (see Chapter 1).

2.2 SIA FINDINGS

This section summarises the SIA findings relating to Aboriginal cultural values and activities. As demonstrated above, the proposed Ranger 3 Deeps underground mine would be developed in a context of historic and continuing social change that has had tangible impacts on Aboriginal people of the region over the past century, and particularly since the establishment of Ranger and KNP. In this context, it is important to note that the scope of this SIA and the findings presented below are limited to the Ranger 3 Deeps development and activities within ERA's control or influence.

In relation to Aboriginal cultural values and activities, the Ranger 3 Deeps development has the potential to impact both positively and negatively on,

- the ability of Aboriginal people to manage and use land and waters;
- the sense of trust that Aboriginal people have in the management of land and waters by others; and
- the ability of Aboriginal people to maintain and develop culture.

The SIA has identified eight risks and five opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- Control over land use and management.
- Confidence in ERA's management of the Ranger site and the RPA.
- Access to and protection of natural resources and sacred sites by Aboriginal peoples.
- Strength and/or endurance of Aboriginal culture.

Section 2.2.1 describes each of these social factors and presents the related risks and opportunities. Each risk and opportunity has been ranked (very high, high, medium or low) based on an assessment of the potential consequences of it occurring and the likelihood of

this happening.⁴⁵ Section 2.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

2.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

2.2.1.1 Control over land use and management

Self-determination, or the ability to choose how to pursue economic, social and cultural development, is fundamental to the ability of Aboriginal peoples to maintain their unique identities and cultures, and to be in control of their own lives.⁴⁶ Self-determination includes the ability to choose (and control) the development of their lands and natural resources.

Commonwealth and NT laws relating to land rights include provisions intended to give Traditional Owners control and ownership (to varying degrees) over activities occurring on their land. However, the particular history of the region means that the Mirarr have been historically excluded from some of these entitlements, particularly the “right to veto” with regard to the development of Ranger and the town of Jabiru. The ALRA provides for Traditional Owners and regionally affected Aboriginal people and individuals to have a say in relation to mining and exploration, however, these rights were excluded in the processes leading to the establishment of Ranger. The Mirarr, with varying support from other affected Aboriginal peoples, have consistently advocated to have what they see as a historic and continuing disempowerment redressed, and to gain greater control in relation to decisions surrounding Ranger’s development and management. While there have been a number of recent improvements to the Mirarr’s role in relation to Ranger (Gundjeihmi Aboriginal Corporation 2014f), significant decisions about the Ranger 3 Deeps development and the mine in its current form still rest with the Commonwealth and NT governments.

The GAC currently participates in a number of fora including the Ranger Minesite Technical Committee, Independent Surface Water Working Group, Alligator Rivers Region Technical Committee (ARRTC), Alligator Rivers Region Advisory Committee (ARRAC) and the Closure Criteria Working Group. Despite this participation, it continues to state publicly, and also commented during SIA consultation, that it has a desire for greater information from ERA and increased involvement in decision-making, particularly in relation to plans for any future developments at Ranger including water management, the eventual closure of the mine, and ongoing and future rehabilitation work (Gundjeihmi Aboriginal Corporation 2014d). This is perhaps reflective of ongoing tensions and the developing relationship between the GAC, ERA and government.

The NLC, which has a role both in relation to the Traditional Owners and regionally affected people, has also historically advocated for greater involvement and control over decisions which affect the land comprising the RPA.

⁴⁵ Refer to Appendix B: SIA methodology for a description of the risk and opportunities assessment process. Refer to Chapter 12 and the SIMP (Appendix 15 of the EIS) for an overview of the highest rated risks and opportunities identified in the SIA, and ERA’s proposed management responses

⁴⁶ This is the central idea of the concept of self-determination as it is formally recognised in international law (United Nations Global Compact, 2013).

The SIA identified one opportunity and three risks for Ranger 3 Deeps relating to control over land use and management, as detailed in Table 3 below.⁴⁷

Table 3: Risks and opportunities relating to control over land use and management

Opportunities	Risks
O-2.1 Improved participation of Traditional Owners and other affected Aboriginal peoples in relation to land and environmental management associated with Ranger 3 Deeps (Low)	R-2.1 Mirarr feel excluded from ongoing Ranger 3 Deeps decision-making and planning processes relating to environmental management, resulting in loss of trust and relationship between ERA, Traditional Owners and other affected Aboriginal peoples (Low) R-2.2 Stakeholders perceive that environmental management decisions regarding Ranger 3 Deeps are knowingly made against the wishes of Traditional Owners and other affected Aboriginal peoples resulting in stress and concern (Low) R-2.3 Decisions regarding Ranger 3 Deeps are made unknowingly against Mirarr wishes in relation to land management, resulting in stresses in ERA/Mirarr relationship (Low)

2.2.1.2 Confidence in ERA's management of Ranger and the RPA

As described in section 2.2.1, the Mirarr have specific cultural obligations for looking after the land and its natural resources, and have long stated that they have a cultural responsibility for any impacts arising from the Ranger 3 Deeps development, including, for example, the impact of the exported uranium products on the global environment (Gundjehmi Aboriginal Corporation 2012). Concerns about the management of Ranger and its impacts on the environment and society are also shared to varying degrees by other affected Aboriginal people.

Because the Mirarr have limited direct and substantive influence over the activities occurring within the RPA, their confidence that their traditional land is managed appropriately is dependent on ERA's management of the site, as well as government regulation and oversight. SIA consultations identified a desire for more open and timely communication of ERA's evolving plans for Ranger and any incidents that occur on-site. Whilst recent events suggest that the situation is improving, the significant historical issues associated with the development of Ranger (refer to Chapter 1) mean that Mirarr confidence in ERA's management of Ranger and the RPA is not high. In particular, time pressures arising from mine production schedules may impact on the Mirarr and other Aboriginal peoples' ability to have confidence in decision-making relating to land management.

The SIA identified two opportunities and two risks for Ranger 3 Deeps to shape confidence in ERA's management of Ranger, as detailed in Table 4 below.

⁴⁷ Ratings are shown against each risk and opportunity in brackets. For details of the consequence and likelihood ratings assigned see appendix G.

Table 4: Risks and opportunities relating to confidence in ERA's management of Ranger and the RPA

Opportunities	Risks
O-2.2 ERA's environmental management practices are sufficient for Traditional Owners and other affected Aboriginal people to have confidence and trust in Ranger 3 Deeps (Med)	R-2.4 Ranger 3 Deeps operational activities result in unintended changes to the environment (including damage to cultural sites) that are not acceptable to Mirarr and other affected Aboriginal people and result in stress and concern (Low)
O-2.3 Effective information sharing, participation and engagement regarding environmental management between ERA, Traditional Owners and other affected Aboriginal people builds stronger relationships (Med)	R-2.5 Significant health and safety incidents or fatalities during Ranger 3 Deeps operations cause concern for Traditional Owners and other affected Aboriginal people (Low)

2.2.1.3 Access to and protection of natural resources and sacred sites by Aboriginal peoples

Natural resources such as Magela Creek, and sacred sites such as Mt Brockman, are of cultural significance to the region's Aboriginal peoples. Mining developments, by their nature, contribute to significant land disturbance and pose risks to their surrounding environments. The Commonwealth government provisions relating to the operation of Ranger, including the role of the OSS, exist primarily to monitor and manage such risks. Whilst ERA and the OSS have undertaken extensive environmental monitoring and reporting to manage and mitigate these risks, the region's Aboriginal people have long expressed a range of concerns about the potential impact of Ranger on the natural environment and sacred sites. During interviews, some stakeholders also raised concern about lost access to wetlands in KNP and changes to the visual landscape surrounding Mt Brockman.

The SIA identified two risks for Ranger 3 Deeps relating to access to and protection of natural resources and sacred sites by Aboriginal peoples, as detailed in Table 5 below.

Table 5: Risks and opportunities relating to access to and protection of natural resources and sacred sites by Aboriginal peoples

Opportunities	Risks
None identified ⁴⁸	R-2.6 The future environment of the lease area/mine site is not suitable for cultural activities (Low) R2.7 Traditional Owners and other affected Aboriginal people are discouraged from using and maintaining natural resources and sacred sites due to concerns and/or breakdown in trust regarding changes to the physical characteristics of the environment resulting from Ranger 3 Deeps (Low)

2.2.1.4 Strength and/or endurance of Aboriginal culture

As outlined in section 2.2.1, Aboriginal people in the region have experienced significant changes in their social environment and lifestyles that have affected the strength of traditional

⁴⁸ Note that opportunity 2.1 is relevant here also.

knowledge and cultural practices. Whilst it is for Aboriginal people themselves to shape the path their culture takes now and in the future, other factors can have a significant influence. Consequently, any impacts of Ranger 3 Deeps on the region's Aboriginal people have the potential to contribute to both positive and negative outcomes relating to the strength of Aboriginal cultures in the region. The SIA identified one relevant opportunity and risk relating to the strength and/or endurance of Aboriginal culture, as presented in Table 6 below.

Table 6: Risks and opportunities relating to the strength and/or endurance of Aboriginal culture

Opportunities	Risks
O-2.4 Initiatives funded by Ranger 3 Deeps royalties support the strengthening or revitalisation of Aboriginal cultural knowledge, beliefs and practices (Low)	R-2.8 Ranger 3 Deeps royalties and environmental management impact negatively on the strength and endurance of Aboriginal culture (Low)

2.1.4 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on three areas in relation to Aboriginal cultural values and activities, each discussed in detail below:

- The ability of Aboriginal people to manage and use land and waters.
- The sense of trust that Aboriginal people have in the management of land and waters by others.
- The ability of Aboriginal people to maintain and develop culture.

2.2.1.5 The ability of Aboriginal people to manage and use land and waters

Aboriginal people in the region could be positively impacted by Ranger 3 Deeps if their ability to manage and use land and waters is enhanced as a result of the project and any associated activities. Conversely, Aboriginal people could be negatively impacted if their ability to manage and use land is reduced or the existing impact of reduced ability is extended.

The SIA identified one low-rated opportunity and two low-rated risks for Ranger 3 Deeps to *directly* contribute to these outcomes. The opportunity is that Ranger 3 Deeps could improve access to and protection of natural resources and sacred sites by Aboriginal peoples through increased participation of Traditional Owners and other affected Aboriginal people in environmental and cultural heritage management activities (O-2.1). At the same time; there are risks that Ranger 3 Deeps could contribute to changes in the environment that could prevent Traditional Owners and other affected Aboriginal people from safely using and maintaining natural resources and sacred sites both during Ranger's operation and into the future (R-2.6 and R-2.7).

In addition, all other risks and opportunities that have been identified in this chapter are considered to have the potential to indirectly affect the ability of Aboriginal people to manage and use their land and waters. Some opportunities relate to Aboriginal peoples' involvement and confidence in ERA's environmental management of Ranger 3 Deeps. Some risks include whether decisions in relation to environmental management are made against the wishes of affected Aboriginal peoples. These risks and opportunities are still considered to be relevant in the social context, but their relationship with the impact is indirect, for example where ERA

has no control with regard to the actions of Aboriginal people, such as how royalty money may be spent on initiatives that strengthen law and culture.

Figure 6 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the ability of Aboriginal people to manage and use their land and waters.

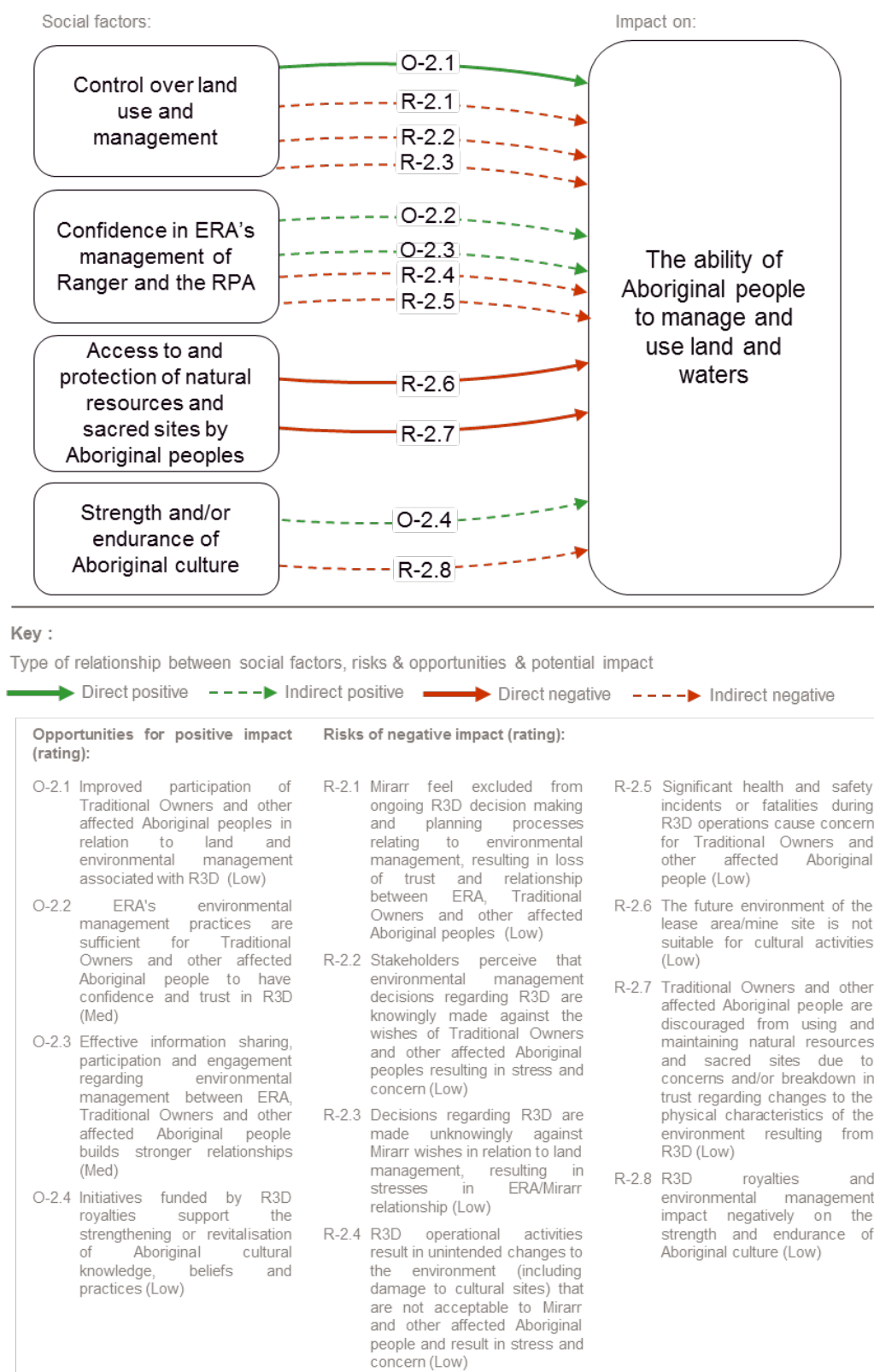


Figure 6: Impact map - the ability of Aboriginal people to manage and use their land and waters

Overall, the SIA findings indicate that Ranger 3 Deeps has the potential to impact both positively and negatively on the ability of Aboriginal people to manage and use their land and waters, with a balance of low and medium risks and opportunities, many of which have an indirect relationship with the impact.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Active participation on the Ranger Minesite Technical Committee, Joint Water Monitoring Initiative (with GAC), and Relationship Committee (with the GAC and Mirarr).
- Environmental management and monitoring practices.
- Heritage management practices, including conducting heritage surveys.
- Engagement with the GAC, NLC and Traditional Owners through existing mechanisms.
- Workforce and contractor management procedures.
- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could contribute to the ability of Aboriginal people to manage and use land and waters.⁴⁹ They include,

- ERA decision-making regarding cultural heritage and environmental management unrelated to Ranger 3 Deeps;
- KNP management practices;
- communication with Aboriginal stakeholders regarding land and water management by the NLC, GAC, the Council and ERISS; and
- establishment or continuation of initiatives that influence Aboriginal people's relationship with their heritage and country.

2.2.1.6 The sense of trust that Aboriginal people have in the management of land and waters by others

Aboriginal people in the region could be positively impacted if they experience an improved sense of trust and level of respect for their cultural values and activities as a result of the Ranger 3 Deeps development. They could be negatively impacted by any experiences that result in a reduced sense of trust or level of respect for their cultural values and activities.

⁴⁹ This discussion relates to the notion of 'cumulative effects' of multiple activities. See Appendix B for further detail.

The SIA process identified one low and two medium-rated opportunities and five low-rated risks that could directly contribute to these outcomes. The opportunities relate to the potential for ERA to demonstrate, through the Ranger 3 Deeps development, an increased commitment to respecting and supporting Aboriginal cultural values and building trust through increasing confidence in environmental management practices (O-2.2), and effectively sharing information and appropriately engaging with and involving Aboriginal peoples in environmental management activities (O-2.1 and O-2.3). The risks relate to the potential for Ranger 3 Deeps to contribute to a reduced sense of control over, or involvement in land and environmental management activities (R-2.1), decision making that is made, or perceived to be made against the wishes of Traditional Owners and other affected Aboriginal peoples (R-2.2 and R-2.3) and concern or stress associated with environmental changes or health and safety incidents (R-2.4 and R-2.5).

In addition, all other risks and opportunities that have been identified in this chapter are considered to have the potential to *indirectly* impact the sense of trust that Aboriginal people have in the management of land and waters by others.

Figure 7 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the sense of trust that Aboriginal people have in the management of land and water by others.

Overall, SIA findings indicate that Ranger 3 Deeps has the potential to impact both positively and negatively on the sense of trust that Aboriginal people have in the management of land and waters by others. The evidence suggests that there is a balance of risks and opportunities that may impact on the sense of trust that Aboriginal people have in the management of land and waters.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives relevant to Aboriginal culture, including participation on the Kakadu West Arnhem Social Trust Board, community partnership fund, in-kind and discretionary funding.
- Cultural heritage management practices.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could contribute to the sense of trust that Aboriginal people have in the management of land and water by others. They include,

- ERA's decision-making regarding cultural heritage management unrelated to Ranger 3 Deeps;
- continuation or establishment of initiatives focussed on Aboriginal people's relationship with their heritage and country; and
- decisions made by Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

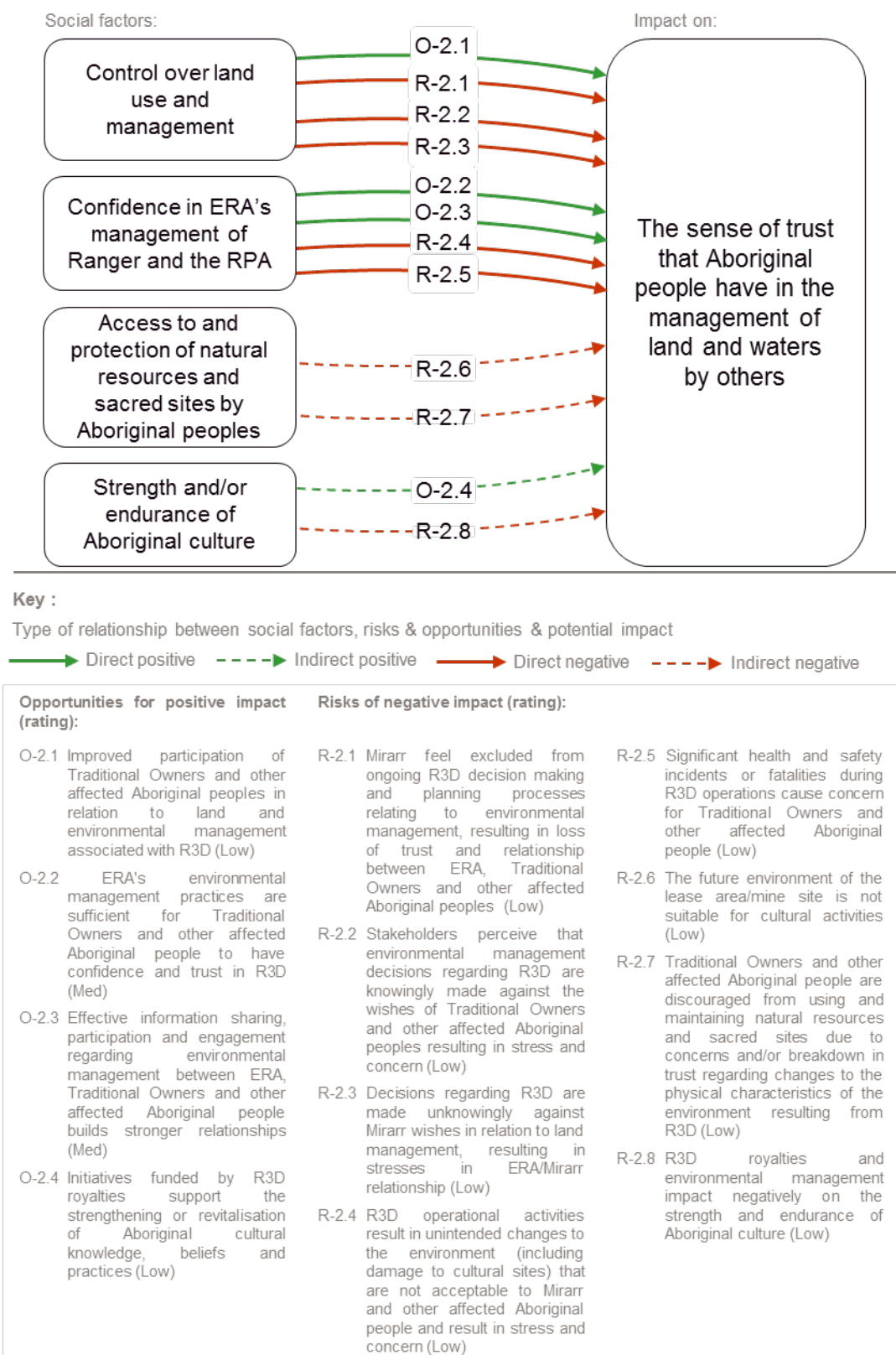


Figure 7: Impact map - the sense of trust that Aboriginal people have in the management of land and water by others

2.2.1.7 The ability of Aboriginal people to maintain and develop culture

Aboriginal people in the region (including future generations) could be positively impacted by Ranger 3 Deeps if they experience increased support for desired improvements in the maintenance and revitalisation of culture as a result of benefits linked to the project.

Alternatively, they could be negatively impacted by any activities that contribute in some way to a loss of the cultural knowledge (including languages) or the cultural identity of Aboriginal people in the region.

The SIA process identified one low-rated opportunity and one low-rated risk that could *directly* contribute to these outcomes. Both the risk and opportunity relate to the potential for royalty payments to Aboriginal people arising from Ranger 3 Deeps to positively or negatively impact on the strength of Aboriginal culture. Positive impacts could result from initiatives funded through royalty payments that support the strengthening or revitalisation of Aboriginal cultural knowledge, beliefs and practices (O-2.4); while negative impacts could result from poor environmental management, or a continuation of negative effects historically associated with royalty payments including alcohol abuse, conflict and division within Aboriginal communities (R-2.8).

In addition, all other risks and opportunities that have been identified in this chapter are considered to have the potential to *indirectly* impact the ability of Aboriginal people to maintain and develop culture.

Figure 8 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the ability of Aboriginal people to maintain and develop culture.

Overall, the Ranger 3 Deeps development has the potential to impact either positively or negatively on the ability of Aboriginal people to maintain and develop their culture, however, the associated risk and opportunity are both are of low rating.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives relevant to Aboriginal culture, including participation on the Kakadu West Arnhem Social Trust Board, community partnership fund, in-kind and discretionary funding.
- Cultural heritage management practices.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could contribute to the ability of Aboriginal people to maintain and develop their culture. They include,

- ERA's decision-making regarding cultural heritage management unrelated to Ranger 3 Deeps;
- continuation or establishment of initiatives focussed on Aboriginal people's relationship with their heritage and country;
- government policy and initiatives regarding Aboriginal welfare, housing, and management and health; and
- decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

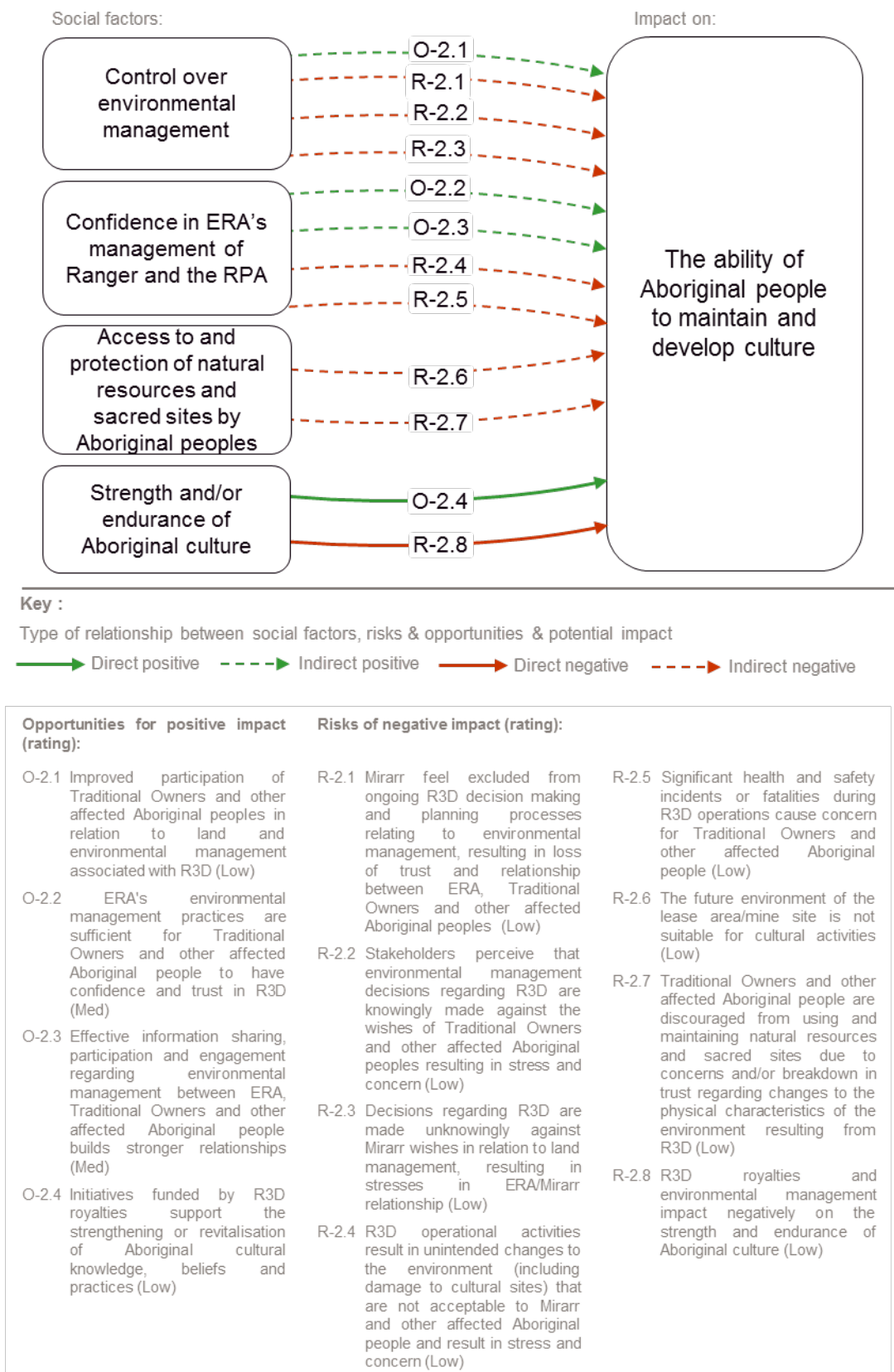


Figure 8: Impact map - the ability of Aboriginal people to maintain and develop their culture

3 HUMAN RIGHTS

This chapter considers potential social impacts relating to the recognition and enjoyment of human rights relevant to the Ranger 3 Deeps development.⁵⁰ The EIS Guidelines do not require explicit consideration of human rights, however they have been included within the scope of the SIA for two purposes; to respond to ERA's requirements for a leading practice assessment (Esteves et al. 2012, p.38),⁵¹ and because human rights were identified as relevant during project scoping due to the terms of the ALRA, whereby land rights were established for the Mirarr, but the RPA is not subject to the "right of veto".

Human rights cover many of the same themes addressed elsewhere in this SIA, such as living standards, maintenance of culture, access to accommodation, political participation, workplace health and safety and non-discrimination in access to services. These issues are discussed elsewhere in the report and are therefore not considered in detail in this chapter.

Human rights considered in this chapter include those recognised under international human rights law, in particular the International Bill of Human Rights,⁵² and specific rights of indigenous peoples as recognised in the United Nations (UN) *Declaration on the Rights of Indigenous Peoples* (UNDRIP) (United Nations General Assembly 2007; UN News Centre 2009).⁵³ Whilst human rights are considered universally applicable, the UN, through the UNDRIP, recognises that given the historic exclusion of indigenous peoples from the international legal system full enjoyment of rights (including land rights) by indigenous peoples requires a comprehensive and specific instrument (United Nations Office of the High Commissioner for Human Rights 2013). The UNDRIP does not assign any new or special rights to indigenous peoples (additional to the International Bill of Human Rights), but instead clarifies how existing human rights standards apply to the particular situations of indigenous people (United Nations Global Compact 2013, p.5). The rights incorporated in the UNDRIP include self-determination, rights to lands, territories and resources, as well as collective rights. UNDRIP was adopted by the UN General Assembly in 2007 and remains a non-binding document.

⁵⁰ Human rights are understood in this SIA as the "universal legal guarantees protecting individuals and groups against actions and omissions that interfere with fundamental freedoms, entitlements and human dignity" (United Nations Office of the High Commissioner for Human Rights 2012, p.10).

⁵¹ In the resources sector it is increasingly common practice for SIAs to consider the impacts of any development on people from a human rights-based perspective.

⁵² The International Bill of Human Rights comprises the Universal Declaration of Human Rights (1948), the *International Covenant on Civil and Political Rights* (1966) and its optional protocols, and the *International Covenant on Economic, Social and Cultural Rights* (1966). Human rights are also codified in the International Labour Organisation's eight fundamental conventions (International Labour Organisation (ILO) 2014) which cover subjects that are considered fundamental principles and rights at work: freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labour; the effective abolition of child labour; and the elimination of discrimination in respect of employment and occupation.

⁵³ The UNDRIP was adopted by the UN General Assembly in 2007 and was endorsed by Australia in 2009. The declaration is a non-binding text.

Of particular relevance to Ranger is that the concept of FPIC is enshrined in the UNDRIP relating to the obligations of states towards their citizens.⁵⁴ Article 32, paragraph 2 states that:

States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources (United Nations 2008).

This chapter also briefly considers statutory rights; that is, rights and privileges established under relevant Commonwealth and NT law. The chapter does not assess or discuss the legal compliance of the development, but rather considers how potential social changes related to the development could influence people's rights (both positively and negatively) and their ability to enjoy them.

This chapter firstly provides an overview of relevant factors contributing to social change within the region (both current and historical), including contextual issues without tangible links to Ranger. This is followed by SIA findings on the potential positive and negative social impacts of the Ranger 3 Deeps development in relation to human rights. Analysis and background related to indigenous land rights⁵⁵ is provided first, followed by discussion of other relevant human rights.

3.1 BACKGROUND

3.1.1 Current state of the enjoyment and protection of human rights

3.1.1.1 Indigenous land rights

The following section details how land rights are currently legislated and experienced by the Mirarr and other affected Aboriginal peoples.

Indigenous land rights are conferred through NT and Commonwealth land rights and heritage legislation. In the case of Ranger, the ALRA and NTA and, to a lesser degree, the *NT Aboriginal Sacred Sites Act 1989*, play a significant role in establishing the operating context of Ranger. They also influence decision-making in relation to future land uses on the Ranger lease and in the surrounding KNP. The ALRA, enacted in 1976, is considered to be the strongest form of indigenous land tenure in Australia. The Mirarr are recognised under the ALRA as the Traditional Owners of the land that encompasses the RPA and were granted land rights under the ALRA with the settlement of the Kakadu Aboriginal Land Trust in 1978,

⁵⁴ See articles 19, 29 and 32 of the UNDRIP.

⁵⁵ In many settings, stakeholders articulate their concerns using UN rights-based language, particularly where governance regimes are weak and legislation is not sufficient to protect rights. In the Australian NT context, however, the focus of participants was on 'land rights', in particular with regard to the ALRA, the *Native Title Act 1993* and to a lesser degree the *NT Aboriginal Sacred Sites Act 1989*. This is not surprising given that each piece of legislation has been in place for some time, the rights established are comparatively strong in a global context, and the institutions associated with enabling those rights and the way they operate are well established.

following the recommendations of the Fox inquiry (discussed in further detail in Section 3.2.2).⁵⁶

Approximately 50% of the land in KNP (including the RPA, which is surrounded by KNP) is Aboriginal Freehold under the ALRA, leased to the Commonwealth Director of National Parks so that it can be used as a national park (Commonwealth of Australia 2013). Aboriginal rights and land interests in KNP exist under the present joint management arrangements which are set out in the current plan of management. As noted in Chapter 1, this situation is not without tension; for example there is occasional public and academic commentary that Traditional Owners cannot fully enjoy their rights under the present arrangements (Aikman 2013; Callinan 2013; Lawrence 2007).

In addition to the rights of indigenous peoples recognised under the ALRA, the *Native Title Act 1993 (Cth)* (NTA) establishes a process to claim rights and interests in land. Due to the RPA being Aboriginal Freehold under the ALRA, native title is only materially relevant to the area of Jabiru town. The Jabiru town lease exists as a separate tenure held by the Commonwealth Director of National Parks and is subject to the Jabiru native title claim that covers approximately 68.4 square kilometres including and around Jabiru and was lodged on behalf of the Mirarr. The Jabiru native title claim is not resolved, although two parcels associated with the claim have been withdrawn because the land has now been granted as Aboriginal land under the ALRA.⁵⁷

UN instruments such as UNDRIP and the UN Declaration of Human Rights create “an expectation that governments will seek FPIC from indigenous peoples for development projects” (United Nations Global Compact 2013, p.25). However, the implementation of FPIC varies significantly from country to country, with various levels of interpretation, effectiveness and implementation.

In relation to the concept of FPIC, the ALRA has long represented the Australian benchmark and was one of the earliest and strongest pieces of Aboriginal land rights legislation in the world. It includes a mechanism, commonly called a “right of veto”, over mining.⁵⁸ The application of the right of veto in the case of Ranger, the Mirarr and other affected Aboriginal peoples is discussed in Section 3.1.2.1.

3.1.1.2 Other human rights

The protection of human rights is the responsibility of states as parties to international law. Individual states agree to be bound by international human rights law treaties through a

⁵⁶ Other Aboriginal land near the RPA includes: The Arnhem Land Aboriginal Land Trust, incorporating Gunbalanya and all land east of the East Alligator River; The Gunlom Aboriginal Land Trust in the south of KNP; and the Jabiluka Aboriginal Land Trust.

⁵⁷ The claim originally involved NT Portions 2271, 2272 and 2273. NT Portion 2272 is the portion on which the main township area is situated. As a result of settlement discussions, NT Portions 2271 and 2273 have been granted as Aboriginal land and leased to the Director of National Parks (on the same arrangements as surrounding areas of the Kakadu Aboriginal Land Trust), however the claim over NT Portion 2271 has not been resolved (information provided by the NLC).

⁵⁸ While the phrase “right of veto” is commonly used to describe the provisions relating to Aboriginal peoples and approvals for exploration and mining in Part IV of the ALRA, it is not an absolute right, particularly as Section 40 of the Act allows for approvals to be made by the Governor General in “the national interest”.

process of 'ratification', which involves incorporating the terms of the treaty into national law.⁵⁹ In the Australian context, the Commonwealth has ratified the key human rights treaties (Parliament of Australia 2013).⁶⁰ As such, it is generally understood that where businesses comply with these national (or state) laws they are acting in compliance with Australia's commitments under international human rights law.⁶¹

Furthermore, it should be acknowledged that businesses have a responsibility to *respect* human rights, as was formally recognised through the adoption of the United Nations Guiding Principles on Business and Human Rights (UN Guiding Principles) by the UN Human Rights Council in 2011.⁶² This means to:

... avoid causing or contributing to adverse human rights impacts through their own activities and addressing such impacts when they occur. Business also has a responsibility, to seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships and suppliers, even if they have not contributed to those impacts (United Nations Global Compact 2013, p.7).

The decisions and actions relating to major developments can influence the nature of human rights legislation and regulation. Whilst this potential exists with any development of national significance, it is particularly relevant to Ranger due to the historical connection between Ranger and the development of a range of Commonwealth and NT legislation relating to Aboriginal land rights, environmental protection and the regulation of the uranium industry.

A number of global human rights initiatives provide guidance for businesses regarding what respect for human rights and voluntary commitments looks like in practice. The global mining industry has taken steps to acknowledge its role in both positively and negatively impacting upon the rights of indigenous peoples, given the extent of mining occurring on or near indigenous land. The following initiatives and standards are relevant to Ranger as a Rio Tinto majority-owned enterprise,

- the International Finance Corporation (IFC) Performance Standards;⁶³
- the International Council on Mining and Metals Sustainable Development Framework (International Council on Mining and Metals 2014);

⁵⁹ Ratification is an act by which a state signifies an agreement to be legally bound by the terms of a particular treaty. It requires a state to incorporate the terms of the treaty into applicable legislation.

⁶⁰ Australia has not ratified ILO Convention No. 138: Convention concerning Minimum Age for Admission to Employment. However, the Commonwealth and all States and Territories have asserted that they comply with the convention (ATNIF 2, 2013).

⁶¹ There may be exceptions, for instance, where the Commonwealth passes or amends legislation that does not fulfil the obligations under the treaties to which it is a party.

⁶² As articulated in the UN Guiding Principles (UN Human Rights Council 2011) it is widely recognised that alongside the Government's responsibility to protect human rights, businesses have a responsibility to respect human rights and, in cases of breaches, provide, or co-operate in the provision of remediation (additional to judicial frameworks).

⁶³ IFC Standards only require adherence where developments are IFC funded, however, they are frequently used as reference to good practice.

- the Minerals Council of Australia “Enduring Value” framework for sustainable development (MCA 2005); and
- the United Nations Global Compact (UNGC) (United Nations Global Compact 2014).⁶⁴

Of particular relevance to the realisation of human rights in the NT and the region is the Northern Territory Emergency Response implemented by the then federal Liberal Government in 2007 (also known as “the Intervention”). The Northern Territory Emergency Response has been a focal point for heated debate about the human rights of Aboriginal people and the impact of policy and legislation on their rights and traditional culture (Altman & Hinkson 2010, p.56).⁶⁵ According to the Commonwealth Department of Social Services, the Northern Territory Emergency Response is a “set of measures designed to protect children, make communities safe and build a better future for people living in indigenous communities and town camps in the NT” (Department of Social Services 2012b). The Northern Territory Emergency Response is made up of several Commonwealth Acts, including,

- the Northern Territory National Emergency Response Act 2007;
- The Social Security and Other Legislation Amendment (Welfare Payment Reform) Act 2007; and
- substantial amendments made by the Families, Community Services and Indigenous Affairs and Other Legislation Amendment (Northern Territory National Emergency Response and Other Measures) Act 2007.

Measures brought in by the Northern Territory Emergency Response include income management, alcohol and pornography restrictions, acquisition of leases, and law enforcement powers. The measures include the creation of Prescribed Areas, in which certain activities, such as the possession of alcohol and pornography, are banned. All Aboriginal lands as defined under the ALRA are prescribed areas, as are some town camps (Department of Social Services 2012a). In the context of Ranger, prescribed areas include Kakadu National Park, and the communities of Gunbalanya and Manaburduma. Jabiru is not a prescribed area.⁶⁶

The Australian Human Rights Commission’s (HRC) *2007 Social Justice Report* provided 14 recommendations in relation to the Northern Territory Emergency Response and noted that it represented “non-compliance with Australia’s human rights obligations and the Racial Discrimination Act 1975 (Cth)” (Australian Human Rights Commission 2007). The HRC’s

⁶⁴ Rio Tinto is a founding member of the International Council on Mining and Metals and a member of the MCA and United Nations Global Compact.

⁶⁵ The Australian Constitution gives power to the Commonwealth Government to pass legislation with respect to the peoples of any race in Australia. This has the effect of allowing legislation to be passed of benefit to indigenous Australians, such as the ALRA and the NTA, but also allows for the passing of legislation to the detriment of indigenous Australians.

Unless specific legal exclusions are in place, indigenous Australians are also subject to all Australian law and enjoy the same rights as all citizens. Specific government policies also apply to indigenous Australians.

⁶⁶ For further details see <http://www.dss.gov.au/our-responsibilities/indigenous-australians/programs-services/closing-the-gap-in-the-northern-territory/northern-territory-emergency-response-nter-redesign/about-the-response/communities-and-prescribed-areas/prescribed-areas>

2011 report, *The Suspension and Reinstatement of the RDA and Special Measures in the NTER*, also noted concerns regarding the enjoyment of human rights in relation of the Northern Territory Emergency Response (Australian Human Rights Commission 2011a, p.3).⁶⁷

Today, the Northern Territory Emergency Response remains a high profile initiative and a focal point for discussion about indigenous human rights and the role of government.

3.1.2 Ranger's past and present contributions to social change

3.1.2.1 Indigenous land rights

As discussed previously, the history of indigenous land rights in the NT is fundamentally entwined with the establishment of Ranger. The Fox Inquiry followed the Aboriginal Land Rights Commission 1973 (known as the Woodward Royal Commission) which led to the creation of the ALRA.⁶⁸ In the second report of the Fox Inquiry a section was included under the ALRA which led to the establishment of the Kakadu Land Trust. This comprised stage one of the development of KNP and granted the Mirarr and other Aboriginal groups land rights.

The ALRA was legislated with a specific provision excluding the RPA from what could be termed the FPIC provisions of the ALRA. The RPA was determined as Aboriginal land, but the Traditional Owners and other affected Aboriginal peoples were explicitly excluded from the right to refuse exploration or mining under the ALRA (the so-called "right of veto"). They were, however, entitled to negotiate a royalty agreement through the granting of the Kakadu Land Trust. The agreement was finalised in 1978 (the 1978 Ranger agreement), however shortly after signing the NLC sought to overturn the agreement, arguing that in its view the agreement had been rushed and was not legitimate. The 1978 Ranger agreement has remained an ongoing cause of tension between the Government, the Gagudju Association, the GAC, ERA, the NLC and the Mirarr and other Aboriginal peoples of the region. Using present-day terminology, it is clear that the 1978 Ranger agreement did not respect a process of FPIC and Ranger has continued to operate without the FPIC of indigenous peoples. While the lack of FPIC process was (and remains) legal under Australian law, the outcome in which the Mirarr and other affected Aboriginal peoples of the RPA did not receive the same rights as other indigenous peoples of the NT has contributed to grievances (Wilson 1997; Scambary 2013).

⁶⁷ The report states:

In brief, the Commission has persistently raised concerns about the operation of the NTER [Northern Territory Emergency Response] legislation, both pre and post the 2010 amendments, in its Social Justice Reports, in Parliamentary submissions, in submissions to the CERD Committee [Committee on the Elimination of Racial Discrimination] and in external consultations. Although the Commission welcomed several of the amendments in the 2010 Welfare Reform Act, it has remained concerned about the extent and practical effectiveness of the 'reinstatement' of the RDA [Racial Discrimination Act 1975 (Cth)] and regarding the characterisation of measures as special measures, particularly in the absence of effective and meaningful consultation and monitoring and evaluation (Australian Human Rights Commission 2011a, p.3)

⁶⁸ As noted in previous chapters, the ALRA was established with specific provisions to exclude the RPA from the so called "right of veto" over exploration and mining. It remains to be seen how this aspect of ALRA will be treated should ERA seek an extension to the Section 41 Authority relating to the RPA, which expires in 2026.

In January 2013, the GAC and NLC finalised a new agreement with ERA and the Commonwealth and NT governments (2013 Ranger Agreement). The agreement allows for increased consultation and dialogue in relation to the day-to-day operation of Ranger, increased royalties, and direct support for the GAC and various associated social and business initiatives. The new agreement does not establish any new rights for the Mirarr or obligations for ERA or the Government (including with regard to Ranger 3 Deeps) as it remains subject to the current Authority (information provided by ERA).

3.1.2.2 Other human rights

As previously noted, many of Ranger's contributions to social change which can be understood in relation to human rights are covered elsewhere in this report. They include actions such as,

- provision of royalties that have been invested by the GAC (and previously the Gagudju Association) in various social programmes targeting the region's Aboriginal peoples;
- direct investment by ERA in initiatives to improve the health and education of regional Aboriginal peoples; and
- the establishment of health and safety practices to protect employees, contractors and the community.

3.1.3 Other activities contributing to social change

3.1.3.1 Indigenous land rights

Two key activities relevant to the shaping of indigenous land rights are the negotiations that occurred over the Jabiluka uranium deposit and native title claims associated with Jabiru.

The Jabiluka uranium deposit was discovered in the early 1970s and was considered in the Fox Inquiry along with Ranger. From 1996, ERA sought to develop Jabiluka and began to develop initial infrastructure. At this time, Jabiluka became the focus of an international campaign run by the Mirarr, GAC and various environmental groups opposed to its development (Gundjeihmi Aboriginal Corporation 1997; Commonwealth of Australia 1999). Following Rio Tinto becoming the majority shareholder of ERA in 2000, ERA, Traditional Owners and the NLC signed the *Jabiluka Long-Term Care and Maintenance Agreement* in February 2005. The agreement is publically reported as ensuring "no mining activity will be conducted on the lease without the informed written consent of the Mirrar [sic]" (ATNS 2006).⁶⁹ The Jabiluka campaign attracted and sustained national and international media

⁶⁹ The agreement is confidential and has not been assessed as part of the research. The Agreements Treaties and Negotiated Settlements database notes the following on the Jabiluka agreement:

Under the Jabiluka Long-Term Care and Maintenance Agreement between the Aboriginal traditional owners of the area - the Mirrar [sic] people - and Jabiluka Mineral Lease holders Energy Resources Australia (ERA), no mining activity will be conducted on the lease without the informed written consent of the Mirrar [sic]. This agreement formalises the commitment made in September 2002 by then Rio Tinto chairperson Sir Robert Wilson, that there would be no mining at Jabiluka without the consent of the Mirrar [sic]. The Mirrar [sic], through their representative organisation Gundjeihmi

attention and contributed strongly to antagonism and poor relations between ERA, the NLC and the Mirarr (Goldman Prize 2013; Bradbury 2007; Journeyman Pictures 2008; Margarula 2010), however, the campaign resulted in a voluntary agreement supporting a form of FPIC.

Although significant for understanding the context in which Ranger continues to operate, the legal framework and operational circumstances of Jabiluka are different to those of Ranger. Jabiluka for instance is subject to the full terms of the ALRA, unlike Ranger. While Jabiluka and Ranger will continue to be conceptualised in the public consciousness as strongly linked due to the same parties being involved and the Jabiluka lease being contiguous with the RPA, the two deposits are not comparable when considering the legal status of the RPA beyond 2021.

The recently passed Commonwealth *Aboriginal Land Rights and Other Legislation Amendment Act 2013* has seen the resolution of two parcels of land in the Jabiru area under native title claim by way of granting them as Aboriginal Freehold under the ALRA.⁷⁰ Native title settlement arrangements for the broader Jabiru area have yet to be finalised.⁷¹ The resolved parcels of land will be transferred from ownership by the Director of National Parks to the Kakadu Land Trust (an ALRA trust), which will hold the land on trust for its Traditional Owners. Certain leasing arrangements, agreed with the Mirarr, will provide for some blocks of land and leases within the town to be transferred to GAC. The Act also ensures that existing leases, subleases and other interests in Jabiru will be preserved following transfer of ownership to the Kakadu Land Trust. Jabiru is therefore a special case that has seen the rights available under the native title claim process provide for a solution that shifts rights to the Mirarr under the ALRA.⁷²

3.1.3.2 Other rights

Activities relating to other rights are largely addressed in other chapters of this report, however, the following legislative, government policy and administrative changes are particularly relevant:

- the establishment of the government welfare system from the 1970s;
- the evolution of workplace health and safety legislation;
- the evolution of environmental legislation; and
- the Northern Territory National Emergency Response.

Aboriginal Corporation, spent the following 18 months seeking that commitment in writing - resulting in this agreement (ATNS 2006).

⁷⁰ NT Portions 2271 and 2273.

⁷¹ It is noted that ERA supports a positive determination of the Jabiru native title claim on behalf of the claimants.

⁷² The Jabiru lease was established in the context of the creation of Ranger, and the Mirarr and other affected Aboriginal peoples had no “right of veto” over its creation.

3.2 SIA FINDINGS

This section summarises the SIA findings relating to the recognition and enjoyment of human rights established under Australian law (including those fulfilling Australia's international obligations), with consideration of relevant rights under emerging international principles such as FPIC. As demonstrated above, the proposed Ranger 3 Deeps underground mine would be developed in a context of historic and continuing social change that has had tangible impacts on the traditional land rights of Aboriginal people of the region over the past century, and particularly since the establishment of Ranger and KNP.

In relation to human rights, the Ranger 3 Deeps development has the potential to impact both positively and negatively on the enjoyment and protection of established rights or the recognition of new rights in Australian law.

The SIA has identified four risks and three opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- Protection and enjoyment of indigenous land rights (including FPIC).
- Protection of, and respect for other human rights.

Section 3.2.1 describes each of these social factors and presents the related risks and opportunities. Section 3.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

3.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

3.2.1.1 Protection and enjoyment of indigenous land rights (including FPIC)

As discussed previously, the RPA was excluded from the ALRA's provisions relating to the "right of veto" over exploration and mining. This resulted in the Mirarr and other affected Aboriginal peoples of the region being unable to stop the development of Ranger on what was recognised under the ALRA as Aboriginal Freehold Land. The recent finalisation of the 2013 Ranger agreement constitutes progress in redressing this historical issue, particularly in the form of increased royalty payments and support for social initiatives run by the GAC. However, as both the ALRA provisions relating to the RPA and the 2013 Ranger agreement remain in place through until 2021 (the proposed timeframe of the development and the date at which the RPA expires), Ranger 3 Deeps' impact on rights will be primarily through a continuation of the current conditions and agreements associated with the existing mine (ERA 2013b, Gundjeihmi Aboriginal Corporation 2013d).

In late 2013, the GAC stated in a press release that they believe that ERA has agreed not to proceed with the Ranger 3 Deeps development without the free, prior and informed consent of the Mirarr (Gundjeihmi Aboriginal Corporation 2013e). ERA have not confirmed this position, instead they assert that they are seeking the support of the Mirarr for Ranger 3 Deeps, as stated by Peter McMahon, Chairman of the ERA Board:

We have ... a current right to operate there through a particular period, and we have been and will continue to be in discussions with the GAC about Ranger 3 Deeps ... it's an ongoing process and we'd be looking for their support (ERA 2014d).

The Mirarr have been consulted as part of the Ranger 3 Deeps SIA research process. Whilst the SIA process has contributed to informed discussion about the development with stakeholders, it does not constitute an approval process with indigenous peoples or any other stakeholder group. Under current legislation and agreements, approval for Ranger 3 Deeps rests with the Commonwealth and NT governments. The Mirarr and other affected Aboriginal people do not have an administrative or legal right in this process for a “right of veto” or FPIC as the proposed development is for the mining of the existing Ranger ore body located on the RPA and covered by the existing Authority.

The SIA identified one opportunity and one risks for Ranger 3 Deeps relating to the protection and enjoyment of Aboriginal land rights, as detailed in Table 7 below.

Table 7: Risks and opportunities relating to protection and enjoyment of Aboriginal land rights

Opportunities	Risks
O-3.1 Ranger 3 Deeps enables ERA to continue to support currently recognised rights of Traditional Owners and other affected Aboriginal peoples (Med)	R-3.1 Traditional Owners and other affected Aboriginal peoples are aggrieved as FPIC is not required for Ranger 3 Deeps approval under conditions of the Ranger Authority (High)

3.2.1.2 Protection of and respect for other human rights

Ranger 3 Deeps has the potential to influence the protection of, and respect for other human rights through direct actions, such as providing a safe working environment, and indirect actions, such as improving environmental health thus increasing indigenous peoples’ ability to enjoy their traditional culture.

The majority of rights considered in this SIA overlap with other aspects of the SIA and are not repeated in detail here. For instance opportunities for ERA to provide support to organisations that improve health outcomes or access to housing is addressed in Chapters 7 and 8, respectively. However, the Ranger 3 Deeps development does have the potential to directly or indirectly affect enjoyment of a range of rights and this is acknowledged in the identified risks and opportunities below.

The SIA identified two opportunities and three risks for Ranger 3 Deeps relating to the protection of and respect for other human rights, as detailed in Table 8 below.

Table 8: Risks and opportunities relating to protection of and respect for other human rights

Opportunities	Risks
O-3.2 Ranger 3 Deeps activities contribute to increased enjoyment of economic, social, cultural, civil or political human rights in the regional community (Low)	R-3.2 Failure to comply with Commonwealth or NT laws and regulations causes incidents which result in direct infringement on human rights (Low)
O-3.3 Ranger 3 Deeps activities contribute to increased enjoyment of labour rights amongst the ERA and contracting workforce (Low)	R-3.3 Ranger 3 Deeps activities contribute to decreased enjoyment of economic, social, cultural, civil or political human rights in the regional community (Low)
	R-3.4 Ranger 3 Deeps activities contribute to decreased enjoyment of labour rights amongst the ERA and contracting workforce (Low)

3.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on one area in relation to human rights; the enjoyment and protection of peoples' rights.

3.2.2.1 The enjoyment and protection of peoples' rights

Rights-holders could be positively impacted by Ranger 3 Deeps if their ability to enjoy their rights is improved. This could occur if the protection of human rights is materially increased as a result of changes to legislation, policy, regulations or court decisions that are in some way linked with the project, or if Ranger 3 Deeps activities indirectly support access or enjoyment of rights. Alternatively, rights could be negatively impacted by any activities that contribute in some way to a continued restriction or reduction of peoples' ability to enjoy their rights.

The SIA process identified three opportunities and four risks that could directly contribute to these outcomes. One medium-rated opportunity and one high-rated risk related specifically to the enjoyment of Aboriginal land rights. Ranger 3 Deeps presents a medium-rated opportunity for ERA to continue to support the currently recognised rights of Traditional Owners and other affected Aboriginal peoples through the Ranger 3 Deeps development, such as through providing support and advice to the GAC (O-3.1). The high-rated risk relates to continued grievances due to FPIC not historically or currently being exercised (R-3.1).

The remaining opportunity and three risks (all of low rating) relate to the potential for Ranger 3 Deeps to increase or reduce the enjoyment of human rights through its operational activities, including the potential for incidents from non-compliance with legislation (O-3.2, R-3.2 and R-3.3).

Figure 9 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the enjoyment and protection of peoples' rights.

Overall, the SIA findings indicate that Ranger 3 Deeps has the potential to impact both positively and negatively on the enjoyment and protection of rights. While positive opportunities have been identified such as benefits from GAC and ERA funded social programmes (see Chapter 10), the high potential risk identified is a continuation of historic grievances in relation to FPIC.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Management practices to maintain adherence to Australian and NT legislation, including EPBC Act, ALRA, NTA and ASSA which proscribe measures to protect indigenous land rights, heritage and the environment.
- Management practices to maintain adherence to Australian and NT legislation that protects workers' rights.
- Active participation on the Ranger Minesite Technical Committee, Joint Water Monitoring Initiative (with GAC) and Relationship Committee (with GAC).
- Engagement with the GAC, NLC and Traditional Owners through agreed mechanisms such as the MOU and 2013 Agreement.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could contribute to the enjoyment and protection of peoples' rights. They include:

- ERA's decision-making regarding management practices unrelated to Ranger 3 Deeps (e.g., health and safety management in the processing facility);
- Commonwealth and NT legislation and policy changes, including those regarding Aboriginal land rights, environmental protection and workers' rights;
- exploration, mining or other resource development activities undertaken or proposed in the region; and
- ongoing changes in the national and international discourse regarding the protection of rights.

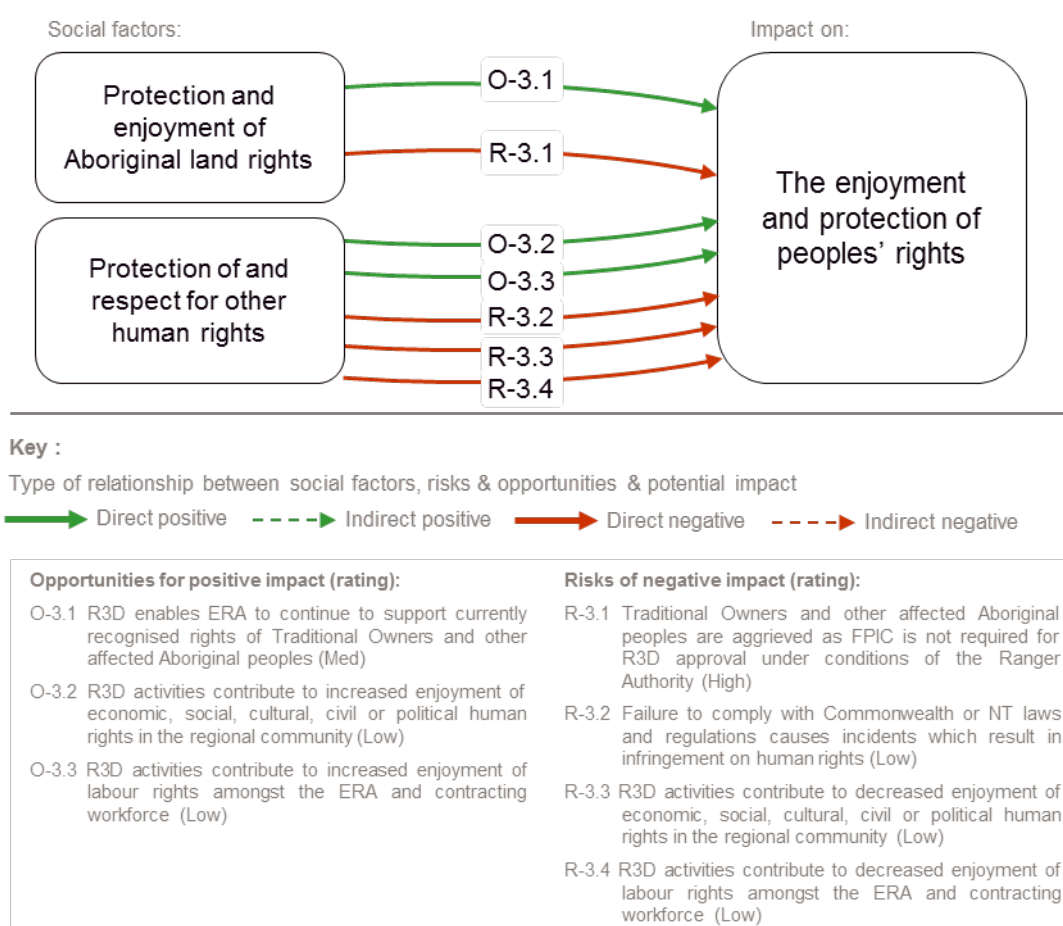


Figure 9: Impact map - the enjoyment and protection of rights

4 NATURAL AND CULTURAL HERITAGE

This chapter considers potential social impacts of the Ranger 3 Deeps development relating to the natural and cultural heritage of the region, including the heritage values associated with KNP that are of national and global significance.⁷³ Some specific terms relevant to this chapter include:

- “cultural heritage” and “natural heritage” as defined in the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage; Article 1 (UNESCO 1972);
- “sacred sites” as defined in the ALRA, Part VII, s.69 (Commonwealth Consolidated Acts 2013);
- “values” as used in the EPBC Act and by UNESCO when referring to World Heritage;
- “heritage sites” describing specific places or areas associated with those values; and
- “intangible heritage” referring to cultural knowledge associated with heritage values.

In addition, as outlined in Chapter 1, KNP and Ranger fall under the nine matters of national environmental significance identified in the EPBC Act.

As noted in previous chapters, the RPA is entirely surrounded by, but separate from, KNP. KNP is included on the National Heritage List under the EPBC Act, meeting eight of the nine National Heritage criteria (ERA 2012b). It is also listed as a World Heritage site meeting five of the ten World Heritage selection criteria (UNESCO 2014a), namely:

- Being an outstanding example representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment.
- Containing unique, rare or superlative natural phenomena, formations or features or areas of exceptional natural beauty.
- Containing the most important and significant habitats where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still survive.
- Representing a unique artistic achievement and a masterpiece of the creative genius.
- Being directly or tangibly associated with events or with ideas or beliefs of outstanding universal significance (UNESCO 2014b).⁷⁴

The values reflected by these criteria include aspects such as the “scale” of environment, active management of landscapes, diverse landscapes and vegetation types, natural beauty, flora and fauna of conservation significance, rock art, Aboriginal archaeological material and

⁷³ Management of the natural environment, including specific legislation and provisions relating to Ranger's environmental management is generally discussed in the EIS.

⁷⁴ Please note that World Heritage criteria are revised over time (Department of the Environment 2014g).

other cultural sites of great antiquity and of universal significance (Department of the Environment 2014g).

The RPA also contains sacred sites registered with the Aboriginal Areas Protection Authority (AAPA), which require compliance with management conditions linked to an “authority certificate”. An authority certificate is a specific instrument of the *NT Aboriginal Sacred Sites Act 1989* that defines permitted and prohibited activities in an area where a sacred site is located.

4.1 BACKGROUND

4.1.1 Current state of natural and cultural heritage

4.1.1.1 Kakadu National Park

KNP was inscribed on the World Heritage List, in recognition of its outstanding universal value, in three stages, occurring in 1981, 1987 and 1992. The World Heritage area was recently expanded again in 2011 with the addition of the Koongarra Area (1228 hectares) in recognition of its outstanding natural and cultural values, including upstream habitats of key wetlands. Koongarra was previously excluded from KNP due to its potential uranium resources.

The Australian government, as a signatory to the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, recognises that it has a duty to manage KNP in order to protect and conserve it for future generations.⁷⁵

The World Heritage listing of KNP was a voluntary initiative of the Australian Government. The listing status does not remove or alter the Commonwealth Government’s control over KNP or involve the surrendering of rights in relation to the land.⁷⁶ The only action the World Heritage Committee can take is to remove KNP from the list, a measure rarely taken. World Heritage status is a significant attribute for attracting tourism and funding; it also sets a certain standard for a management regime and attracts global scrutiny. Loss of World Heritage status for any site, but particularly for those located in a wealthy first-world nation, would engender significant national and international criticism.

The environmental and cultural heritage of KNP is currently protected through a bilateral agreement of the NT and Commonwealth Governments and separately through a referral of intent under the *EPBC Act* (Commonwealth) and *Environmental Assessment (NT) Act 1982*. KNP is managed through a joint management agreement between Aboriginal Traditional Owners, and the Director of National Parks, through Parks Australia. Approximately half of Kakadu is Aboriginal land under the ALRA and most of the remainder is under claim by Aboriginal people (Department of the Environment 2014b). Aboriginal Land Trust land within KNP’s boundaries has been leased to the Director of the National Parks for the enjoyment

⁷⁵ Refer to UNESCO for information on the World Heritage Convention and the requirements of signatory nations (UNESCO 2014c).

⁷⁶ The World Heritage Committee, UNESCO and the United Nations cannot enforce a management regime or changes to site management on a government, indigenous people or any land owner. There is no requirement for the land to be zoned or used in any particular way, as long as World Heritage values are protected.

and benefit of all Australians. KNP is managed by the Kakadu Board of Management, of which ten of the fifteen members are Aboriginal, representing the Aboriginal Traditional Owners of KNP. The current KNP Management Plan (2007-14) ceased at the end of 2013 and a new plan for the 2014-2023 period is being drafted (Department of the Environment 2014b). To assist the board in decision-making, two committees are in place: the Kakadu Tourism Consultative Committee and the Kakadu Research Advisory Committee.

The Australian and NT governments' view is that Ranger is not an impediment or threat to the national and World Heritage values of KNP and that the current operating conditions allow for Ranger's area to be rehabilitated to a standard where it can be incorporated back into KNP.⁷⁷

As noted in Chapter 1, Australian and international environmental groups that have anti-nuclear policies are opposed to Ranger operating in an area encompassed by KNP (noting that the RPA is excluded from KNP) and see Ranger as incompatible with sustaining national and World Heritage values. The Mirarr and some other Traditional Owners of KNP also view Ranger as a threat to KNP's national and World Heritage values, and are critical of the present joint-management regime for failing to manage KNP in a way that meets indigenous values (Aikman 2013).

During the SIA consultation a number of stakeholders suggested a level of ongoing tension between balancing the natural and indigenous heritage values of KNP, and the demands of tourism. KNP has also received academic attention in relation to the effectiveness of joint management and competing land uses (Stacey et al. 2013; Haynes 2013).

A particular focus of ongoing concern expressed by both environmental and indigenous groups in relation to the national and World Heritage values of KNP is water management at Ranger, including treated water releases into Magela creek, and management of the tailings dam.⁷⁸ The prevailing concern is that mismanagement or accident could lead to contamination of natural water bodies.

4.1.1.2 Sacred sites

The *NT Aboriginal Sacred Sites Act 1989* establishes a process whereby sacred sites are protected within a context of balancing site protection against other land uses. Understood in the broadest terms, the Act creates specific interests and processes for indigenous people in the NT in relation to identified sacred sites with an ethos generally similar to other indigenous heritage legislation globally and around Australia. The *NT Aboriginal Sacred Sites Act 1989* is considered to be the strongest and most effective indigenous heritage legislation in Australia. The Ranger 3 Deeps referral states:

There is currently one recorded sacred site on the Ranger Project Area. This site is 5 km from the current operations area and as such would not be impacted by the proposed action. This site is protected subject to the requirements of an Aboriginal

⁷⁷ Refer to *Environmental Requirements of The Commonwealth of Australia for the Operation of Ranger Uranium Mine* (Department of the Environment 1999).

⁷⁸ Refer to the GAC Submission to the Senate Environment, Communications, Information Technology and the Arts References Committee Inquiry into the Environment and Regulation of Uranium Mining August 2002 (Gundjehmi Aboriginal Corporation 2002); Impact of Uranium Mining on Aboriginal Communities in the Northern Territory (Wilson 1997).

Areas Protection Authority certificate and the ERA Cultural Heritage Management system. This site is in an area of undisturbed bushland with strict internal controls which prohibits entry to the specific area.

Another sacred site was identified in 2010 and is currently undergoing a process for registration on the Aboriginal Areas Protection Authority register. This site is approximately 750 m from the closest point of current operations and the proposed action will not have any incremental impact. This site is protected subject to the requirements of the ERA Cultural Heritage Management system with additional management requirements expected on receipt of the Aboriginal Areas Protection Authority certificate currently being considered (ERA 2012b, p.70).

Archaeological surveys conducted over 70% of the RPA (78 square kilometres) have, as noted above, identified one sacred site, subject to an AAPA certificate, and a significant site proposed by GAC for registration with AAPA. ERA has stated that no heritage sites will be disturbed by the Ranger 3 Deeps development. One hundred and fifty heritage sites (largely archaeological sites and background scatters) have been recorded within the surveyed area of the RPA (Crassweller 2009). Mt Brockman, a sacred site, is located approximately 3.5 km south of the RPA (ERA 2012b).

In collaboration and agreement with the GAC, ERA actively manages all identified sacred and heritage sites within the RPA through its cultural heritage management system (including GIS database). The area of operations (comprising the pit, tailings dams, plant and other areas), defined within the management system, is considered to be free of cultural heritage sites. Sacred sites contained within KNP are protected under both the *NT Aboriginal Sacred Sites Act 1989* and EPBC Act.

4.1.1.3 Jabiru and Ranger

The Jabiru town area is encompassed by, but excluded from, KNP boundaries and is situated on a special purpose lease created for the town, which is held by Parks Australia. The development of the town (commencing in 1979) has resulted in an obvious physical impact on the environment, however stakeholders did not express concern for the town's impact on national or World Heritage values of KNP, with the exception of some comment on whether municipal waste management was of a suitable standard given the town's location.

4.1.2 Ranger's past and present contributions to social change

Ranger's contribution to social change in relation to natural and cultural heritage includes the establishment of the mine and changes to the physical characteristics and environmental qualities of the land where it is situated.

The creation of Ranger is also fundamentally linked to the establishment of KNP in that the Fox Inquiry recommended the creation of KNP and that uranium mining should proceed at Ranger (with the condition that it be properly regulated and controlled).

Ranger has also contributed to social change in relation to natural and cultural heritage through the provision of royalty monies to Traditional Owners and other affected Aboriginal people. This includes royalty funds spent on establishing and maintaining outstations and communities that support Aboriginal people living on their traditional country and maintaining culture, land management initiatives, heritage surveys and cultural heritage research. Chapter 2 discusses this contribution to social change in further detail.

4.1.3 Other activities contributing to social change

Ranger and Jabiru's presence is only one of the factors contributing to social change in relation to the natural and cultural heritage of the region. Other influences have included major legislative, government policy and administrative changes, and the changing nature of the region's industries, including the growth of tourism in the region. These factors have previously been discussed in Chapter 1 and are further discussed in Chapter 9 and are thus not described in detail here. However, those that provide context for the SIA findings that follow include:

- KNP is one of Australia's most significant natural heritage tourist attractions. It receives high tourist numbers, with 165,000 visitors in 2011-12, down from 175,000 in 2010-2011 and a peak of 240,000 in 1994 (Tourism NT 2012).⁷⁹ The impact of tourism on natural and cultural heritage values on KNP is managed under the 2007-2014 KNP Management Plan.
- The proposed Jabiluka mine was a focus for anti-nuclear, pro-environmental and indigenous rights groups campaigning for the National and World Heritage values of KNP to be protected from, in their view, further threats from expanded uranium mining in the region. The Jabiluka campaign was hailed as a success by the abovementioned groups as the Jabiluka development was halted and the Jabiluka Long-Term Care and Maintenance Agreement was signed between the Mirarr and ERA (Katona 2001).⁸⁰

4.2 SIA FINDINGS

This section summarises the SIA findings relating to natural and cultural heritage. As outlined above, the natural and cultural heritage surrounding Ranger is of significant value, nationally and globally, to present and future generations. For more than 30 years, Ranger has operated within this context, attracting both attention and criticism from environmental groups, NGOs and the UNESCO World Heritage Committee. To date, however, KNP has remained on the World Heritage List and the OSS has not identified evidence of impacts by Ranger on protected natural or cultural heritage sites or areas (United Nations Office of the High Commissioner for Human Rights 2013; Department of the Environment 2014c).

What is less clear is the contribution of Ranger to impacts on cultural values; particularly those relating to the "continuous cultural development" and "living cultural tradition" of the region's Aboriginal peoples (refer to Chapter 2).⁸¹ Further, as noted above, environmental groups believe that the existence of the RPA in an enclave contained within (but excluded

⁷⁹ For further detail see Chapter 6.

⁸⁰ The Jabiluka Long-Term Care and Maintenance Agreement includes agreement that "no mining activity will be conducted on the lease without the informed written consent of the Mirrar" and "sets out provisions for the Jabiluka mine decline to be back-filled" (ATNS 2006).

⁸¹ Whilst this SIA presents some considerations in determining any impacts on World Heritage values by the proposed development, it is beyond its scope to draw any final conclusions on this matter. These are instead considered within the EIS that has been prepared by ERA.

from) KNP compromises the integrity of the natural values of the park.⁸² This concern relates to the impacts of both current and future mining activities and, once completed, the rehabilitation and eventual incorporation of the RPA into KNP. In this context, it is important to note that the scope of this SIA and the findings presented are limited to the Ranger 3 Deeps development and activities within ERA's control or influence.

In relation to natural and cultural heritage, the Ranger 3 Deeps development has the potential to impact both positively and negatively on people's enjoyment and protection of nationally and globally significant natural and cultural heritage.

The SIA has identified five risks and three opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- Protection of natural and cultural heritage sites and values.
- Rehabilitation of the RPA and incorporation into KNP.

Section 4.2.1 describes each of these social factors and presents the related risks and opportunities. Section 4.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

4.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

4.2.1.1 The protection of natural and cultural heritage sites and values

As outlined above, the natural and cultural heritage of KNP and the RPA is protected due to the presence of both natural and cultural heritage sites and sacred sites that are of "outstanding universal value", meeting the criteria of the EPBC Act, and which are also protected under the ALRA. Protection of heritage and sacred sites involves both active and passive management under identified management plans, of which one is currently in place for KNP and another for the RPA. However, protection of the heritage values, particularly cultural values associated with heritage, are not easily measured and monitored, given cultural knowledge is subjective and changes over time.

Natural and cultural heritage sites and values that could be affected by the Ranger 3 Deeps development include the specific identified sites within the RPA (whether registered with AAPA or not) which are directly managed by ERA and the GAC, and world and national heritage values of KNP, particularly those associated with indigenous cultural values. The latter are managed by KNP, but may be indirectly impacted by Ranger 3 Deeps activities.

The SIA identified two opportunities and two risks for Ranger 3 Deeps relating to the protection of natural and cultural heritage sites and values, as detailed in Table 9 below.

⁸² "Integrity" is one of the criteria considered in identifying World Heritage sites. It is described by UNESCO as "a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes." One of the factors considered in assessing the integrity of a site is the evidence of any "adverse effects from development" (UNESCO, 2012, p. 16). It is noted that KNP was originally inscribed as a World Heritage Site with Ranger already within its bounds (Scambary, 2013).

Table 9: Risks and opportunities relating to the protection of natural and cultural heritage sites and values

Opportunities	Risks
O-4.1 Continued and improved environmental initiatives and management contribute to a sustaining of the natural values of KNP (Med)	R-4.1 Ranger 3 Deeps operations have unintended consequences that result in damage to sacred sites, cause environmental harm or compromise the values of KNP (Low)
O-4.2 Continued and improved cultural heritage management results in improved enjoyment of sacred sites or areas of natural significance, including the values of KNP (Med)	R-4.2 Significant incidences associated with Ranger 3 Deeps operational activities result in damage to sacred sites, cause environmental harm, or compromise the values of KNP (Low)

4.2.1.2 Rehabilitation of the RPA and incorporation into KNP

The requirements for the rehabilitation of the RPA were specified at the time of Ranger's approval. Current requirements are set in the Environmental Requirements of the Commonwealth of Australia for the Operation of Ranger Uranium Mine (Department of the Environment 1999).⁸³ They require that the mine site be rehabilitated to establish an environment such that it could be incorporated into Kakadu National Park.

Rehabilitation of the Ranger site is being undertaken progressively, having commenced in 2012, with backfilling of Pit 3 currently underway. Under the licensing requirements, all mining activity is required to cease by January 2021 and rehabilitation activities to be complete by January 2026.

Through the SIA consultations, a range of stakeholders have expressed interest and/or concern about the potential of the Ranger 3 Deeps development to impact on rehabilitation activities at Ranger and its eventual incorporation into KNP.

The SIA identified one opportunity and three risks for Ranger 3 Deeps relating to the protection of nationally and globally significant natural and cultural heritage, as detailed in Table 10 below.

Table 10: Risks and opportunities relating to rehabilitation of the RPA and incorporation into KNP

Opportunities	Risks
O-4.3 Ranger 3 Deeps enables improved capacity within ERA to plan and manage rehabilitation over the life of the mine, resulting in an improved ability for the RPA to be successfully incorporated into KNP (High)	R-4.3 Further mining on the RPA undermines the perceived integrity of KNP (Low) R-4.4 The presence of Ranger 3 Deeps increases stakeholder concerns that the rehabilitation of the RPA will not meet the timelines or requirements of the Ranger environmental regulations, including rehabilitation into KNP (Low) R-4.5 Ranger 3 Deeps results in changes to the nature of the site's environment and uses post-mining that impact on the ability of the RPA to be successfully incorporated into KNP (Low)

⁸³ The Environmental Requirements are conditions of the Authority issued under Section 41 of the *Atomic Energy Act 1953*.

4.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on one area in relation to natural and cultural heritage; the enjoyment and protection of nationally and globally significant natural and cultural heritage.

4.2.2.1 The enjoyment and protection of nationally and globally significant natural and cultural heritage

Current and future generations could be positively impacted by Ranger 3 Deeps if it results in an improved ability to protect and enjoy the region's natural and cultural heritage. Alternatively, negative impacts could result from any activities that contribute to a reduced level of protection or enjoyment.

The SIA process identified one high-rated opportunity and five low-rated risks that could directly contribute to these outcomes. The opportunity relates to the potential for improved capacity within ERA to plan and manage rehabilitation of the RPA, improving the ability for it to be incorporated into KNP (O-4.3). The risks relate to the potential for operational activities or incidents relating to Ranger 3 Deeps to result in unintended consequences for the environment or sacred sites, leading to either immediate or future impacts on natural and cultural heritage (R-4.1, R-4.2 and R-4.5), and to stakeholder perception and concerns about the integrity of KNP or RPA rehabilitation (R-4.3 and R-4.4).

Two opportunities were identified that have the potential to *indirectly* impact the enjoyment and protection of nationally and globally significant natural and cultural heritage. These relate to the potential for Ranger 3 Deeps to result in improved management of environmental or cultural heritage that contributes to a strengthening of, or improved information regarding, the heritage values of KNP (O-4.1 and O-4.2).

Figure 10 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the enjoyment and protection of natural and cultural heritage.

Overall, the SIA findings indicate that if the high-rated opportunity is realised, Ranger 3 Deeps may have a direct positive impact on the enjoyment and protection of nationally and globally significant natural and cultural heritage. There are, however, a number of low-rated risks that could impact negatively on the heritage of the area.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Management practices adhering to Australian and NT legislation regarding cultural and natural heritage.
- Environmental management and monitoring practices.
- Heritage management practices, including conducting heritage surveys.
- Active participation on the Ranger Minesite Technical Committee, Joint Water Monitoring Initiative (with GAC) and Relationship Committee (with GAC).
- Engagement with the GAC, NLC and Traditional Owners through agreed mechanisms such as the MOU and the 2013 Agreement.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the enjoyment and protection of nationally and globally significant natural and cultural heritage. They include,

- ERA's decision-making regarding management practices unrelated to Ranger 3 Deeps (e.g., rehabilitation);
- Commonwealth and NT legislation and policy changes relevant to cultural and natural heritage, including active maintenance of KNP's National and World Heritage Listing;
- KNP management practices;
- exploration, mining or other resource development activities undertaken or proposed in the region; and
- establishment or continuation of initiatives that influence relationships of Aboriginal people with their heritage and country.

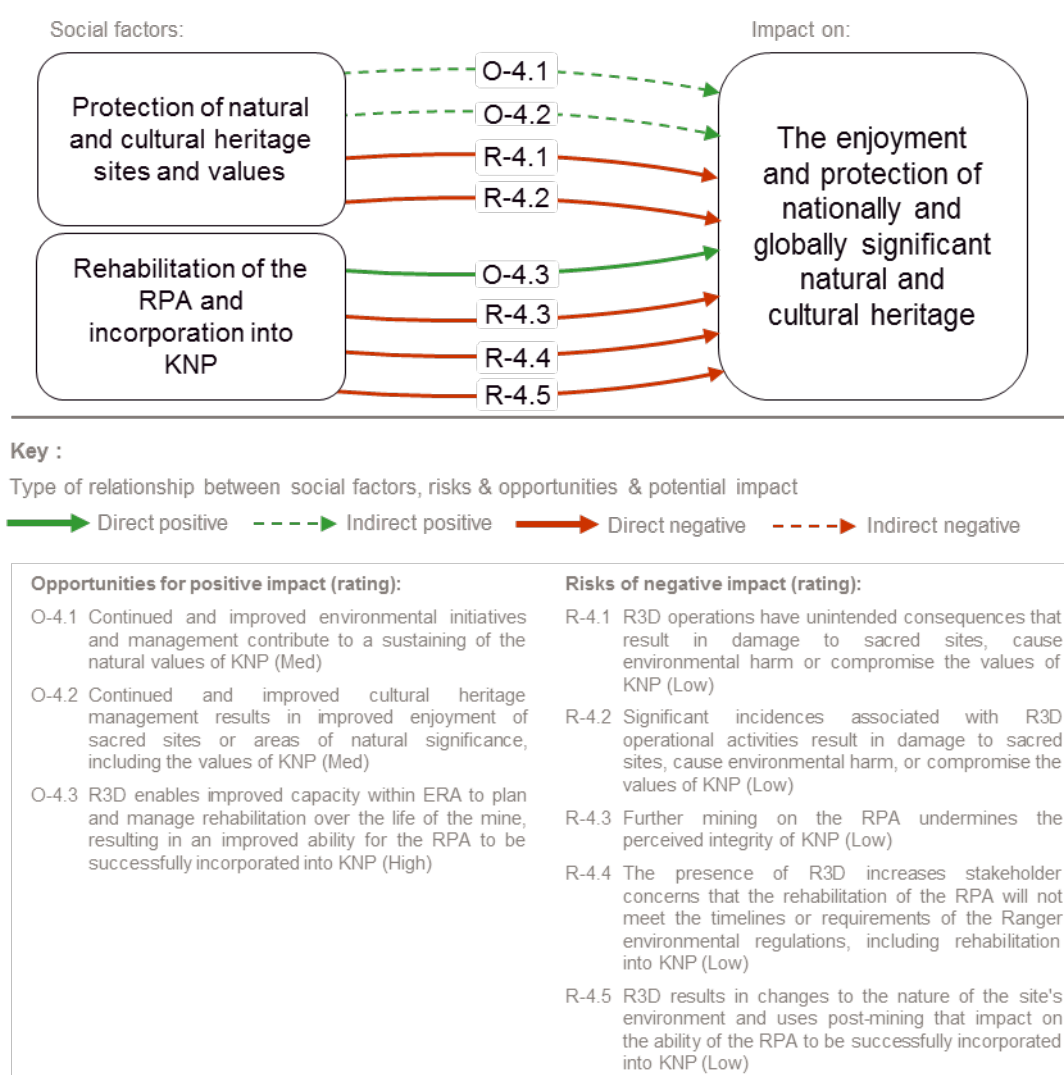


Figure 10: Impact map - the enjoyment and protection of nationally and globally significant natural and cultural heritage

5 POLITICAL REPRESENTATION, GOVERNANCE AND ADMINISTRATION

This chapter considers potential social impacts of the Ranger 3 Deeps development relating to the presence, role and capacity of formal governance bodies and associations. It also considers the effectiveness of such organisations in representing and administering the rights and interests of people and communities.

Governance is “the exercise of economic, political and administrative authority to manage a country’s affairs at all levels. It comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences” (The World Bank 2013).

In the context of the Ranger 3 Deeps development, governance encompasses the administration of Jabiru and the people of the region as conducted by government such as the West Arnhem Regional Council; representative Aboriginal organisations such as the NLC and GAC; social organisations such as the Gunbang Action Group; and businesses with administrative functions or influence such as ERA.

5.1 BACKGROUND

5.1.1 Current state of political representation, governance and administration

Consistent with the rest of the NT, three tiers of Government share responsibility for the administration of the region: the West Arnhem Regional Council; the NT Government; and the Australian Government (or Commonwealth). As outlined in Chapter 1, the unique regulatory environment surrounding Ranger, Jabiru and KNP has resulted in a complex set of arrangements for formal governance in the region. The 1984 Uranium Impact Project Steering Committee report stated:

It is not of course possible to measure complexity, but a comparison of the number of organisations involved in reaching a decision in the [Alligator Rivers Region] ... may be some guide. In order for an Aboriginal family to build a house in Melbourne, it would be sufficient to obtain planning approval and a building permit from the local municipal council. For an Aboriginal family to do the same thing in Jabiru, it could well be necessary to consult the JTDA, ANPWS [Australian National Parks and Wildlife Service], the NLC, Ranger Uranium, the DAA [Department of Aboriginal Affairs], the Gagudju Association and the NT Government ((Australian Institute of Aboriginal Studies 1984)

These complexities remain in place today, with the following organisations playing a key role in the political representation, governance and administration of the region: the JTDA, Parks Australia and the board of KNP, the OSS and associated committees, and the NLC and GAC.⁸⁴ ERA also plays a role in the governance of Jabiru through owning, managing and maintaining the majority of Jabiru residences and a number of buildings occupied by

⁸⁴ Further information on key stakeholders is provided within the EIS report; see Chapter 1 and Figure 100.

businesses. A further issue complicating the political representation, governance and administration of the region is the frequency of changes to the composition and role of decision-making organisations and bodies. The government funding arrangements for institutions and indigenous programmes add yet another layer of administrative complexity and impact the ability of indigenous organisations to carry out their functions. Smaller indigenous organisations typically source funds from a combination of Commonwealth, NT and private grants.

At a local level, Ranger and the town of Jabiru are located within the boundaries of the West Arnhem Regional Council, which has responsibility for local government service provision to five towns and communities including Jabiru and Gunbalanya.⁸⁵ These services include includes core services (e.g., road works, waste, water management and dog control), commercial services, and services the council delivers on behalf of other agencies for a fee, such as sport and recreation (West Arnhem Regional Council 2013c). Until 2008 the Jabiru Town Council was a separate entity responsible for service delivery under the provisions of the Jabiru Town Development Act (NT). This role was transferred through an amendment of the Act to the West Arnhem Regional Council in 2008 (formerly the West Arnhem Shire Council).

The NT was granted self-government by the Commonwealth in 1978 and today has a similar political, governance and administrative role to other States. The NT government has 33 agencies that manage the provision of most services including education, emergency services, employment, health, housing, land and environment, sport and recreation and tourism. The NT parliament also has the power to legislate for most State-type functions, however the Commonwealth has retained certain powers relating to: Aboriginal land; the mining of uranium; national parks; and most matters of industrial relations. KNP is managed by Parks Australia as a result of these retained powers.

Two Commonwealth agencies of particular relevance to Ranger and the region are:

- The OSS, which is responsible for environmental research and monitoring, environmental supervision, audit and inspection to protect the region from the effects of uranium mining.
- Parks Australia, the Commonwealth Agency responsible for the management of six Commonwealth national parks, including KNP. KNP is governed by a board of 15 members, the majority of whom are Traditional Owners. The board is established pursuant to a section of the EPBC Act (Australian Government 2013b).

Several Aboriginal organisations exist in the region as a result of the special rights and interests held by Aboriginal people under the ALRA and the NTA.⁸⁶ These include the NLC and the GAC. The Gagudju Association and the Djabulukgu Association were formally royalty-receiving organisations however they now provide other services.⁸⁷ The Warnbi

⁸⁵ The Council also services Minjilang, Waruwu, Maningrida and KNP.

⁸⁶ See Chapter 3 for an overview of these rights.

⁸⁷ The Gagudju Association represents ten local clan groups and actively participates in the governance of the Gagudju Crocodile Holiday Inn ensuring that business decisions are made with a focus on Indigenous outcomes. Purchased in 1999, this asset has performed consistently, returning regular income to investors over that period. The Gagudju Association holds a 48% stake in the Investment" (IBA Indigenous Business Australia 2014).

Aboriginal Corporation – Kakadu (Warnbi) provides contract municipal services and is a Remote Jobs and Communities Program (RJCP) provider.⁸⁸

The NLC is an independent statutory authority of the Commonwealth established under the ALRA. The NLC looks after Aboriginal peoples' land interests under the ALRA and is also a native title representative body under the Native Title Act 1993. The three other Aboriginal organisations (GAC, Gagudju Association and Djabulukgu Association) were established at various times since 1980 to facilitate the distribution of mining royalties and deliver social services to local Aboriginal communities. The roles of these different organisations have been contested over that period, resulting in tension within and between different Aboriginal groups in the region (Wilson 1997).

The GAC is currently the identified recipient organisation of royalties from Ranger. It receives royalties on behalf of the Mirarr people and other affected Aboriginal people living in the area (GAC 2013a). As at 30 June 2013, the GAC employed 72 staff and its activities included: the funding of the operation of Djidbidjidbi Residential College; the operation of a number of retail businesses in Jabiru; and the management of Mudginberri and Djirrbiyuk outstations (Gundjeihmi Aboriginal Corporation 2013b).

It is understood that Jabiru is intended to remain a service centre for KNP and the region. Investment by the Mirarr in significant infrastructure (e.g., the Djidbidjidbi Residential College) is also an indication that they share a future vision of the town being a regional hub. If the Jabiru native title claim is settled, the town area may be gazetted as Aboriginal Land under the ALRA and arrangements for leasing or other measures for management of town blocks will be put in place with the Mirarr, the Director of National Parks and the NT government.

5.1.2 Ranger's past and present contributions to social change

As noted in Chapter 1, the Fox Inquiry highlighted a range of ways the development of Ranger could significantly change how people and communities organise themselves and subsequently relate to each other in the region (Fox 1977). The concerns raised in the Fox Inquiry related to both the changes that may occur within and between Aboriginal communities, and the consequences of a significant increase in the presence of non-Aboriginal people and non-Aboriginal systems of political representation, governance and administration. Both the 1985 and 1997 studies undertaken to monitor social impacts (Aboriginal Project Committee 1997b) within the region found that, as predicted by the Fox Inquiry, significant changes had occurred, some directly attributable to the development of Ranger and others less directly, but still related to its presence. The 1984 report drew the following conclusions in relation to impacts on governance and social organisation:

DAI was established in 1982 with a community development philosophy and is committed to the continued development of Bining skill levels through employment, training and economic opportunities" DAI's vision is "to enhance its membership's social, cultural and economic well-being, by way of developing educational and training mechanisms to have the opportunities to engage in sustainable employment within their internal or external environments" (Djabulukgu Association Incorporated 2014).

⁸⁸ The RJCP is a Commonwealth Government programme that integrates employment and community-development services in 60 remote regions, for both indigenous and non-indigenous Australians (Australian Government Department of Social Services 2013).

... the current [Aboriginal] civic culture is one in which disunity, neurosis, a sense of struggle, drinking, stress, hostility, of being drowned by new laws, agencies, and agendas are major manifestations. Their defeat on initial opposition to mining, negotiations leading to Ranger and Nabarlek, the fresh negotiations on Jabiluka and Koongarra, new sources of money, the influx of vehicles, together have led the Project to an unhappy verdict that this is a society in crisis (Uranium Impact Project Steering Committee 1984 in Prasad 2003, p.268).

The 1997 KRSIS found challenges relating to the need for Aboriginal people to organise themselves so as to manage the benefits of mining (Aboriginal Project Committee 1997a). It identified unresolved tensions and disputes relating to the definition of the “area affected” and to the membership of the royalty-receiving association, at that time the Gagudju Association.⁸⁹ It also highlighted challenges arising from the complexity of the region’s administration and the web of organisations involved, including the NLC, OSS, Parks Australia, the Jabiru Town Council and ERA.

Examples of social changes relevant to political representation, governance and administration that have been specifically associated with the development of Ranger and the establishment of Jabiru town include:

- The establishment of a significant non-Aboriginal presence in the region. This involved an influx of mine employees, bureaucrats, and scientists necessary to operate, service and oversee the mine (including both temporary visitors and more permanent residents).
- The creation of Aboriginal associations and corporations required under legislation to administer the distribution of royalties from Ranger, bringing with them decision-making processes for negotiating and determining the distribution of benefits.
- The evolution of royalty-distributing Aboriginal associations and corporations into key representative organisations, business owners and/or operators, and providers of services to the region’s Aboriginal peoples.
- For all groups in the community, limiting access to housing and shaping the development of the Jabiru town via policy decisions regarding the status of Jabiru as a (formerly) ‘closed town’. In addition, ERA’s direct role through ownership/management of a large proportion of Jabiru’s accommodation and business operations.
- Social issues arising from cash payments of royalties, such as increased alcohol consumption by community members at payment time (Fox 1977, p.43).
- Specifically amongst the Aboriginal community, consultation and participation fatigue associated with multiple governance and administrative arrangements (e.g., consultation for mining exploration under the ALRA, SIA consultation, heritage surveys, and ongoing government liaison with regards to funding and services (Scambary 2013).

⁸⁹ Refer to Chapter 10 for further discussion.

- Changes in the way royalties have been distributed over time, including the shift from the Gagudju Association to the GAC, changes to the individuals and families that receive royalties and changes in the form of distribution (primarily from cash to investment and other initiatives). These changes have resulted in shifting power dynamics amongst Aboriginal organisations and community tension from time to time (Gundjehmi Aboriginal Corporation 2010).
- An increasing reliance by ERA on a fly-in-fly-out (FIFO) workforce in addition to a residential workforce. It is unclear how the increased FIFO workforce is represented in existing governance arrangements (e.g., if they can vote in the West Arnhem Regional Council Elections, or if ERA represents them as a workforce as a whole in relation to civic matters relating to Jabiru) (ACIL Tasman 2013, p.4).
- The establishment of the Kakadu West Arnhem Social Trust in 2013, following the renegotiation of the Ranger agreement between the Commonwealth Government, ERA and GAC (Gundjehmi Aboriginal Corporation 2013a).

The increasing dominance of non-Aboriginal governance systems and institutions in the region was also associated with the development of Ranger. However, there were many contributing factors and this change is discussed in further detail in the following section (Scambary 2013).

5.1.3 Other activities contributing to social change

In addition to the changes discussed above, the region has seen other changes in political representation, governance and administration that have minimal or no, specific association with the development of Ranger and the town of Jabiru. Changes in the past ten years have been considerable, including the amalgamation of Jabiru Town Council into the new West Arnhem Regional Council and the continuous changing of dynamics and roles between Aboriginal Associations and Corporations, which are discussed further in Section 5.3.1.2.

In relation to the role of the Commonwealth and NT governments, activities have included:

- The establishment of self-government in the NT in 1978.
- The Commonwealth Government's Northern Territory Emergency Response in relation to the management of various areas of Aboriginal policy and governance. This has included the appointment of government business managers overseeing various administrative functions in scheduled communities, such as Gunbalanya (Department of Social Services 2012b).

In relation to the role local government and local service providers, activities have included:

- The passing of responsibility for council service provision from the JTDA to the Jabiru Town Council in 2008, followed by the establishment of "Super Shires" in 2008, which involved the amalgamation of 70 small local community councils into nine shires (Elvin 2009).

In relation to the role of Aboriginal associations and representative bodies, activities contributing to social change have included:

- Disputes over management of the Gagudju Association, and the subsequent reduction of its role as a service provider for Jabiru and outstations from 1998 (see for

instance Alderson, Margarula and Hunter v Finch, Alderson and Muir (1997) 245 CLR).)

- Challenges to the authority and management of Aboriginal Corporations such as the NLC, typically around mining and exploration consultation and negotiation (Wilson 1997).

5.2 SIA FINDINGS

This section summarises the SIA findings relating to political representation, governance and administration. As demonstrated above, Ranger 3 Deeps would be developed in a context of historic and continuing social change that has had tangible impacts on social structures of the region over the past century, particularly since the establishment of Ranger and KNP.

In relation to political representation, governance and administration, the Ranger 3 Deeps development has the potential to impact both positively and negatively on,

- the effectiveness of representative organisations; and
- the appropriate and effective involvement of individuals in decision-making by representative organisations.

The SIA has identified six risks and four opportunities for the Ranger 3 Deeps development to contribute to these impacts.⁹⁰ These risks and opportunities relate to the following social factors:⁹¹

- The future of Jabiru.
- Aboriginal governance, representation and decision-making.

Section 5.2.1 describes each of these social factors and presents the related risks and opportunities. Section 5.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

5.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

5.2.1.1 The future of Jabiru

One of the major issues currently facing the region is the future of the town of Jabiru once Ranger ceases to operate, which is currently planned for 2021 but may occur beforehand. The sub-leasing arrangements for the town of Jabiru are due to expire in 2021.

Although Jabiru was purpose-built to support Ranger and other proposed mining ventures in the region, it has since evolved into an important regional centre for the provision of social

⁹⁰ As discussed in Chapter 1 these risks and opportunities have been identified through a process of mapping the different pathways through which ERA's decisions and actions could affect social change and have positive or negative impacts on people affected by the development.

⁹¹ Social factors represent different elements of the social environment that could change as a result of decisions and actions associated with the Ranger 3 Deeps development.

services and a hub for the local tourism industry. Stakeholders' views regarding the future of Jabiru if Ranger ceases operations were mixed; with some community members believing Jabiru could be 're-invented' as a tourist town, whilst others (the majority) saw the future of Jabiru post-mining as similar to that of other Aboriginal communities in the region (such as Gunbalanya) with reduced service provision.

The town's ability to grow beyond its major planned purpose, as a provider of mining services, has been (and remains) inhibited in part due to a range of governance-related issues. As noted earlier, there are considerable overlaps and complexities in the spheres of responsibility in political representation, governance and administration in Jabiru. Key actors who are currently responsible for Jabiru's governance include West Arnhem Regional Council, ERA, KNP and GAC. Decision-making for almost all aspects of Jabiru's governance require consideration by multiple parties. The JTDA, as one example, has responsibility for the issue of sub-leases of land, maintenance and development of Jabiru (Auditor-General for the Northern Territory 2014). Its board includes representatives from the NT government, GAC, ERA and the West Arnhem Regional Council. The Commonwealth, via the Director of National Parks, participates as an observer only (information provided by ERA).

If the Jabiru town lease area becomes Aboriginal Land Trust land, which is proposed as part of the settlement of the Jabiru Native Title Claim, the Mirarr will be legally recognised as Traditional Owners of the area and have a say in most land matters relating to the Jabiru town area (ERA 2009; Northern Territory Government Media Release 2009).

The roles and effectiveness of organisations involved in the governance of Jabiru are also particularly relevant to planning the future of Jabiru. Currently, no plan for the future of the town has been agreed between the relevant organisations.⁹²

Another governance challenge, noted by the KRSIS Advisory Group in 1997, and continuing today is the "disempowerment and disconnection" with residents not knowing, or having access to, "an understandable link to who makes decisions or who provides services" (Collins 2000, p.66). Similar feelings of disempowerment, confusion and frustration were expressed by Jabiru residents during the SIA consultation, particularly regarding decision-making processes relating to housing provision, outstations and town camp maintenance. However, it was also noted that feelings of disempowerment, confusion and frustration in relation to political representation, governance and administration are common in remote communities throughout Australia (Peterson & Sanders 1998, Sutton 2009) and that criticism of the Northern Territory Emergency Response has also focussed on the same themes. The contribution of Ranger to this set of identified issues is therefore relevant to this SIA.

The SIA identified two opportunities and two risks for Ranger 3 Deeps relating to the future of Jabiru, as detailed in Table 11 below. One opportunity was rated very high as it is considered likely to lead to considerable positive change if realised.

⁹² The Council is covered by the Local Government Regional Management Plan (RMP) for the Northern Region for 2012-2016. Neither the annual plan, nor the RMP discuss or consider the implications of the Ranger 3 Deeps development, the future of Jabiru beyond the life of Ranger, nor the Jabiru Native Title claim.

Table 11: Risks and opportunities relating to the future of Jabiru

Opportunities	Risks
O-5.1 Ranger 3 Deeps enhances the opportunity for key organisations (including those with governance roles) to plan for the future of Jabiru (Very high)	R-5.1 Increased longer term dependence of Jabiru governance organisations, businesses and services on Ranger (Med)
O-5.2 Over time Ranger 3 Deeps allows for ERA to contribute to improved communication between key governance organisations and with Jabiru and regional residents regarding roles of governance organisations (Low)	R-5.2 Ranger 3 Deeps enables a business as usual approach in the governance of Jabiru and inadequate future planning is undertaken (High)

5.2.1.2 Aboriginal governance, representation and decision-making

As introduced previously, the primary Aboriginal governance organisations in Jabiru and the region are the NLC and GAC. The capacity and effectiveness of these organisations in representing the interests of their members and constituents is a key determinant in the ability of Aboriginal people to shape their own future and participate in political and social life.

The GAC, as representatives of the Mirarr, the recognised Traditional Owners of the land incorporating Jabiru and the RPA, is arguably the organisation with the greatest investment in, and ability to directly affect, the future of Aboriginal governance and representation in Jabiru. The GAC also has a direct relationship with ERA through the Relationship Committee and, since the change from the Gagudju Association in 1994/1995, the GAC is now the royalty-receiving organisation for Ranger.⁹³ The income from mining royalties and an improving relationship with ERA are considered to have significantly strengthened the GAC's capacity and political influence, relative to other Aboriginal corporations in the region.

In SIA consultations, some stakeholders expressed concerns about the GAC's level of power and influence given it only represents the interests of one of the many different Aboriginal groups currently residing in the region.⁹⁴ Further, whilst the GAC is generally recognised as a well-functioning corporation, some stakeholders were unsure of its capacity to take on a significant role in the future governance of Jabiru given it will play a key role in determining future land uses and leasing arrangements in the town area following settlement of the Jabiru native title claim.

In relation to representation of the broader Aboriginal population in the region, the NLC also has a statutory role with regard to consultation with Traditional Owners and 'affected communities' for approvals for mineral exploration, mining and in land management matters generally, including within KNP. Under the ALRA, it is also responsible for determining how royalties are distributed to royalty-receiving associations. Historically, the NLC has occasionally been the subject of criticism within the region and the NT regarding issues relating to its funding and impartiality, the effectiveness of representation of Traditional Owners and its decisions relating to the distribution of royalties (ABC 2010; Hutton & Connors 1999; Mines and Communities 2007; Wilson 1997).

⁹³ For discussion of the distribution of royalties see Chapter 10.

⁹⁴ See Chapter 10 for further discussion on inequities.

The SIA identified two opportunities and four risks for Ranger 3 Deeps relating to Aboriginal governance, representation and decision-making, as detailed in Table 12 below.

Table 12: Risks and opportunities relating to Aboriginal governance, representation and decision-making

Opportunities	Risks
O-5.3 Traditional Owners and other affected Aboriginal people feel appropriately involved in ongoing Ranger 3 Deeps decision-making and planning processes resulting in increased trust (Low)	R-5.3 Consultation associated with Ranger 3 Deeps operations contributes to consultation fatigue amongst key stakeholders, impacting on effective participation and decision-making (Low)
O-5.4 Appropriate involvement of Traditional Owners and other affected Aboriginal people in decision-making in relation to Ranger 3 Deeps contributes to reductions in conflict or strengthening of indigenous governance and decision-making processes (Low)	R-5.4 Poor processes (including timeframes) for involving Traditional Owners and other affected Aboriginal people in decision-making in relation to Ranger 3 Deeps contributes to confusion, disengagement or impacts negatively on indigenous governance and decision-making processes (Low)
	R-5.5 Continued royalty payments to GAC contribute to a possible culture of business as usual in governance and initiatives which impede innovation and capacity development (Low)
	R5.6 Decision-making relating to Ranger 3 Deeps results in conflict or disagreement between different Aboriginal groups or representative bodies reducing the effectiveness of their involvement (Low)

5.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to political representation, governance and administration, each discussed in detail below:

- The effectiveness of representative organisations.
- The appropriate and effective involvement of individuals in decision-making by representative organisations.

5.2.2.1 The effectiveness of representative organisations

Residents of the region could be positively impacted by Ranger 3 Deeps if it contributes to the improved effectiveness of organisations and governance bodies in representing the rights and interests of people and communities. Conversely, they could be negatively impacted if the project contributes to a reduction in the effectiveness of those bodies, through loss of capacity or want.

The SIA process identified one very high and two low-rated opportunities, and one high, one medium and three low-rated risks that could *directly* contribute to these outcomes. Ranger 3 Deeps presents a significant opportunity for key organisations to plan for the future of Jabiru, by providing certainty over the short-term future of the town (O-5.1). Additionally, the presence of the Ranger 3 Deeps development may allow ERA to contribute to improved communication processes between governance organisations and residents (O-5.2) and strengthen indigenous governance through appropriate involvement in Ranger 3 Deeps decision-making processes (O-5.4).

Ranger 3 Deeps also presents risks that its presence will increase the dependence of organisations on Ranger (R-5.1) and/or enable a business as usual approach in governance of Jabiru, such that inadequate planning for the future is undertaken (R-5.2). Furthermore, the development presents risks that decision-making processes may contribute to disengagement, disagreement and conflict amongst Aboriginal stakeholders (R-5.4 and R-5.6) and/or that royalties contribute to a business as usual approach in governance, impeding innovation by the GAC (R-5.5).

An opportunity and risk (O-5.3 and R-5.3) were also identified as having the potential to *indirectly* impact on the effectiveness of representative organisations. An opportunity was identified in relation to the appropriate involvement of Aboriginal stakeholders in decision-making and planning processes, while a risk was identified linked to consultation fatigue and sustained tensions related to mining royalty distributions.

Figure 11 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the effectiveness of representative organisations.

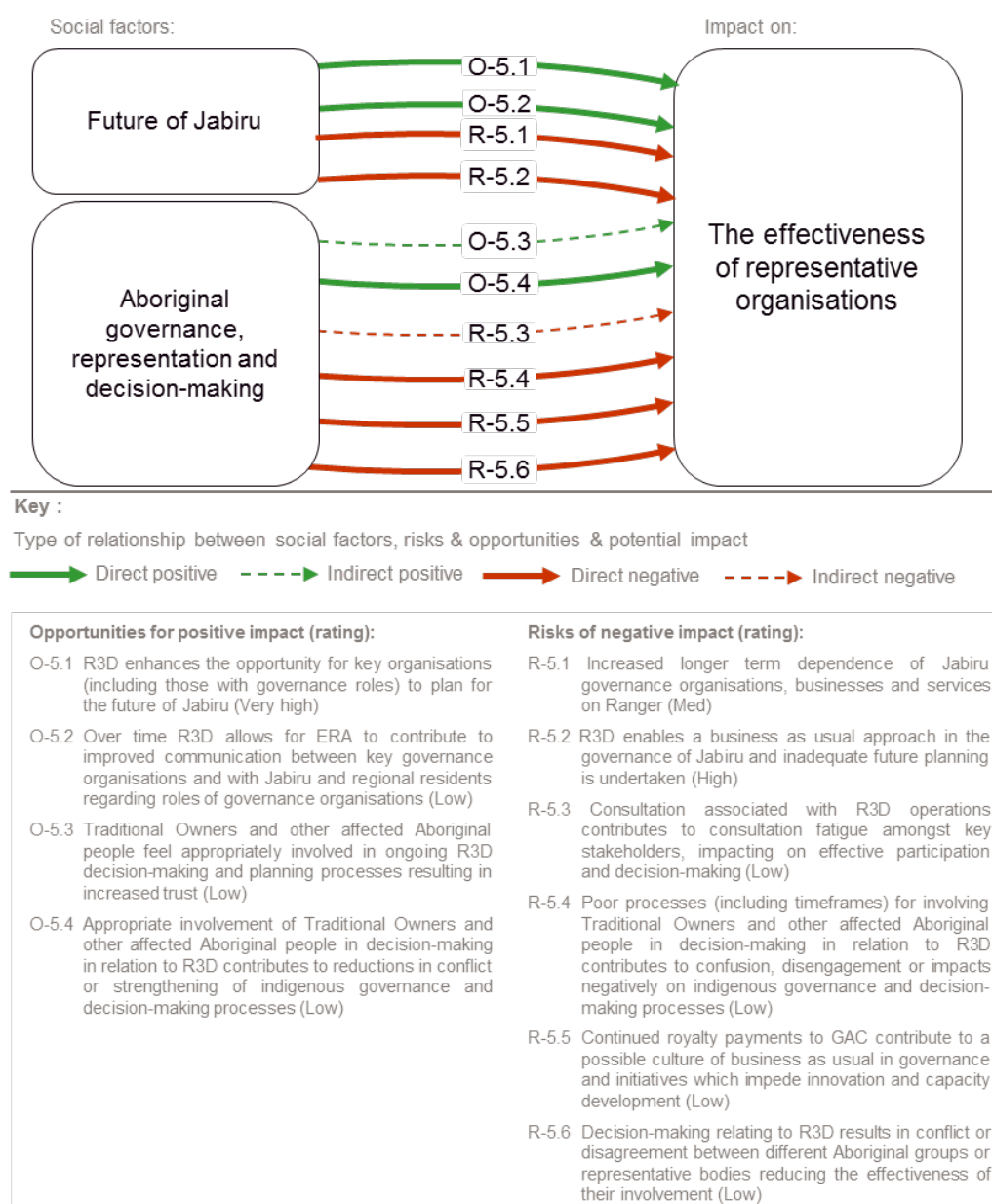


Figure 11: Impact map - the effectiveness of representative organisations

Overall, the Ranger 3 Deeps development presents one very high opportunity to improve the effectiveness of representative organisations through collaborative planning for the future of Jabiru, and one high-rated risk that the future planning will not be adequately undertaken. A number of weaker opportunities are balanced by low-rated risks.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Active participation on the Ranger Minesite Technical Committee, Relationship Committee (with GAC), ARRTC, ARRAC and Kakadu West Arnhem Social Trust.
- Engagement with the GAC, NLC and Traditional Owners through existing mechanisms.
- Communications activities including implementation of the ERA communications plan and direct engagement with key stakeholders.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could further contribute to the effectiveness of governance organisations. They include:

- ERA's decision-making and communications unrelated to Ranger 3 Deeps;
- relationships between governance organisations, their members or constituents;
- changes to funding arrangements for governance organisations; and
- decisions by Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

5.2.2.2 The appropriate and effective involvement of individuals in decision-making by representative organisations

Community members could be positively impacted if Ranger 3 Deeps improves their capacity to access representative organisations, participate effectively in political life or contribute to decision-making. Likewise, they could be negatively impacted if the development reduces their capacity to access or participate in political life.

The SIA process identified three low-rated opportunities and three low-rated risks that could *directly* contribute to these outcomes. Firstly, Ranger 3 Deeps presents opportunities to improve levels of political participation by contributing to improved communication between organisations and residents (O-5.2) and appropriately involve Traditional Owners and other affected Aboriginal people in decision-making and planning processes (O-5.3 and O-5.4). Ranger 3 Deeps also presents potential risks that associated engagement contributes to consultation fatigue (R-5.3). Additionally, decision-making processes may contribute to confusion, disengagement or other negative outcomes for indigenous stakeholders (R-5.4), and continued royalty payments to the GAC may contribute to a business as usual approach impeding innovation and capacity development (R-5.5).

Additionally, one opportunity and one risk (O-5.1 and R-5.6) were identified with the potential to *indirectly* impact the appropriate and effective involvement of individuals in decision-making by representative organisations. The opportunity relates to the potential for key organisations to plan for the future of Jabiru, and the risk is with regards to possible conflict between representative organisations or Aboriginal groups.

Figure 12 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the appropriate and effective involvement of individuals in decision-making by representative organisations.

Overall, the Ranger 3 Deeps development presents a balance of risks and opportunities to impact upon levels of political participation, all of low rating.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Active participation on the Relationship Committee (with GAC), Kakadu West Arnhem Social Trust and other committees and initiatives.
- Engagement with the GAC, NLC and Traditional Owners through agreed mechanisms such as the MOU and the 2013 Agreement.
- Communications activities including implementation of the ERA communications plan and direct engagement with key stakeholders.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the appropriate and effective involvement of individuals in decision-making by representative organisations. They include:

- ERA's decision-making and communications, unrelated to Ranger 3 Deeps;
- relationships between governance organisations, their members or constituents;
- consultation processes undertaken by, or on behalf of government or businesses in the region; and
- decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

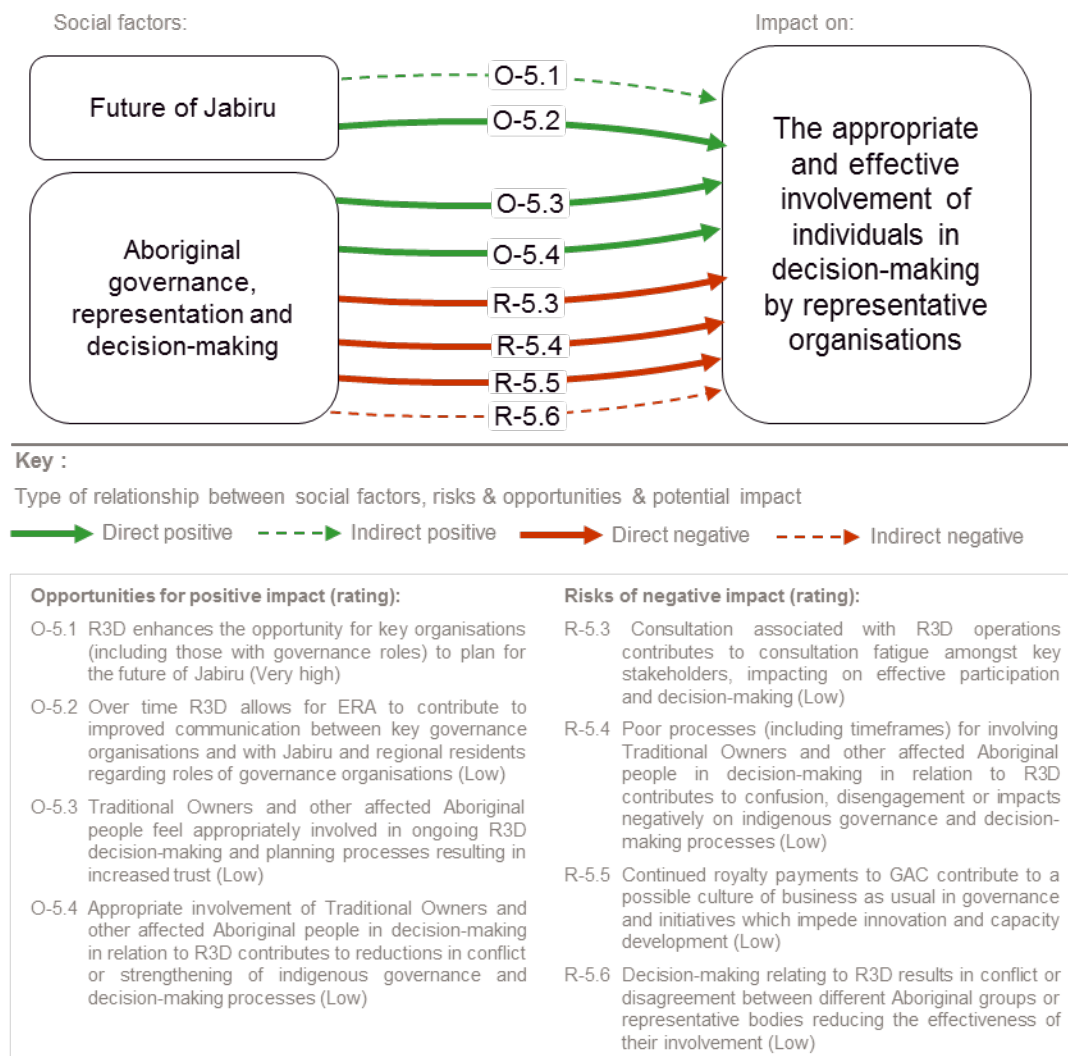


Figure 12: Impact map - the appropriate and effective involvement of individuals in decision-making by representative organisations

6 POPULATION & COMMUNITIES

This chapter considers the potential social impacts of the Ranger 3 Deeps development relating to the population and communities of Jabiru and the region. This includes consideration of demographics, population change (including mobility), and the quality of the social environment. The focus is on Jabiru, Gunbalanya and relevant nearby outstation communities. An overview of relevant factors contributing to social change within the region (both current and historical) is provided in Section 6.2, followed by SIA findings on the potential positive and negative social impacts of the Ranger 3 Deeps development.

It is noted that demographic data is not available for the region as a discrete area, therefore, the data discussed below relates to Jabiru and Gunbalanya towns and the West Arnhem Local Government Area (LGA) which variously cover portions of the region.

6.1 BACKGROUND

6.1.1 Current state of the population and communities

The main permanent all-season population centres within the region today are Jabiru and Gunbalanya (known as Oenpelli).⁹⁵

Jabiru was first established to service Ranger at what was then known as “East Jabiru” from 1979/80 (Wilson 1997). It was expanded to its present location in 1982 (West Arnhem Regional Council 2013b). It remains foremost a mining town but has grown to become in recent years a key service centre for the tourist industry and the region. At the time of the last census, Jabiru’s resident population was 1,128 (Australian Bureau of Statistics 2011f).⁹⁶ Jabiru’s demography is characterised by its resident mining workforce, with a majority non-indigenous population, average income levels well above that of the region (\$1,140/week⁹⁷ compared to \$340/week across the West Arnhem LGA),⁹⁸ and an age structure reflecting a heavy proportion of working age males, with a male to female ratio of 55:45 (Australian Bureau of Statistics 2011f).

Jabiru was developed as (and remains in effect) a closed town due to the special lease arrangements put in place with the Director of National Parks at the time of the town’s establishment. Residential accommodation in Jabiru is almost solely contingent on employment.⁹⁹ This means that the non-Aboriginal residential population of Jabiru is exclusively comprised of employees (and their families) employed at Ranger or at a local services, businesses, Aboriginal organisations or government departments. Members of the broader Australian community have little ability to move to Jabiru as there is no rental/for sale

⁹⁵ The West Arnhem Regional Council’s other key population centres of Maningrida, Minjilang, Warruwi are located outside the Alligator Rivers Region as defined by the Department of the Environment’s Supervising Scientist Division (SSD) <http://www.environment.gov.au/topics/science-and-research/supervising-scientist-division/about-ssd/alligator-rivers-region#alligator>

⁹⁶ See Chapter 8; social services and infrastructure for further details on the social and infrastructure dimensions of Jabiru.

⁹⁷ All reported values are in Australian dollars.

⁹⁸ Median total personal income (\$/weekly) (ABS 2011)

⁹⁹ See chapter 8 for further details of housing arrangements in Jabiru.

housing for those without employment, as well as no social and retirement housing (excluding indigenous), nor temporary accommodation (other than tourist services). These above noted factors have historically been, and remain, a key defining characteristic of the social environment of Jabiru.

The Aboriginal population of the region largely resides in outstations across KNP and West Arnhem Land, in Gunbalanya, and at Manaburduma. During the 2011 census, 19% of Jabiru's residents identified themselves as indigenous¹⁰⁰ (214 persons), of whom the majority are understood to reside at Manaburduma. Generally, across Australia, there are high rates of mobility in the Aboriginal population (Taylor 1999) and according to stakeholders interviewed, the temporary Aboriginal population at Manaburduma in particular is known to fluctuate markedly, influenced by season, cultural events and at times of royalty payments. Access to a number of outstations is restricted during the wet season and residents generally relocate to Gunbalanya, Manaburduma or other outstations.

The Oenpelli mission, now known as Gunbalanya, was established in the 1920s (West Arnhem Regional Council 2013a) and remains primarily an Aboriginal settlement. Gunbalanya's total population is 1,171 (a similar size to Jabiru), and 89% of residents are indigenous (Australian Bureau of Statistics 2011d). Situated approximately 60 km north east of Jabiru in Arnhem Land, Gunbalanya is accessible only by air in the wet season, as the East Alligator River becomes impassable and the access road east from the river is unsealed. Gunbalanya's socio-economic profile reflects its status as an Aboriginal settlement, with a low median age, few visitors and low income levels (see Table 13).

Table 13: Socio-economic statistics (ABS 2011, Basic Community Profiles)¹⁰¹

Indicator	Jabiru	Gunbalanya	West Arnhem	Northern Territory
Population (resident)	1,128	1,171	6,232	211,945
Population (visitors)	661	92	1,756	32,289
Aboriginal population (% of residents)	19%	89%	75%	27%
Median age	33	23	26	31
Median personal weekly income (\$)	\$1,140	\$253	\$325	\$745

Outstations across the region range in size from individual or small clusters of dwellings to considerable communities, such as Mudginberri and Djurrbiyuk (Whistle Duck). Outstations include Buffalo Farm, Cannon Hill, Kurrajong Flats, Kapalga, Madjinbardi (Mudginberri), Djurrbiyuk (Whistle Duck), Red Lily, Nourlangie Ranger Station, Patonga Airstrip, Patonga Homestead and Spring Peak. The current total resident population of outstations within the West Arnhem region has not been published in any known public sources. The total resident

¹⁰⁰ Including both Aboriginal and Torres Strait Islanders.

¹⁰¹ ABS 2011 census data sourced for the following census regions: Jabiru (SLA710154663), Gunbalanya (SSC70075), West Arnhem (LGA74660) and Northern Territory (7). See <http://www.abs.gov.au/census>

population of seven KNP outstation communities in 2009 was estimated by Warnbi to be 95.¹⁰²

6.1.1.1 Population growth

The establishment of Jabiru from 1979 onwards was one of the most significant factors in the increased population of the town area, with the resident numbers growing from 30 in 1976 (information provided by ERA) to over 1100 today (Australian Bureau of Statistics 2011e).¹⁰³

The Aboriginal population of the region is also believed to have increased since the 1980s (Press & Lawrence 1995b), however due to poor data quality this has not been reliably determined (information provided by ERA). In addition, it must be noted that census statistics, particularly in relation to the population of Aboriginal communities, outstations and Aboriginal populations in regional centres, have long been known to be less reliable than for the non-indigenous population due to high rates of mobility (Taylor 1999).

6.1.1.2 Ethnicity, ancestry and language

As noted above, the Jabiru population is primarily non-indigenous, which is an anomaly across West Arnhem, where Aboriginal residents make up 75% of the total population (Australian Bureau of Statistics 2011f).

The Mirarr are the Traditional Owners of the land that contains the RPA. Other groups with traditional lands in KNP and the nearby area include Bolmo, Bunitj, Wurrkbarbar, Manilikarr, Mandilarri, Mandjurlngunj, and Gamilkban. Languages that remain spoken widely are Kunwinjku, Gundjeihmi and (in the south) Jawoyn (Australian Government 2007). Chapter 2 includes discussion on the maintenance of local culture, including language.

6.1.1.3 Visitors

Visitor numbers to Jabiru, including tourists, Aboriginal people, and workers/professionals are significant and extremely variable by season.

On census night in August 2011, almost 40% of the total population of Jabiru were visitors, compared to 23% across the West Arnhem LGA as a whole (derived from ABS 2011).¹⁰⁴ Anecdotal evidence suggests these visitors and transients primarily comprise tourists, FIFO/DIDO employees of ERA, its contractors and suppliers, and Aboriginal people visiting family and friends in the region.

The ACIL Tasman Economic Impact Assessment estimated that approximately 58% of Jabiru visitors on census night were there for 'Ranger purposes' (ACIL Tasman 2013, p.20). Peak

¹⁰² This includes the communities of Cannon Hill, Kapalga, Mamukala, Mudginberri, Patonga Airstrip, Patonga Homestead and Spring Peak. Banarra was unable to identify relevant and up-to-date information on outstation populations (Warnbi Aboriginal Corporation 2009).

¹⁰³ Note that the population of the Alligator Rivers Region is not monitored, so this report has used the West Arnhem LGA for regional demographic statistics.

¹⁰⁴ See Appendix F for further population data.

occupancy rates at Ranger's Jabiru camps and temporary accommodation services¹⁰⁵ in 2013 ranged from 345 to 548 personnel per day.¹⁰⁶

Tourist visitors to KNP peaked at 240,000 in 1994, declining to 165,000 in 2011-12 (Tourism NT 2012), led by a decrease in international visitors (Tremblay 2007). Visitors access KNP through a number of gateways, largely through Jabiru and Pine Creek. Statistics regarding the proportion of tourists who access KNP via Jabiru and use its services were not sourced, however the figures above suggest tourist numbers are significant.¹⁰⁷

6.1.1.4 Violence, crime and alcohol

Crime rates and issues in Aboriginal Communities across the region were noted by the Jabiru Police to be consistent with those across the NT, with key issues including alcohol and drug abuse, domestic violence, car accidents and "grog/kava running."¹⁰⁸ In Jabiru itself, crime rates are low and a percentage of these are attributed to itinerant visitors.¹⁰⁹

A number of participants (including professionals working in relevant fields) stated during the SIA consultation that the Aboriginal communities of the region suffer from domestic violence, alcohol abuse and associated neglect. These assertions are consistent with social issues widely reported across Aboriginal communities of the NT, including endemic family violence and abuse (Australian Education Union 2007; Australian Human Rights Commission 2006; The Australian Institute of Health and Welfare 2008).

The majority of SIA participants that commented on social issues attributed these issues in Jabiru and the region to alcohol abuse or addiction. Anti-social behaviour is said to peak at times of regular social security payments and, less frequently, royalty payments.

Alcohol is seen as a social problem, related to historical issues, or as a coping mechanism. But it's a proper addiction, no matter the justification ... Unless you deal with alcohol there's no point dealing with anything else (Jabiru service provider).

Alcohol abuse is recognised as a major issue in Jabiru and the region and the 1997 Senate inquiry, *Impact of Uranium Mining on Aboriginal Communities in the Northern Territory*, attributed the following issues to alcohol consumption and dependence:

- *violence, fighting, vandalism and road accidents;*
- *poor attendance of children at school, and consequential educational problems;*
- *poverty;*

¹⁰⁵ Comprising the RMV camp, FIFO camp, guesthouse and the Aurora Kakadu Lodge.

¹⁰⁶ References directly provided by the ERA in January 2014 by email. Peak occupancy by month. The range was from 548 rooms in January 2013, declining through the year to 345 rooms in December 2013.

¹⁰⁷ Also see Chapter 9.

¹⁰⁸ Grog/kava running is the bringing of alcohol or kava into prescribed areas. It was reported during SIA consultation that outstation and Manaburduma residents purchase alcohol in particular from the Bark Hut, Corroboree Park Tavern and Cooida.

¹⁰⁹ Note: Crime statistics are not publically available for the West Arnhem or Jabiru regions.

- *employment difficulties...; and*
- *destruction of traditional life* (Wilson 1997).¹¹⁰

Manaburduma, KNP (excluding Jabiru) and Gunbalanya are prescribed areas under the *Northern Territory National Emergency Response Act 2007*,¹¹¹ meaning that alcohol consumption, sales and import are prohibited.¹¹² Additionally, Kakadu businesses and services have formed an alcohol accord, through which alcohol distribution is restricted. The Jabiru Golf Club is the only active alcohol take-away outlet in Jabiru, and requires membership.¹¹³

Another initiative in place is the GAC-funded Gunbang Action Group, established in 1995, which is a voluntary 'coalition' comprising government departments (e.g., NT Department of Health), local community organisations and businesses (including ERA) seeking to reduce the risks from alcohol and drug use in the Kakadu region. It manages a local Alcohol Management Plan, Volatile Substance Abuse Plan and Community Safety Plan (Gunbang Action Group 2014).

Despite the issues noted above, overall, non-indigenous Jabiru residents expressed confidence in personal safety during the SIA consultation.

6.1.1.5 Volunteering and social participation

Participation in social events and activities by non-indigenous Jabiru community members is characteristic of mining towns, with stronger participation reported by long-term residents, and poor integration of FIFO/DIDO workers into the social fabric (see House of Representatives Standing Committee on Rural Australia, 2013).

During the SIA consultation, participants reported a reduction in social participation in Jabiru in recent years, including fewer people volunteering to support events and loss of members of sporting teams resulting in their collapse. In recent years, Jabiru has lost its rugby union, rugby league and cricket teams due to lack of participants, and the Jabiru Bombers (Australian Football League) is the only competitive football club team remaining. Weekday sports have been established by the West Arnhem Regional Council, with weekly netball, touch football and basketball competitions in place.

The causes of this change are complex, and have not been examined in detail by this study. Many residents expressed the view during consultation that the establishment of a FIFO workforce in 2004 had negatively affected the social dynamic in Jabiru.

ERA does not consider Jabiru to be a FIFO community, but rather as a residential community primarily servicing Ranger. ERA's stated priority is to maintain a residential workforce,

¹¹⁰ For more information on alcohol and substance abuse issues, see Chapter 7.

¹¹¹ See <http://www.dss.gov.au/our-responsibilities/indigenous-australians/programs-services/closing-the-gap-in-the-northern-territory/northern-territory-emergency-response-nter-redesign/about-the-response/communities-and-prescribed-areas/prescribed-areas/communities>

¹¹² Exclusions apply for those with liquor permits and licenses, e.g., the Gunbalanya Sports and Social Club.

¹¹³ The Jabiru Sports and Social club also has a takeaway liquor licence but does not choose to exercise it.

supplemented with a FIFO workforce as required by changing operational demands. The ratio of FIFO/DIDO workers to residential workers at the time of writing is approximately 50:50.¹¹⁴

Concerns about social cohesion identified in this study are consistent with issues felt around Australia in small towns with FIFO workforces. The House of Representatives Standing Committee study into FIFO communities reported that around the country “community image, identity and social cohesion are declining and there is a marked divide between residents and FIFO workers; and engagement in community life is declining” (House of Representatives Standing Committee on Regional Australia 2013). Both these sentiments were raised by Jabiru residents during the SIA consultation. The report also noted that communities felt that community safety was declining; however, this was not supported by perspectives raised in consultation for this study in Jabiru.

Official rates of volunteering in 2011 were 18% in Jabiru and 11% in West Arnhem (Australian Bureau of Statistics 2011b; Australian Bureau of Statistics 2011c).¹¹⁵ ERA employees and their families are fundamental to the running of many social organisations, such as the Jabiru Bombers, Jabiru play group and Jabiru Sports and Social Club.

Due to the limitations of the research, information was not collected on participation of the Aboriginal community in formal sporting activities and other forms of social participation, such as membership of clubs. Anecdotally it is understood that Aboriginal participation rates in AFL are high across the region. It was noted that the Jabiru Bombers encourage, and have, the participation of Aboriginal players from both local and regional areas.

6.1.2 Ranger’s past and present contributions to social change

As introduced in Chapter 1, social change relating to population and communities has been considerably influenced by the development and continued presence of Ranger. Ranger is understood to have contributed to social change in the following ways:

- Establishing a population base of employees, contractors and suppliers and their families.
- Developing Jabiru town, which offers services, business, accommodation and transport hub attracting and servicing tourists and migrant populations (including Aboriginal).
- Influencing the transient migration of residents through operational and supply chain decision-making, including FIFO and DIDO.
- Providing support for social organisations.
- Influencing the quality of the social fabric of the community through operational decision-making, such as the establishment of a FIFO workforce.

¹¹⁴ ERA human resources, by email March 10 2014.

¹¹⁵ Note that rates are based on place of usual residence, so exclude FIFO/DIDO workers.

6.1.3 Other activities contributing to social change

Other influences on social change relating to population and communities have included major legislative, government policy and administrative changes, for example, the formation and management of KNP and the resulting development and growth of tourism in the region. These factors have already been discussed in Chapter 1 and are the subject of other chapters.¹¹⁶ As such they are not described in detail here. However, those that provide context for the SIA findings that follow include:

- the special lease arrangements for Jabiru which have historically limited the development of additional housing or infrastructure, restricting population growth;
- fluctuations in the strength of the tourist industry and visitor numbers to KNP;
- changes in the quality and provision of services, particularly health, education and banking;
- the development and operation of clubs, pubs and liquor outlets attracting people to specific locations;
- the end of royalty cash payments to Gagudju Association members in 2013;
- exploration, development, operation and closure of mining operations in the region, such as Nabarlek; and
- the establishment of the head office of the West Arnhem Regional Council in Jabiru.

6.2 SIA FINDINGS

This section summarises the SIA findings related to population and communities. The proposed Ranger 3 Deeps development would be developed in a context of various social pressures and cumulative change.

In relation to population and communities, the Ranger 3 Deeps development has the potential to impact both positively and negatively on,

- the stability of the population; and
- the quality of the social environment.

The SIA has identified six opportunities and four risks for the Ranger 3 Deeps development to contribute to these impacts.¹¹⁷ These risks and opportunities relate to the following social factors:

- Attraction and retention of residents and visitors.

¹¹⁶ See for instance Chapter 5.

¹¹⁷ As discussed in Chapter 1 these risks and opportunities have been identified through a process of mapping the different pathways through which ERA's decisions and actions could affect social change and have positive or negative impacts on people affected by the development.

- Quality of social participation.

Section 6.2.1 describes each of these social factors and presents the related risks and opportunities. Section 6.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

6.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

6.2.1.1 Attraction and retention of residents and visitors

The attraction and retention of individuals and families is a significant determinant shaping the social environment of Jabiru and the region. Residents and visitors are discussed below in three broad categories: non-indigenous residents; non-indigenous visitors; and Aboriginal residents and visitors.¹¹⁸

Non-indigenous residents are largely attracted to Jabiru for employment, with some consideration of lifestyle. Determinants in their desire or ability to remain include the availability of housing, services (such as education and aged care), and the strength of social networks. Both housing availability and service delivery in the future will be influenced by the Ranger 3 Deeps development, primarily via ERA's employee housing processes, the continued operation of Ranger supporting the maintenance of a stable population base, and support for services, either directly (e.g., financial support) or indirectly (e.g., via distribution of royalties).¹¹⁹

Consultation through this SIA with the non-indigenous community suggested that if employment opportunities ceased there would be little incentive or reason to remain in Jabiru. Ongoing employment at Ranger, or with associated contractors, is therefore a key factor in attracting and retaining residents at Jabiru. As one employee commented:

The not knowing anything [about the future of Ranger] is making me think about the future of my family and myself... (ERA employee).

For further information on Employment and Industries, see Chapter 9.

For non-indigenous visitors, Jabiru is primarily a service centre and accommodation base for visiting KNP or when passing through the region. The availability of services, accommodation and transport are necessary for the continued attraction of visitors to Jabiru, all of which are contingent on KNP remaining a viable and attractive tourist destination.

In contrast to the non-indigenous population, many Aboriginal residents stated during the SIA consultation that they would stay in Jabiru or the region regardless of the future of Ranger. Many Aboriginal residents live in the region because it is where they are from, and hence have family ties and/or responsibilities in relation to traditional lands. In this context, initiatives and actions that assist to maintain the traditional culture of local Aboriginal people may support a proportion of the population remaining in the region. However, it is not always the

¹¹⁸ Although comprising a significant portion of the population, FIFO workers are excluded from this discussion as their residence in Jabiru is almost entirely linked to employment prospects.

¹¹⁹ See Chapter 8 for discussion of service delivery.

case that sustained or supported cultural knowledge and activities lead to choosing to live on or near country.

The SIA identified four opportunities and one risk for Ranger 3 Deeps relating to the attraction and retention of residents and visitors, as detailed in Table 14 below.

Table 14: Risks and opportunities relating to the attraction and retention of residents and visitors

Opportunities	Risks
O-6.1 Increased certainty over the future of Jabiru leads to retention of Jabiru residents and increased use of the town by visiting Aboriginal people and casual visitors, e.g., tourists (High)	R-6.1 Potential/possible use of tourist accommodation to house the Ranger 3 Deeps workforce reduces the availability of accommodation for tourists, deterring visitors (including tourists and/or others visiting Jabiru) (Low)
O-6.2 Ranger 3 Deeps enables investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population (High)	
O-6.3 Ranger 3 Deeps enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population (High)	
O-6.4 Potential/possible use of tourist accommodation to house the Ranger 3 Deeps workforce increases the viability of accommodation businesses, encouraging continued attraction of visitors to the region (including tourists and/or others visiting Jabiru) (Low)	

6.2.1.2 Quality of social participation

The manner in which individuals and social groups (e.g., partners of Ranger employees, Aboriginal residents) interact and participate is a key determinant of the health of the social environment, and in the stability of the populations of Jabiru and the region.

The social environment of Jabiru comprises a number of relatively distinct social groups, with evident divisions and little integration or interaction between groups, particularly between Aboriginal and non-Aboriginal residents. As one stakeholder commented:

There's a big divide between black and white worlds unless it's involved with kids – the one school so everyone goes to that, all the outstation kids etc. But beyond that it becomes quite segregated. Unless you married into a family or work quite closely with a team there's not a lot of mixing, especially with the outstation people. At the pub it's a bit us and them.

Amongst the non-Aboriginal residents of Jabiru, a strong sentiment was shared during the SIA consultation that the town “isn't what it used to be” and that ERA has a considerable role in influencing the social dynamic of Jabiru through shift rostering and the establishment of the FIFO workforce. Concerns about change, framed in terms of elements of social life from the past being lost or having degraded in the present, is a topic that is raised in almost all social impact studies as social change is ongoing and will always attract comment. However, in the

case of Jabiru, statements such as the one above remain notable due to the consistency with which the issue of a decline in social activities, particularly sport, was raised. Somewhat at odds with the above, is that volunteering rates are perceived to have remained fairly high, with a number of services and events provided by volunteers, such as the Mahbilil Festival and Jabiru playgroup, however, difficulties in attracting support were noted. What is known is that the turnover rate of Jabiru residents has in recent years been high, with a rate of 95% between 2006-2011, considerably greater than Katherine (63%) and Tennant Creek (45%) (The Northern Institute 2014b; The Northern Institute 2014c; The Northern Institute 2014a, respectively).¹²⁰

Aboriginal residents and some service providers raised concerns over the quality and equity of living conditions, alcohol abuse, domestic violence and neglect in Aboriginal communities across the region, in part influenced by the distribution of mining royalties.¹²¹ Disruptions to communities in Jabiru and at outstations following payments of royalties and social security were also noted.

The SIA identified two opportunities and three risks for Ranger 3 Deeps relating to the quality of social participation, as detailed in Table 15 below.

Table 15: Risks and opportunities relating to the quality of social participation

Opportunities	Risks
O-6.5 Ranger 3 Deeps approval reduces uncertainty over the future of Jabiru for residents, resulting in individuals, businesses and other organisations being willing to invest in social activities/improve the civic environment (Med)	R-6.2 Short term and sporadic influxes of contractors at times of operational change contributes to social issues such as drinking and anti-social behaviour (Low)
O-6.6 Ranger 3 Deeps revenue and increased certainty over the future of Jabiru enables investment in additional or improved services by ERA and/or the government, improving the social environment in Jabiru (Med)	R-6.3 Increased ratio of FIFO to residential employees contributes to social cohesion challenges or perceptions of reduction in social participation (Low)
	R-6.4 Ranger 3 Deeps workforce management practices further embed DIDO/FIFO culture, sustaining social issues such as lack of participation in sport, civic culture and other social activities (Low)

6.2.2 Potential social impacts related to the social environment

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to population and communities, each discussed in detail below:

- The stability of the population.
- The quality of the social environment.

¹²⁰ Figures are compiled by the Northern Institute for Jabiru, Katherine and Tennant Creek only.

¹²¹ See Chapter 10.

6.2.2.1 The stability of the population

Residents and visitors to Jabiru and the region could be positively impacted by Ranger 3 Deeps if the project contributes to maintaining or improving the stability of the population, which in turn may support the viability of businesses and services, and the broader social environment. Residents and visitors could be negatively impacted if the project contributes to a destabilisation or reduction of the population, either suddenly or over an extended period.

The SIA process identified three high-rated opportunities, one low-rated opportunity and one low-rated risk that could *directly* contribute to these outcomes. Firstly, Ranger 3 Deeps presents opportunities to improve the stability of Jabiru and the regional population by increasing certainty over the future of Jabiru and enabling continued investment in services and infrastructure. This encourages, in turn, the retention of residents and increased use by visitors and visiting Aboriginal people (O-6.1 and O-6.3). Additional investment in initiatives that support Aboriginal land management and culture directly by ERA or indirectly through royalties may also encourage the retention of the regional Aboriginal population, particularly those residents with traditional land interests in the region (O-6.2). The potential use of tourist accommodation to house the Ranger 3 Deeps workforce could also improve the viability of accommodation businesses, thus encouraging the continued attraction of visitors to the region (O-6.4).

Conversely, the one risk identified that could directly contribute to a reduction in the stability of the population is the potential that the use of tourist accommodation by Ranger 3 Deeps employees deters tourists from using this accommodation (R-6.1). ERA has relied on the Aurora Kakadu Lodge in the past to house workers; however the impact on tourists has not been quantified.

In addition, risks and opportunities identified regarding social participation have the potential to *indirectly* impact on the stability of the population. For example, there is a risk that further embedding a FIFO culture in Jabiru may discourage new residents.

Figure 13 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the stability of the population.

Overall, the Ranger 3 Deeps development primarily presents opportunities to maintain the stability of the populations of Jabiru and the region until 2026.

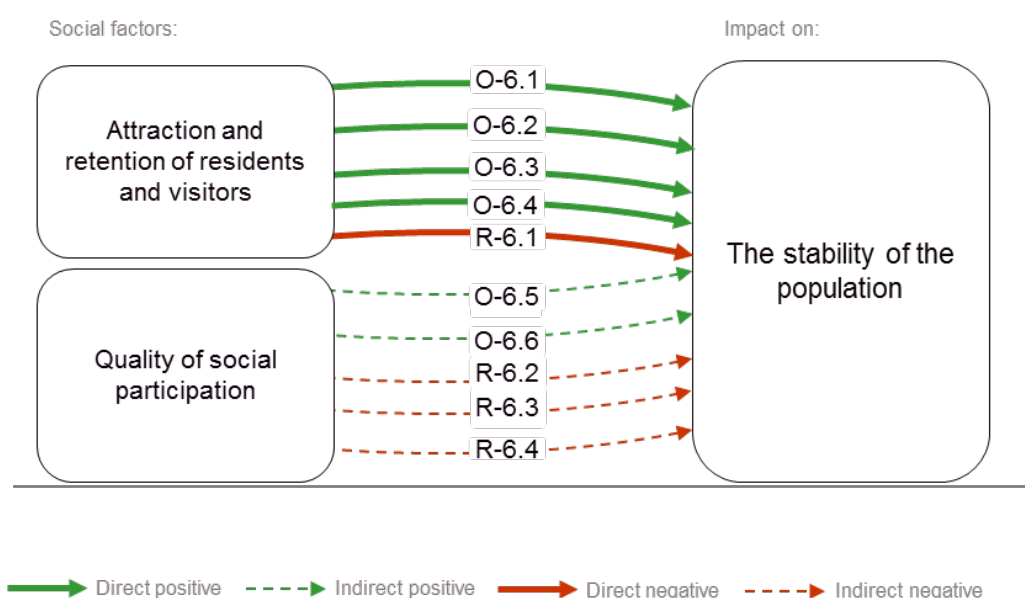
In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, contributions to the community partnership fund, education partnership, in-kind and discretionary funding.
- Workforce management procedures, including employing locally where possible.
- Communications activities such as quarterly business updates.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 to the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the stability of the population. They include:

- ERA's decision-making regarding operations or activities unrelated to Ranger 3 Deeps, such as such as closure or expansion of FIFO accommodation;
- the level of support for, and investment in, services and infrastructure by service providers, government and Aboriginal Corporations;
- any amendments to the special lease arrangements for Jabiru town that affect the ability of individuals or businesses to establish themselves in Jabiru; and
- decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments.



Opportunities for positive impact (rating):	Risks of negative impact (rating):
O-6.1 Increased certainty over the future of Jabiru leads to retention of Jabiru residents and increased use of the town by orbiting Aboriginal people and casual visitors, e.g. tourists (High)	R-6.1 Potential/possible use of tourist accommodation to house R3D workforce reduces the availability of accommodation for tourists, deterring visitors (including tourists and/or others visiting Jabiru) (Low)
O-6.2 R3D enables investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population (High)	R-6.2 Short term and sporadic influxes of contractors at times of operational change contributes to social issues such as drinking and anti-social behaviour (Low)
O-6.3 R3D enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population (High)	R-6.3 Increased ratio of FIFO to residential employees contributes to social cohesion challenges or perceptions of reduction in social participation (Low)
O-6.4 Potential/possible use of tourist accommodation to house the Ranger 3 Deeps workforce increases the viability of accommodation businesses, encouraging continued attraction of visitors to the region (including tourists and/or others visiting Jabiru) (Low)	R-6.4 R3D workforce management practices further embed DIDO/FIFO culture, sustaining social issues such as lack of participation in sport, civic culture and other social activities (Low)
O-6.5 R3D approval reduces uncertainty over the future of Jabiru for residents, resulting in individuals, businesses and other organisations being willing to invest in social activities/improve the civic environment (Med)	
O-6.6 R3D revenue and increased certainty over the future of Jabiru enables investment in additional or improved services by ERA and/or the government, improving the social environment in Jabiru (Med)	

Figure 13: Impact map - the stability of the population

6.2.2.2 The quality of the social environment

Residents and visitors to Jabiru and the region could be positively impacted by Ranger 3 Deeps if the project contributes to an improvement in the social environment of the community, i.e., if community members experience an improvement to their sense of belonging, inclusion (social participation) or personal safety. Residents and visitors could be negatively impacted if the project contributes to a reduction in the quality of the social environment. The SIA process identified two medium-rated opportunities and three low-rated risks that could *directly* contribute to these outcomes.

Ranger 3 Deeps presents opportunities to improve the quality of the social environment by increasing certainty over the future of Jabiru, which in turn may improve the willingness of residents, businesses and organisations to invest in social activities or improve the civic environment (O-6.5) and encourage investment in additional or improved services (O-6.6).

The proposed development also presents risks that the quality of the social environment is reduced through poor contractor behaviour (R-6.2), and that further embedding of the FIFO/DIDO workforce culture contributes to reductions in social participation (such as sport), and social cohesion challenges or perceptions of a reduction in social participation (R-6.3 and R-6.4).

In addition, all other risks and opportunities that have been identified in this chapter are considered to have the potential to *indirectly* impact on the quality of the social environment, such as the retention of residents through increased certainty over the future of Jabiru.

Please note that the social implications of the continued distribution of cash by the GAC is addressed in Chapter 10.

Figure 14 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the quality of the social environment.

Overall, the Ranger 3 Deeps development has the potential to impact both positively and negatively on the quality of the social environment with fewer, but higher rated opportunities than risks.

In order to realise opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, community partnership fund, education partnership, in-kind and discretionary funding.
- Communications activities, including with service providers.
- Contractor and employee behaviour management programmes.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

In relation to cumulative effects, it is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could influence the nature of, and extent to which the identified risks and opportunities result in impacts on the quality of the social environment. They include,

- ERA's decision-making regarding operations or activities unrelated to Ranger 3 Deeps, such as such as closure or expansion of FIFO accommodation;
- the level of support for and investment in social activities by other businesses, service providers, local government and civil society organisations;
- local and regional initiatives to manage alcohol abuse, violence and crime; and

decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments and welfare payments

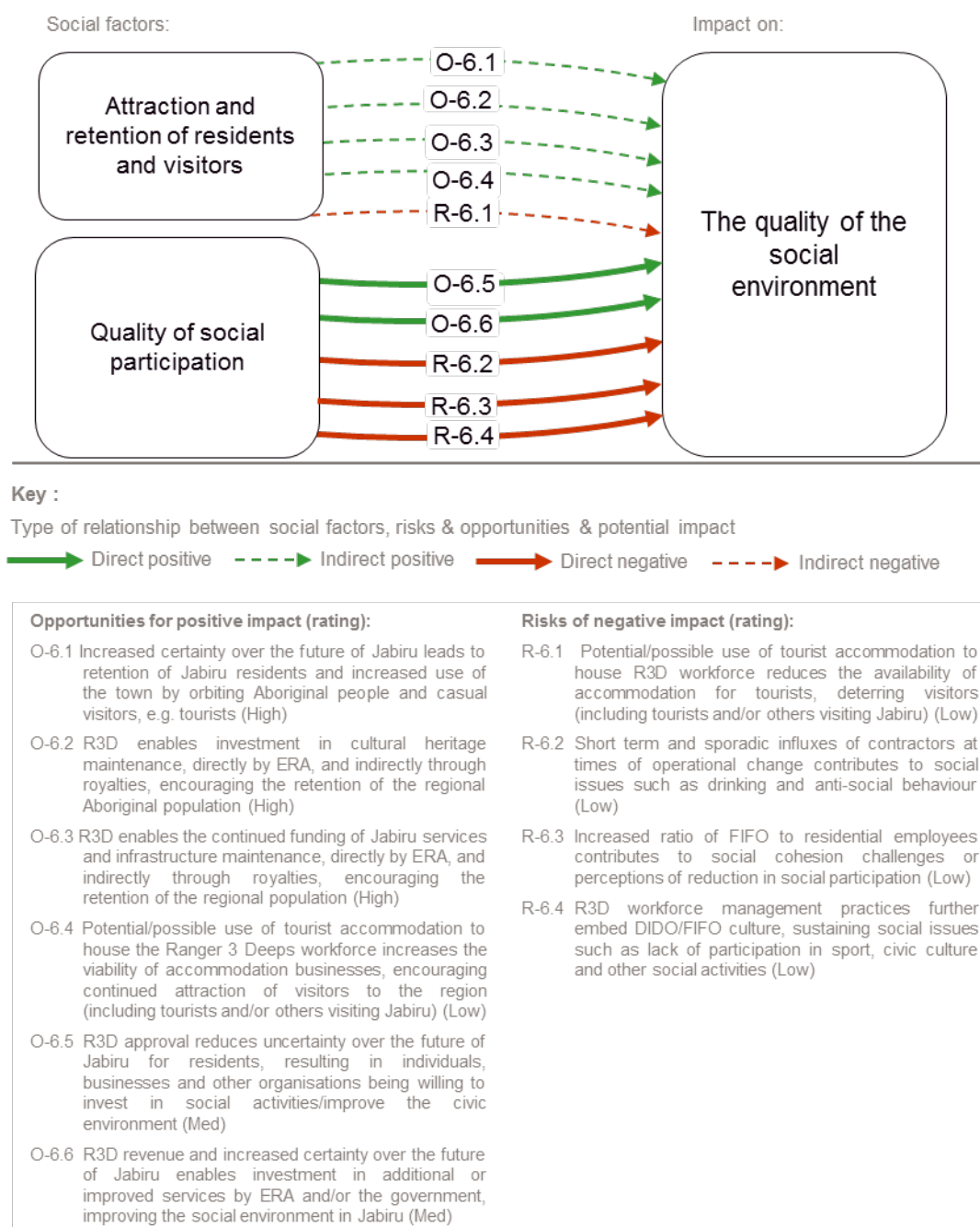


Figure 14: Potential ways that Ranger 3 Deeps could impact on the quality of the social environment

7 HEALTH AND WELL-BEING

This chapter considers potential social impacts of the Ranger 3 Deeps development relating to the health and well-being of local and regional stakeholders, including indigenous communities and Mirarr Traditional Owners.¹²² It provides an overview of the current and historical factors contributing to social change within the region relevant to health and well-being followed by SIA findings on the potential positive and negative social impacts of the Ranger 3 Deeps development.

Health and well-being is defined by the World Health Organization as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization 1948). Health and well-being issues identified through the SIA include factors that influence physical, mental and emotional health such as: stress; sense of safety and protection from danger; alcohol and substance abuse; and health disadvantage.

7.1 BACKGROUND

7.1.1 Current state of health and well-being

As discussed in Chapter 6, the region's population is predominantly indigenous and considerable discrepancies are evident between the health status of indigenous and non-indigenous residents, as is the case across the NT. Health and well-being issues vary in the NT depending on the region, from urban centres such as Darwin and Alice Springs, to mining towns such as Jabiru, and remote communities such as Gunbalanya and Kakadu outstations. In mining towns and remote communities there is a greater incidence of stress-related illness and drug and alcohol abuse, with indigenous health disadvantage continuing to be a major issue of focus of much of the NT's remote and regional health services (Garnett & Sithole 2007).

The region experiences widespread issues relating to alcohol-related violence and social disorder, both in Aboriginal communities and amongst the broader population in the region (Northern Territory Coordinator General for Remote Services 2012, p.48). Associated social implications of alcoholism in the region raised during the SIA consultation include child neglect,¹²³ domestic violence and drink driving.¹²⁴ There are significant alcohol and substance abuse related risks to health and well-being in the short, medium, and long term (McKnight 2002), with long-term health issues attributed to intoxication and chronic excessive alcohol consumption and dependence, including hypertension, liver damage and alcohol-related brain damage (Wilson 1997). In research conducted in 2003, Turner and Graham (2003, p.6) found that in the Jabiru area:

Of the proportion of people who consume alcohol, a large number do so at high levels...It is also possible that users of alcohol may not have an adequate

¹²² The chapter also briefly considers impacts on a broader range of stakeholders at a national and international scale through the potential for product misuse and/or accident.

¹²³ No specific incidents of child abuse were raised during consultation, rather, neglect of children due to alcoholism and drinking culture was noted.

¹²⁴ See Chapter 6 for further discussion of social implications of alcohol abuse.

understanding of the long-term outcomes of alcohol abuse (Turner & Graham 2003, p.6).

The 1997 Senate inquiry, *Impact of Uranium Mining on Aboriginal Communities in The Northern Territory* found that, “alcohol consumption in the region is very high and poses a major threat to the health and well-being of Aboriginal people in the Region” and that alcohol consumption was noted to be attributed to “social pressures caused by mining, tourism, contact with European society, a sense of disempowerment, access to Social Security payments and distribution of quarterly royalty equivalent monies” (Wilson 1997).

Communities have recognised these issues. One local-level response of note is the establishment of the Gunbang Action Group in 1995. Gunbang is a working group of volunteers developing policies, consulting with local businesses and suppliers and educating local communities (Gundjeihmi Aboriginal Corporation 2014c).

The region's health is also determined by, and reflective of the demography of its population. ABS data demonstrates that, in 2011, Jabiru had just three indigenous residents aged 60 years or over, while approximately one third of indigenous residents were aged 15 years or under (compared to one fifth for the Jabiru population as a whole) (Australian Bureau of Statistics 2011c). This trend is also visible at the West Arnhem LGA scale, where the median age in 2011 was 22 for the indigenous population and 35 for the non-indigenous population (Australian Bureau of Statistics 2011a).¹²⁵

7.1.1.1 Health services

Health services in the West Arnhem region are provided by the Jabiru Community Health Centre and Gunbalanya Community Health Centres (NT General Practice Education 2012). Jabiru is the main centre in the region for health services and the Jabiru Community Health Centre is able to treat most illnesses and health issues, although patients requiring specialist services such as major surgery, or residential drug or alcohol rehabilitation are referred to Darwin or other locations for treatment. In emergency cases, patients are often transported by the Royal Flying Doctor service (ABC Health & Wellbeing 2013). All Jabiru residents (and visitors) can utilise the Health Centre's services and in 2013, over 17,000 patients contacted or visited the Jabiru Community Health Centre (Northern Territory Aboriginal Health 2013, p.4).

A 2007 health survey found the service provided by the Jabiru Community Health Centre to be adequate to residents' needs (information provided by ERA).¹²⁶ However, some residents reported during SIA consultation that they experienced difficulties accessing the Health Centre, with reasons cited consistent with the findings of previous studies conducted for ERA, including a lack of transport and the hours of operation of the health centre (information provided by ERA).

The capacity and quality of health service delivery in Jabiru, Gunbalanya and across the region is similar to other remote regional communities in the NT. There have been concerns raised about the quality of health services across the NT, with the Coordinator General for

¹²⁵ Table I04.

¹²⁶ It is understood that the 2007 survey is the most recent survey of residents in relation to health services in Jabiru.

Remote Services commenting that, “there are not only massive pre-existing service gaps but also a serious lack of high quality, evidence-based program and service development particularly in youth, early childhood, aged care and disability services” (Northern Territory Coordinator General for Remote Services 2012, p.54).

In the past, the NT Health Services were supplemented by the Kakadu Health Services, run by the Djabulukgu Association with one doctor provided by ERA (information provided by ERA). The Djabulukgu Association also delivered Aged Care Services Home and Community Care and Community Aged Care Package programmes (Collins 2000). These services are no longer provided by the Djabulukgu Association and have not been replaced (Australian Indigenous HealthInfoNet 2013).

ERA provides basic medical services for its employees on site, but utilises the Jabiru Community Health Centre for other health care (Northern Territory Coordinator General for Remote Services 2012).

7.1.1.2 Community and workforce health

As one of Australia’s largest uranium producers, Ranger has long been a focal point for a range of stakeholder concerns relating to the health impacts of uranium mining. These have ranged from concerns at a global level such as the potential for misuse of, or an accident with, exported uranium products, through to local concerns in the region.

ERA monitors and manages radiation levels through its Radiation Management System, and provides occupation radiation dose data for workers at Ranger to the Australian Government’s Australian National Radiation Dose Register.¹²⁷ ERA’s 2013 Annual Report states:

Preliminary analysis of the doses for 2013 has been performed and indicates that all occupational and public radiation doses remain well below the national and international dose limits. Average doses are in line with those measured in previous years and the maximum individual dose recorded remains around a quarter of the annual dose limit (ERA 2013, p.25).

A 2006 report commissioned by the Commonwealth Government reviewing uranium mining and future prospects for a nuclear industry in Australia noted a low level of risk regarding health and safety associated with uranium mining in Australia and concluded that, “there is every reason to be confident that Australia’s health and safety systems will continue to provide a sound framework for the management of the uranium mining industry” (Department of the Prime Minister and Cabinet 2006, p.70).

Despite this management regime, the effects of uranium mining on health has been raised consistently as a concern over the life of Ranger, particularly by the Mirarr Traditional Owners (Fox 1977; Wada & Kishi 2006).

The potential contamination of water resources by Ranger, and the associated health consequences, also remains of high concern to stakeholders. Water was given particular

¹²⁷ ERA reports that data for 2011 and 2012 have been uploaded to the register, which is available to all workers (ERA 2013, p.25).

focus during the 2002 Senate Inquiry into the Environmental Regulation of Uranium Mining. In the inquiry it was noted that the Mirarr had concerns that Ranger's water management, irrigation, tailings management, groundwater and surface water impacts all have a potential negative effect on water quality. ERA's requirements around water management, quality and potential contamination are extensive (see Department of the Environment 1999; NT EPA & SEWPAC 2013). Environmental groups, however, have continued to express concerns regarding water-related safety and environmental incidents (ranging from spillages to water releases), with concerns reported from 1979 to 2002.¹²⁸

The difference between stakeholder perceptions regarding the health implications of Ranger operations, and scientifically understood facts about health impacts, is considered in section 7.2.1.

7.1.2 Ranger's past and present contributions to social change

Social change related to health and well-being is inextricably linked to the activities of Ranger, in particular with regard to the well-being of employees, radiation management and water resource quality as detailed above. Relevant changes that have been specifically associated with the development and operations of Ranger and the establishment of Jabiru town include,

- the establishment of a significant non-Aboriginal presence in the region including ERA employees and their families;
- the establishment of local food and alcohol suppliers;
- social issues arising from cash payments of royalties, such as increased alcohol consumption by community members at payment time (Fox 1977, p.43);
- changes to the consumption of food and water resources by Aboriginal community members due to perceptions of poor environmental health;
- the funding of a doctor at Kakadu Health Services and provision of medical care to employees by ERA;
- the management of workforce health and safety, including radiation management by ERA; and
- funding of initiatives promoting positive health and well-being through mining royalties, such as Children's Ground via the Kakadu West Arnhem Social Trust.

7.1.3 Other activities contributing to social change

Other influences on social change relating to health and well-being have included the following:

¹²⁸ See Friends of the Earth, Australian Conservation Foundation and Sustainable Energy & Anti-Uranium Service (2002) Appendix 6 Environmental Incidents at Ranger, http://www.aph.gov.au/~media/wopapub/senate/committee/ecita_ctte/completed_inquiries/2002-04/uranium/report/e06.ashx.

- Government policy and legislation, including,
 - o Northern Territory Emergency Response including the establishment of prescribed areas;
 - o Health and emergency service provision; and
 - o Road safety initiatives.
- The establishment and operation of the Gunbang Action Group.
- The fluctuation in health service provision between the NT Department of Health, Djabulukgu Association and other providers.
- The establishment of the alcohol accord.
- Fluctuations in use of, and access to illegal drugs and alcohol.

7.2 SIA FINDINGS

This section summarises the SIA findings related to health and well-being. The proposed Ranger 3 Deeps development would be developed in a context of varied, and in some cases, either deteriorating or improving physical and mental health situations for particular stakeholder groups. In relation to health and well-being, the Ranger 3 Deeps development has the potential to impact both positively and negatively on,

- the health and well-being of individuals and communities; and
- the perception of health, well-being and personal safety by individuals and communities.

The SIA has identified nine risks and five opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- The quality of water resources.
- Safety and hazard exposure.
- Substance abuse and related health issues.
- Health service capacity and viability.

Section 7.2.1 describes each of these social factors and presents the related risks and opportunities. Section 7.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

7.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

7.2.1.1 The quality of water resources

Ranger's water management approach focuses on maintaining water quality and avoiding the contamination of water bodies. The natural water resources of the region, particularly water bodies near Ranger such as Magela Creek, are important features of KNP and are

well-known to have strong cultural connections to local indigenous communities. Water bodies in KNP are also popular for recreational activities such as fishing, bird watching and swimming for indigenous and non-indigenous stakeholders. Therefore, contamination of water bodies, if it were to occur, could affect local stakeholders' health and well-being as some members of the community hunt and fish in the area, and use their catch as a food source.

Ranger has been subject to much public scrutiny over its water management and ongoing monitoring and reporting requirements since operations commenced. Ranger has extensive water management systems in place to manage risks relating to the quality of drinking water, groundwater, surface water and riverine environments. ERA's performance in environmental protection is monitored by the Supervising Scientist (2013).

The Supervising Scientist's 2012-13 Annual Report states that:

During the year there were no reported incidents that resulted in any environmental impact to the surrounding environment. The extensive monitoring and research programs of the Supervising Scientist Division (SSD) confirm that the environment has remained protected through the period (Supervising Scientist 2013, p.ix).

Despite such assertions, the potential for water contamination remains one of the highest stakeholder concerns relating to Ranger, particularly from indigenous groups including the Mirarr Traditional Owners. Fear and anxiety associated with these concerns can also have health impacts. In response to such concerns, ERA recently established the Independent Surface Water Working Group to "review surface water management and monitoring associated with the Ranger Uranium Mine" (ERA and GAC 2013, p.i). Whilst the review found that "the current surface water management and regulatory systems in place ... are of a very high standard", it also found that "... more could be done to ensure that these processes continue to be best (leading) practice" (ERA and GAC 2013, p.i).

The SIA identified one opportunity and one risk for Ranger 3 Deeps relating to the contamination of water resources, as detailed in Table 16 below.

Table 16: Risks and opportunities relating to the quality of water resources¹²⁹

Opportunities	Risks
O-7.1 Improved and/or ongoing communication regarding Ranger 3 Deeps water and broader environmental management and quality reduces concern amongst local and regional communities about possible, or perceived contamination of water and food resources and the health implications of consuming them (Low)	R-7.1 Ranger 3 Deeps contributes to continued or increased concern amongst local and regional communities about possible, or perceived, contamination of water and food resources, and the health implications of consuming them (High)

7.2.1.2 Safety and hazard exposure

As with any mining operation, particularly underground mining, there are risks associated with safety and exposure to hazards. ERA continually manages the health and safety of its

¹²⁹ Note that risks relating to water quality from Ranger 3 Deeps are covered in the environmental risk assessment.

employees and contractors, and states that they have “established clear goals, accountabilities and systems in pursuit of the Company’s goal of zero harm” (ERA 2013a, 23). In 2013, ERA reported an increase in both its All Injury Frequency Rate¹³⁰ and Lost Time Injury Frequency Rate¹³¹ compared to the previous year (ERA 2013, p.23).

As detailed in the Section 7.1, ERA has a Radiation Management System and is subject to regulatory controls. The potential effects of uranium mining on health were, however, raised as a concern by SIA participants, including by the Mirarr Traditional Owners and the Public Health Association of Australia (PHAA). The PHAA noted concerns that the “real health and environment impacts” from Ranger may be greater than those reported, and that they believe workers are not sufficiently informed of the health risks associated with uranium mining. The SIA consultations also identified concerns over the safety of underground workers regarding accidents or injuries underground, or as a result of product transportation.

These safety risks have health and well-being consequences not only for those directly involved with the mining operation such as employees and contractors, but also families of employees, local residents and the Mirarr Traditional Owners who feel a strong sense of personal responsibility for the safety and welfare of people on their country (see Chapter 2).

Concerns regarding uranium’s end-use internationally were also raised relatively frequently during the SIA consultations, however a very small number of stakeholders also described what they saw as the various benefits of uranium when used for research and energy production.

The SIA identified three risks for Ranger 3 Deeps relating to safety and hazard exposure, as detailed in Table 17 below. No opportunities were identified.

Table 17: Risks and opportunities relating to safety and hazard exposure

Opportunities	Risks
None identified.	R-7.2 Uranium mined at Ranger 3 Deeps is, or is perceived to be implicated in health related nuclear energy or waste disposal incident/s (Low) R-7.3 Workplace incidents (including radiation exposure) compromise the health and well-being of Ranger 3 Deeps employees (Low) R-7.4 Ranger 3 Deeps contributes to increased potential for road accidents between ERA vehicles, ERA freight and other road users (Low)

7.2.1.3 Substance abuse and related health issues

Substance abuse and related health issues affect both mining and non-mining communities, as well as the various cultural and demographic groups within them. These issues have been identified in Jabiru and the region, for example, alcohol abuse has been acknowledged as a

¹³⁰ The ‘All Injury Frequency Rate’ includes all incidents and injuries where lost time did and did not occur as a result of the incident.

¹³¹ The ‘Lost Time Injury Frequency Rate’ refers to only the incidents where an employee was not able to resume working as a result of the incident and required recovery time before returning to work.

major health issue and it has been stated that “the excessive consumption of alcohol by a large proportion of the Aboriginal people in the region is having a deleterious effect on their general welfare” (Wilson 1997). There are also effects felt by non-indigenous community members.

It is difficult to distinguish the exact role and influence that Ranger has, or has had on the issue, but there are parallels between the existence of the operation and the influx of people, different lifestyles, alcohol consumption and overuse seen amongst some indigenous and non-indigenous groups. There are certainly other factors that contribute to substance abuse that are not directly linked to Ranger, but the presence of the operation has influenced alcohol consumption patterns in the region, for example through the royalty regime, as noted by the 1997 Senate inquiry, *Impact of Uranium Mining on Aboriginal Communities in The Northern Territory* (Wilson 1997).

The health factors associated with substance abuse considered in this SIA includes alcohol and drug misuse, increased prevalence of chronic illnesses, and poor lifestyle choices such as diet and hygiene. Other related issues raised by SIA participants, including relevant service providers, include family and non-family violence such as verbal, physical and/or sexual abuse, and vehicle accidents where speed, fatigue or alcohol is a primary cause.

There is a strong focus in the mining industry on health and safety, particularly in relation to drugs and alcohol management, where a zero tolerance policy is often applied. ERA is no exception, with all employees and contractors being subject to random drug and alcohol testing when reporting to work at Ranger, and there are policies in place and adhered to with respect to drugs and alcohol. In addition, Rio Tinto supports this practice by reinforcing that “We must not possess or consume illegal drugs, or be impaired by alcohol or drugs, while working on Rio Tinto business or premises” (Rio Tinto 2011b, p.14). Despite such policies, some stakeholders remarked that a strong drinking culture exists in Jabiru after working hours or at the end of the roster cycle, with patrons often visiting local sports and social club located in close proximity to the FIFO camp.

The SIA identified three opportunities and three risks for Ranger 3 Deeps relating to substance abuse and health related issues, as detailed in Table 18 below.

Table 18: Risks and opportunities relating to substance abuse and related health issues

Opportunities	Risks
O-7.2 Ranger 3 Deeps supports certainty over the future of Jabiru and enables investment in, or an improved approach to, alcohol and drug awareness and education, leading to reduced consumption and improved health of indigenous and non-indigenous persons (Low)	R-7.5 Ranger 3 Deeps contributes to sustained or increased alcohol use in the non-indigenous community through continued or increased employment (Low)
O-7.3 Ranger 3 Deeps revenue and increased certainty over the future of Jabiru enables investment in changed or renewed approach to health management related to chronic illnesses (including specific indigenous programmes) (Low)	R-7.6 Ranger 3 Deeps contributes to sustaining or an increase in access to and use of legal and illegal drugs through maintenance of Jabiru population, transport links, and transient population (Low)
O-7.4 Ranger 3 Deeps enables continued promotion of positive occupational health and safety behaviours by ERA and its employees, including alcohol use and well-being (Low)	R-7.7 Ranger 3 Deeps contributes to sustained or increased alcohol use in the regional Aboriginal community from continued royalties (Med)

7.2.1.4 Health service capacity and viability

Similar to other health trends across Australia, the state of indigenous health in the region, including the region and KNP, indicates one of difference and disadvantage compared to non-indigenous residents (information provided by ERA).

While ERA has undertaken initiatives such as making financial contributions to local health programmes aimed at addressing the causes of social and health disadvantage, there still remains strong opportunities for collaborative initiatives for the improvement of community health (information provided by ERA). ERA, through the Ranger 3 Deeps development, has the potential to continue to provide investment in, or in-kind support, for the local health service, as well as opportunities to continue working in partnership with key local and regional organisations with a view to improve indigenous health outcomes. If the development proceeds, ERA also has a responsibility to continue promoting positive health and well-being choices for its employees, particularly for its FIFO workforce, through healthy meal options and information, as well as gym facilities at the FIFO camp.

However, the Ranger 3 Deeps development also presents some potential challenges in that a continued or sustained ERA workforce in Jabiru could create further demand on the Jabiru Health Service, which is currently a free service with one full-time doctor. The capacity of the Jabiru Health Service may be influenced by the composition of the ERA workforce (residential or FIFO), workforce changes, medical provision onsite and any change to risks associated with mining, such as the change to underground mining.

The SIA identified one opportunity and two risks for Ranger 3 Deeps to affect the capacity and viability of health services, as detailed in Table 19 below.

Table 19: Risks and opportunities relating to health service capacity and viability

Opportunities	Risks
O-7.5 Ranger 3 Deeps revenue enables investment in financial or in-kind support by ERA in health services (Low)	R-7.8 The changed nature of Ranger operations due to Ranger 3 Deeps creates pressure on health and emergency services, requiring specialised training or service development (Low) R-7.9 Ranger 3 Deeps workforce/contractors contribute to continued or increased pressure on health services (Med)

7.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to health and well-being, each discussed in detail below:

- The health and well-being of individuals and communities.
- The perception of health, well-being and personal safety by individuals and communities.

7.2.2.1 The health and well-being of individuals and communities

Individuals and communities could be positively impacted if their current state of physical health or mental well-being improves, or if future negative health and well-being issues are

prevented. Alternately, people or groups in the local community or region could be negatively impacted if their current state of physical health or mental well-being deteriorates or is exacerbated, or if future negative health and well-being issues are increased.

The SIA process identified four low-rated opportunities, and three medium and five low-rated risks that could directly contribute to these outcomes. The proposed development provides opportunities for improvements in alcohol and drug prevention and treatment services (O-7.2), continued promotion of positive health and safety behaviours (O-7.4) and investment in health services and programmes (O-7.3 and O-7.5). The risks relate to Ranger 3 Deeps also presents risks of product stewardship incidents (R-7.2), incidents to the workforce and community (R-7.3 and R-7.4), a continuation or increase in access to or use of alcohol or illegal drugs (R-7.5 to R-7.7), or additional pressure on health services (R-7.8 and R-7.9).

All other risks and opportunities identified in this chapter have the potential to indirectly affect the health and well-being of individuals and communities.

Figure 15 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the health of individuals and communities.

Overall, the Ranger 3 Deeps development presents more risks than opportunities to impact the health and well-being of individuals and communities.

In order to realise opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- “Dry” policy at the RMV camp.
- Human resources policies and promotion of safe and healthy work practices through new starter (including contractor) inductions, as well as healthy lifestyle coordinators.
- Community relations initiatives such as involvement in the activities of the Gunbang Action group and relationship with the Jabiru Health Centre.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the health and well-being of individuals and communities. They include,

- other investments by local, territory or federal governments in remote healthcare, or other policies relating to indigenous health; and
- the potential for other organisations such as GAC and Gunbang Action Group to deliver targeted health education programmes in areas such as drug and alcohol use.

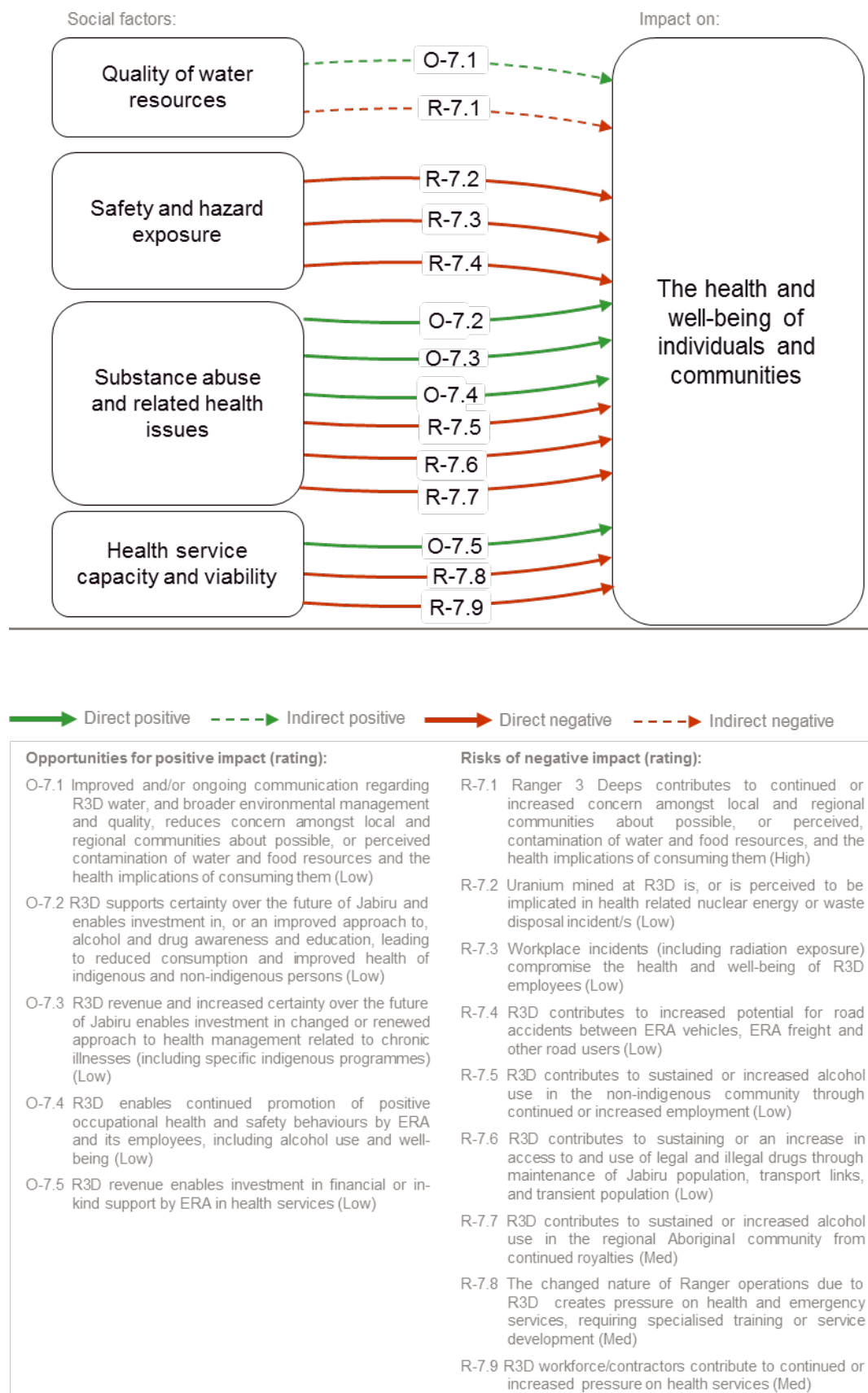


Figure 15: Impact map - the health and well-being of individuals and communities

7.2.2.2 The perception of health, well-being and personal safety by individuals and communities

Individuals and communities may be positively impacted by the development if their perception of health, well-being or personal safety is increased or improves, or negatively impacted if any actions or activities occur that bring upon concern, stress or fear of loss of personal or community safety, health or well-being.

The SIA process identified one low-rated opportunity, one high-rated risk and two low-rated risks that could *directly* contribute to these outcomes. Ranger 3 Deeps presents an opportunity for improved communication regarding the quality of water and the natural environment, and the safety of consuming water and food resources (O-7.1). The development also presents risks of continued or increased concern about possible, or perceived, contamination of water and food resources and the health implications of consuming them (R-7.1), implications in nuclear energy or waste disposal incidents (R-7.2), or workplace health and safety incidents (R-7.3).

Other risks and opportunities identified in this chapter have the potential to *indirectly* affect the perception of health, well-being and personal safety.

Figure 16 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the perception of health, well-being and personal safety by individuals and communities.

Overall, the Ranger 3 Deeps development presents more risks than opportunities to impact the perception of health, well-being and personal safety of individuals and communities.

In order to realise the opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives such as AARTC and ARRAC, as well as the Relationship Committee.
- Environmental monitoring and bush tucker monitoring, and weekly reports on water quality to alleviate any concerns on the environment and water.
- Safety protocols including induction and training, and OHS procedures when driving or transporting materials.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the perception of health, well-being and personal safety of individuals and communities. They include the following:

- Government changes to road conditions such as legal speed limit, or other road users behaviour when driving.
- Change in demand for the product from international markets, or changes in use of the product from buyers/users.

- A change in perception or education led by other organisations such as GAC and Gunbang Action Group to deliver targeted health awareness and education programmes.

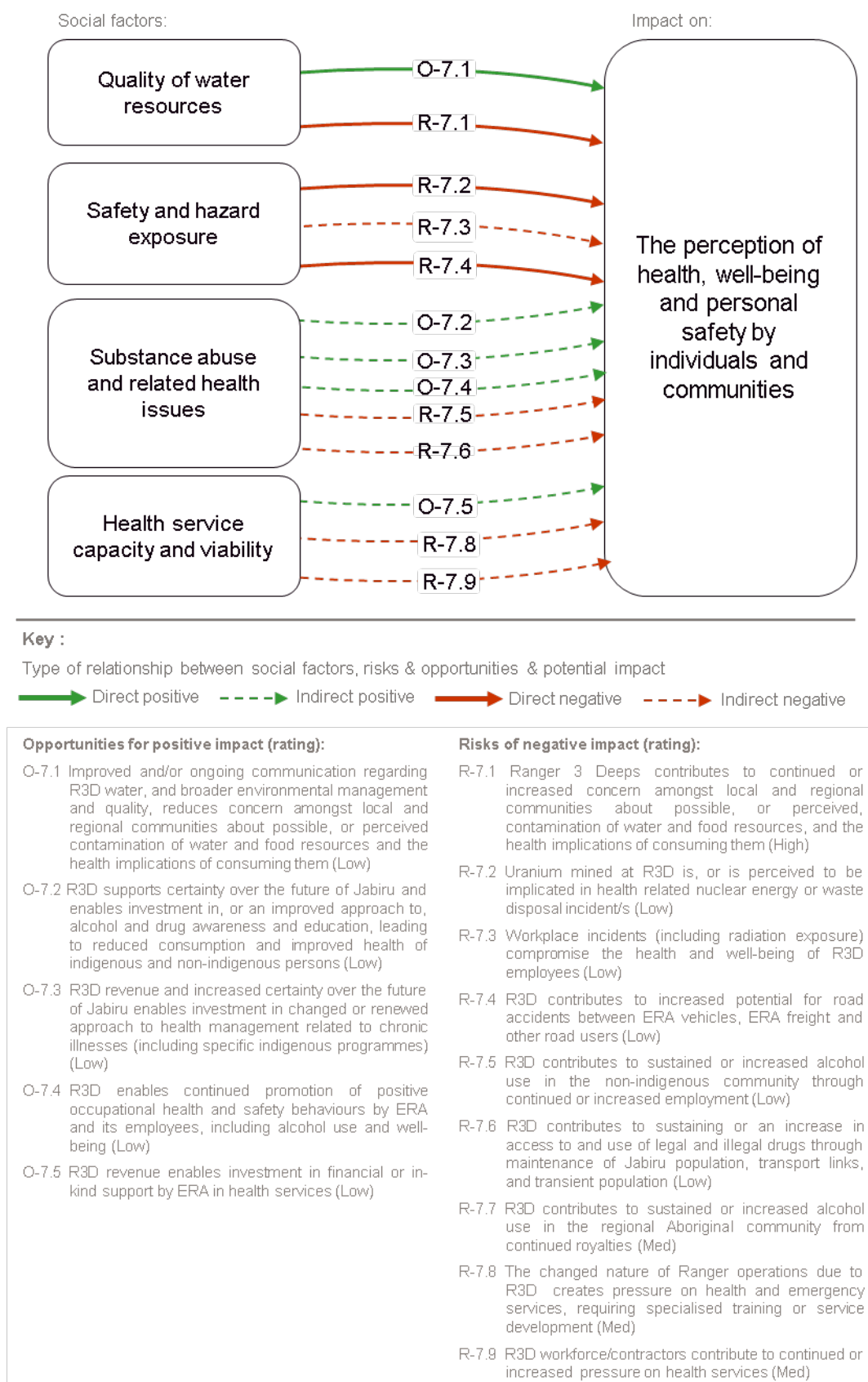


Figure 16: Impact map - the perception of health, well-being and personal safety by individuals and communities

8 SERVICES AND INFRASTRUCTURE

This chapter considers the potential social impacts of the Ranger 3 Deeps development relating to the quality and viability of services and infrastructure in the region. It provides an overview of the current and historical factors contributing to social change within the region relevant to services and infrastructure, followed by SIA findings on the potential positive and negative social impacts of the Ranger 3 Deeps development.

The scope of this chapter focuses on services and infrastructure in Jabiru and the region (primarily outstations) that are most relevant to the SIA. These include education, child care, housing provision and maintenance, emergency services, utilities, and road and air transportation.¹³² Health services and well-being, including aged and disability care are discussed in Chapter 7. Employment services and industries are discussed further in Chapter 9.

8.1 BACKGROUND

8.1.1 Current state of services and infrastructure

While provision of services and public infrastructure is typically the role of government, the nature of the establishment of Jabiru as a mining town, and its present governance structure, has led to a mix of organisations establishing and maintaining services and infrastructure.¹³³ The complexity of these arrangements has created a lack of clarity about the organisations and individuals that make decisions and provide services; this in turn is seen to compromise effective service delivery. The 1997 KRSIS found that “despite the multiple layers giving an appearance of over-governance, service provision for many Aboriginal people is substandard” (Collins 2000, p.66). Governance complexities are felt across the region, but remain particularly acute in Jabiru.

The primary organisations involved in the provision of services and infrastructure in the region today include the following:

- The NT Government, which funds and operates West Arnhem College including Jabiru Area School and Gunbalanya School, and maintains major roads in the region and KNP (information provided by ERA).
- The West Arnhem Regional Council, which provides core and commercial services such as road works and maintenance, waste and water management, sports and recreation, library services, childcare, motor vehicle registry and visitor accommodation (Gunbalanya) (West Arnhem Regional Council 2013c).
- ERA, which owns and maintains retail and other town buildings, and the majority of Jabiru housing accommodation; generates and provides electricity for Jabiru; and manages Jabiru airport.

¹³² Excluded from detailed discussion are core council services such as dog control and waste management.

¹³³ The origins of this complex structure and implications for governance are discussed in Chapter 5.

- GAC, which funds and operates the Djidbidjidbi Residential College, and maintains and operates Mudginberri and Djirrbiyuk outstations.
- The Kakadu West Arnhem Social Trust, which funds Children's Ground and other regional initiatives.
- Warnbi, which maintains infrastructure and roads for outstations within KNP and Manaburduma.¹³⁴
- The JTDA, which holds the lease for Jabiru and at the time of writing managed the provision of sub-leases (pending settlement of the Jabiru native title claim, which may see this arrangement change).
- The Director of National Parks, which maintains KNP roads and tracks (KNP, 2007).

As with much of rural and remote Australia, infrastructure maintenance is also a considerable long term challenge. As noted by Councillor Norton during the 2002 Senate Inquiry into Environmental Regulation of Uranium Mining:

Investment in this town is very hard to procure. If you actually look around the town plaza, you will see how old it is. People are not putting money into modernising this place. The council is basically not putting money or resources into long-term projects until it has a resolution of the future of this town with the head lease (Environment Communications Information Technology and the Arts References Committee 2002, p.172).

The following sections provide an overview of the current state of social services, childcare, education, housing and infrastructure, and roads and transport in Jabiru and on outstations. The information that follows was largely collected through discussions with local service providers as part of SIA consultation.

8.1.1.1 Social services

Jabiru has a respected health care facility (see Chapter 7), however SIA participants raised personal and professional concerns that the town lacks key social services such as a women's shelter for victims of domestic violence. The region as a whole does not have any alcohol and drug support services, despite the social problems linked with alcohol consumption identified within the region.¹³⁵

In lieu of shelters or emergency accommodation, residents are understood to rely on family and the church to provide accommodation and support.

A recent initiative funded by the GAC, but independently governed, is Children's Ground, which has been developed "as a real and practical reaction to barriers that prevent the improvement of the lives of Biniŋ children and their families" (Gundjeihmi Aboriginal

¹³⁴ Except where maintained by KNP.

¹³⁵ Refer to Chapter 7, for further discussion on alcohol-related issues and Chapter 6, for discussion of the Gunbang Action Group, a coalition of government departments, community organisations and businesses working to reduce risks with alcohol and drug use.

Corporation 2014g). Children's Ground began operation in 2013, and focuses on building connection to country with intergenerational groups. While Children's Ground is still in its early days, it was acknowledged by a number of stakeholders as showing promise in its initial activities for improving the well-being, culture and educational prospects of local families (both Mirarr and the broader Aboriginal community). A youth inter-agency committee has also recently been established by Jabiru service providers and government agencies for collaboration on programme development and delivery.

8.1.1.2 Childcare

Childcare services are provided by the Council's Jabiru Childcare Centre which has capacity for 60 children, with current enrolment understood to be up to 30 children per day.¹³⁶ The Jabiru Childcare Centre is primarily used by the non-indigenous community, with Aboriginal children largely cared for by family. Children's Ground (see above) is seeking to provide early childhood services in Jabiru and Mudginberri, with outreach services to outstations (Children's Ground 2014).

Jabiru also has a preschool operated by the West Arnhem College and a weekly playgroup run by volunteers. There is currently no after-school care service.

8.1.1.3 Education

Education services are primarily provided by the NT Government's West Arnhem College including the Jabiru Area School and Gunbalanya School, which cater for preschool to year 12 (West Arnhem College 2014a). The Jabiru Area School caters for 300 students of whom over 60% are Aboriginal and just under 36% are children of ERA staff (ACIL Tasman 2013). The Jabiru Area School provides education for children residing in both Jabiru and outstations around KNP, although a number of outstations (such as Cannon Hill) are cut off in the wet season and, to remain in school, children need to relocate to other outstations or Manaburduma. Many stakeholders interviewed saw the education available in Jabiru as one of the town's greatest assets. However, as is experienced frequently in regional centres, some stakeholders stated that they prefer to send their children to school in Darwin or Adelaide due to the range of opportunities available in larger cities.

The GAC-funded Djidbidjidbi Residential College opened in 2012, with beds for 21 students who attend the Jabiru Area School (Gundjeihmi Aboriginal Corporation 2014a). The college "works in partnership with the school to improve attendance and well-being as well as support improved outcomes in literacy and numeracy" (West Arnhem College 2014c). It is one of a number of initiatives undertaken by the GAC and the Jabiru Area School to support and improve Aboriginal education. As noted by Collins (2000, p.31):

Bininj students [are] recording poor attendance and educational outcomes. The issue of improving educational outcomes for Bininj students has widespread support throughout the community.

It was identified during SIA consultation that some members of the indigenous and non-indigenous community perceive that access to the college has been made available to Mirarr

¹³⁶ Information provided by West Arnhem Regional Council personnel.

(and Mirarr affiliate) students only. The GAC state that Djidbjidjidi is a private college that accommodates Aboriginal children enrolled in the Jabiru Area School but who do not reside in the town of Jabiru and therefore are required to travel.

Charles Darwin University provides vocational education and training for Jabiru and the surrounding areas of Arnhem Land and Kakadu (West Arnhem Shire Council 2012, p.41).

8.1.1.4 Jabiru housing and other infrastructure

The town of Jabiru was developed in its current location from 1979 by ERA for the purposes of supporting Ranger. Initial forecasts were that the town would house in excess of 3,000 people, and as a result much of its infrastructure is of an inappropriate scale for the town's current size, which is approximately less than 1,300 residents (Environment Communications Information Technology and the Arts Reference Committee 2002).

The town of Jabiru was intended to be, and effectively remains, a closed town. Under the lease arrangements from the Director of National Parks, residence accommodation is supplied via employer groups under a range of rental agreements. Taylor reports that ERA held 61% of Jabiru accommodation tenancies in 1996 (Taylor 1999). The remainder were held by the NT Housing Commission (20%) and ERISS (11%). ERA (2009), reports that these figures have remained “largely unchanged” to date. Businesses lease accommodation through a process managed by the Council where there is excess NT Housing Commission or ERISS housing available. As of January 2014, ERA own 273 houses/units in Jabiru. The majority are occupied by ERA employees, with 56 leased to third parties. Occupancy rates were 89% and 100% respectively.

Access to, and availability of, housing has long been a challenge for the Jabiru township (Aboriginal Project Committee 1997c). The SIA consultations confirmed that it remains an issue, particularly for businesses seeking to attract staff.¹³⁷

The Council manages Jabiru's water and sewerage infrastructure and contracts garbage disposal services.¹³⁸

Electricity supply in Jabiru is currently provided by ERA from the Ranger power station. The Power and Water Corporation collects charges from town users at the standard Northern Territory electricity tariff, and provides this back to ERA with an administration fee removed. The net income from town electricity does not cover the costs incurred by ERA to provide the power (information provided by ERA).

8.1.1.5 Outstation and town camp housing infrastructure

As shown in Figure 17, in addition to Manaburduma there are approximately 13 outstations located within KNP providing accommodation to Aboriginal families. Outstations across the region range in size from an individual or small cluster of dwellings to larger communities.

¹³⁷ See Chapter 10 for further discussion.

¹³⁸ Information provided by Council staff during consultation.

Warnbi estimated the resident population to be 95 across seven KNP outstations in 2009.¹³⁹ Manaburduma has 11 houses and a variable population, housing a highly transient population of residents and visitors from KNP outstations and further afield.

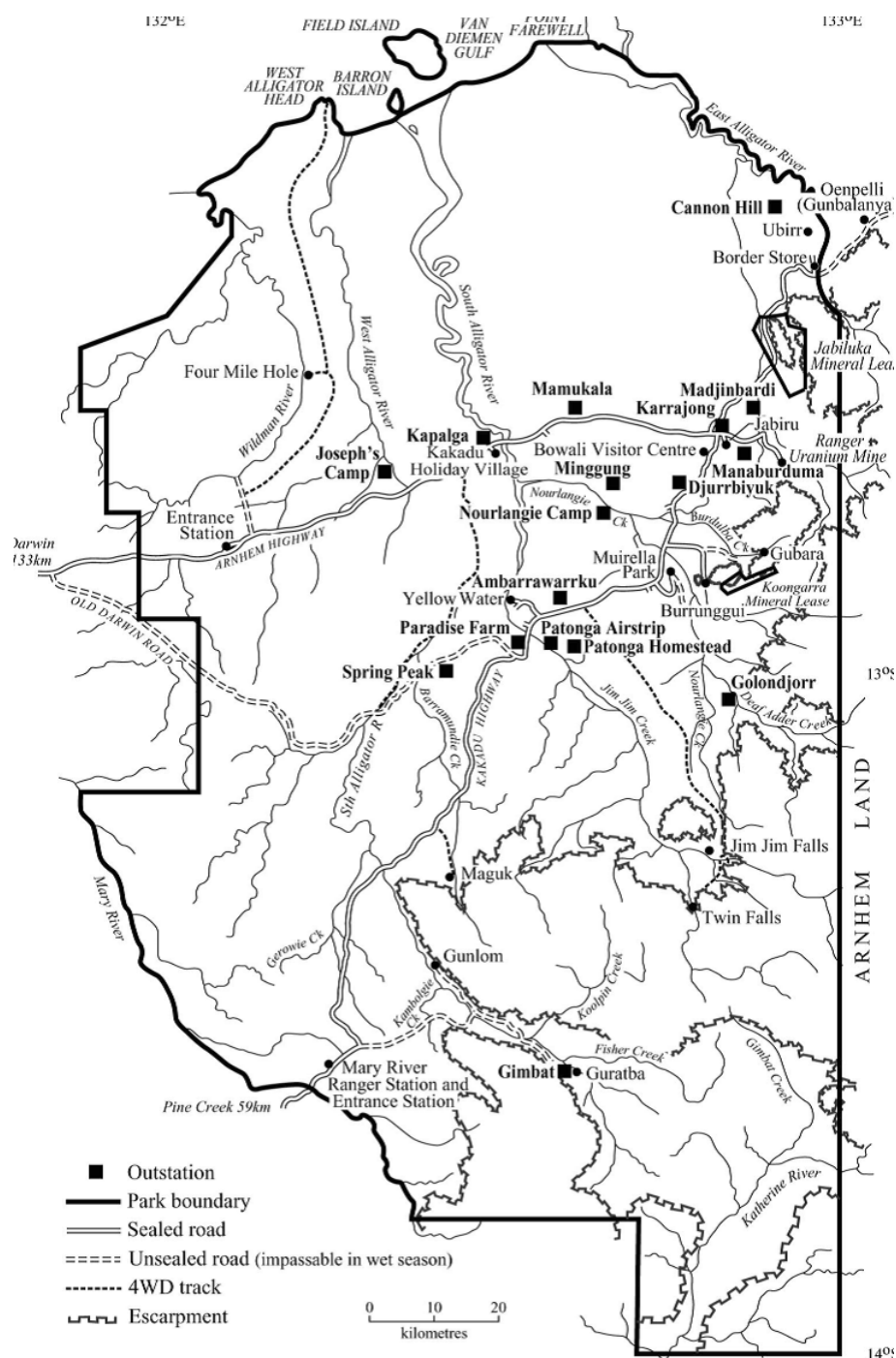


Figure 17: Kakadu Outstations (Collins 2000, p.x)

An investment of \$1.8 million was made by ATSIC in 1999/2000 for housing projects in KNP, in addition to \$3.85 million directed by ATSIC through the National Aboriginal Health Strategy for infrastructure improvements (Collins 2000). Since that time, outstation housing has largely

¹³⁹ This includes the communities of Cannon Hill, Kapalga, Mamukala, Mudjinberri, Patonga Airstrip, Patonga Homestead and Spring Peak. Banarra was unable to identify relevant and up-to-date information on outstation populations.

only received funding for maintenance. Infrastructure management has in the past been managed by the Djabulukgu Association (Collins 2000), and in the case of Manaburduma, the Council. According to Warnbi's current Rule Book (2009), Warnbi is responsible for infrastructure management and some road maintenance, at outstations within KNP.¹⁴⁰ Additionally, the GAC provides funding and infrastructure services to the Madjinbardi (Mudginberri) and Djirrbiyuk (Whistle Duck) outstations (Gundjeihmi Aboriginal Corporation 2014e).

A theme evident in the historical literature and in the recent SIA research is that the quality of housing and maintenance at outstations in the region is a constant source of concern amongst the regional Aboriginal community and involves perceptions that there are discrepancies in the quality of housing between outstations receiving GAC funding and those that do not. Allocated funding of approximately \$2,500 per house per annum¹⁴¹ is perceived by residents to be insufficient for the majority of KNP outstations. Furthermore, the quality and capacity of accommodation at Manaburduma has also been a long-standing issue. For example, in addition to concerns raised by stakeholders in the recent consultation, Wilson noted overcrowding and concern about the quality of living conditions at Manaburduma in 1997 (Wilson 1997).

Infrastructure maintenance for Gunbalanya is provided by the Council (West Arnhem Regional Council 2013a), while surrounding outstations are maintained by Demed (Demed Association Incorporated n.d.).

8.1.1.6 Roads and transport

The primary roads in the region are the NT Government maintained Arnhem Highway, Kakadu Highway, Old Darwin/Jim Jim Road, Jabiru to East Alligator Road, Cooida Road and Gimbat Road (information provided by ERA). The Jabiru and Gunbalanya road networks are maintained by the Council (West Arnhem Shire Council 2012), while Parks Australia maintain public roads within KNP. Service providers reported during consultation that unsealed outstation access roads are maintained within KNP by Warnbi and east of the East Alligator River by Demed.

Some stakeholders noted that poor maintenance of some roads was compromising their ability to travel, as the poor condition of these roads for much of the year makes them impassable without four wheel drives.

Jabiru does not have a public transport service. It does, however, act as hub for commercial buses to Darwin.

Jabiru airport is located on the RPA and managed by ERA at no cost to users (ACIL Tasman 2013). It is used on a daily basis with over 7,900 flights annually (ACIL Tasman 2013),

¹⁴⁰ The Warnbi Aboriginal Corporation's Consolidated Rule Book (Warnbi Aboriginal Corporation 2009) listed outstations for which Warnbi is responsible as Cannon Hill, Mudjinbardi, Djirrbiyuk, Kapalga, Kurrajong, Mamukala, Paradise Farm, Patonga Airstrip, Patonga Homestead, Ambarrawarrku (Red Lily), Spring Peak, and Manaburduma.

¹⁴¹ This figure was cited by multiple participants during engagement but is not, to Banarra's knowledge, publically reported. It is presumed that the funding is provided by both Commonwealth and Territory Governments, however this was not able to be confirmed during consultation.

comprising flights by tour operators, commercial and charter operators, ERA FIFO flights, and emergency medical flights (76 in 2013).¹⁴² In the wet season, the airport is used to transport commuters, visitors and goods between Gunbalanya and Jabiru (as the East Alligator River is impassable).

There are additional airstrips in the region, however they are not considered potential substitutes to the Ranger airport if due to weather or other circumstances it is closed (ACIL Tasman 2013).

8.1.2 Ranger's past and present contributions to social change

Social change relating to services and infrastructure has been considerably influenced by the development and continued presence of Ranger. Ranger's primary contribution to change was the development of the Jabiru township and infrastructure, and provision of a population base. Additionally, it has contributed to social change in the following ways:

- Distribution of royalties to Aboriginal corporations, including the GAC who have used the funds for development of social services such the Djidbidjidi Residential College and development and maintenance of two outstations.
- Funding of the Kakadu West Arnhem Social Trust and participation on its board.
- Transfer of title for eight houses and a number of lots from ERA to the GAC in 2013.
- Development of partnerships and provision of support for services organisations, such as the Jabiru Area School.
- Provision of emergency maintenance of infrastructure directly and through contractors and suppliers.
- Supply of electricity to Jabiru.
- Construction and management of the Jabiru airport.
- Use of local services by ERA employees, contractors and their families.

ERA's current role in infrastructure management in Jabiru includes:

- ownership and maintenance of six retail shops in Jabiru plaza, one plaza building housing the supermarket and the Jabiru Sports and Social Club building (ACIL Tasman 2013);
- ownership and maintenance of 273 dwellings, of which 217 are occupied by ERA employees and 56 are subleased to third parties (information provided by ERA); and
- management of two camps (the 'FIFO' and 'RMV' camps) and a guest housing for shift and contract workers totalling 532 rooms.

¹⁴² Email from David Coles, 20 January 2014.

8.1.3 Other activities contributing to social change

Other influences have included major legislative and administrative changes, the formation and management of KNP and the growth of tourism in the region. These factors have already been discussed in Chapter 1 and are the subject of other chapters, so are not described in detail here.¹⁴³ The factors that provide specific context for the SIA findings related to services and infrastructure that follow include:

- the establishment and operation of the Jabiru Town Development Authority;
- the transfer of outstation infrastructure maintenance from the Gagudju and Djabulukgu Associations to Warnbi and the GAC;
- the closure of services provided by the Gagudju and Djabulukgu Associations due to reduced organisational capacity and changed focus in the 1990s and 2000s, including schools at Patonga, Cannon Hill and Mudginberri (Wilson 1997); and
- the transfer of responsibility for council service provision from the Jabiru Town Development Authority to the Jabiru Town Council in 2008, followed by the establishment of 'Super Shires' in 2008, which involved the amalgamation of 70 small local community councils into nine shires (Elvin 2009).

8.2 SIA FINDINGS

This section summarises the SIA findings relating to services and infrastructure. As demonstrated above, if approved, Ranger 3 Deeps would be developed in a context of historical and continuing social change that has had tangible impacts on the people of the region over the past century, and particularly since the establishment of Ranger and KNP.

In relation to services and infrastructure, the Ranger 3 Deeps development has the potential to impact both positively and negatively on the quality and viability of services and infrastructure. The SIA has identified five risks and seven opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- Service demand and viability.
- Infrastructure provision and maintenance.

Section 8.2.1 describes each of these social factors and presents the related risks and opportunities. Section 8.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

¹⁴³ See Chapters 5 and 10.

8.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

8.2.1.1 Service demand and viability

Maintaining services is essential for meeting the basic needs and rights of residents and visitors, such as education.

Jabiru is characterised by a predominantly non-indigenous, high income population, comprising a mix of families and transient FIFO workers.¹⁴⁴ It is also a service centre, utilised by Aboriginal people throughout the region as well as visitors to KNP. Meeting the differing needs of these groups can be challenging. For instance, the Jabiru Area School has implemented programmes in collaboration with community organisations to improve attendance by regional Aboriginal students and raise overall education levels; however, it has also suffered from poor enrolment of high school students from families who do not believe the school can offer a sufficiently challenging educational environment (information provided by ERA).

The influence of Ranger on the demand and viability of services is considerable. For example in relation to education, one third of the Jabiru Area School enrolments are children of ERA employees, therefore, as noted by ACIL Tasman (2013), if Ranger were to cease operations or reduce the number of employees with children, it may be expected that school funding would be reduced and some teachers may be made redundant. Additionally, the GAC might experience financial pressure in keeping the Djidbidjidi Residential College operational with reduced revenue from mining royalties. The child care centre also relies upon the mining community, with approximately half its places taken by children of mining families.

Overall, the participants in the SIA consultation stated that the services available in Jabiru are largely adequate for the needs of the current residential population, regional users and visitors. However, SIA participants expressed that the Aboriginal population in particular would benefit from investment in additional services, such as a women's shelter and aged care facilities. They also expressed concern that the viability of a number of services would be in doubt if ERA were not to retain a significant presence in Jabiru.

The SIA identified three opportunities and four risks for Ranger 3 Deeps relating to service demand and viability, as detailed in Table 20 below.

Table 20: Risks and opportunities relating to service demand and viability

Opportunities	Risks
O-8.1 Ranger 3 Deeps enables the ongoing funding of the Kakadu West Arnhem Social Trust and associated initiatives either directly by ERA or indirectly through royalties (Very high)	R-8.1 Ranger 3 Deeps contributes to a sustained lack of housing, affecting the ability of service providers to find staff, resulting in reduced viability or quality of services (Low)
O-8.2 The extension of revenue and royalties from Ranger 3 Deeps provides for continuation of, or development of new partnerships or initiatives to deliver social services (High)	R-8.2 Poor communication from ERA regarding Ranger 3 Deeps workforce management or other operational activities affecting demographics impacts the ability of service providers to effectively plan (Low)
O-8.3 Improved communication from ERA regarding	R-8.3 Ranger 3 Deeps workforce management decisions

¹⁴⁴ Refer to Chapter 6 for further information on the population and demographics of the region.

Opportunities	Risks
Ranger 3 Deeps activities and workforce assists service providers to plan effectively (Low)	reduce the family/child population base, reducing demand for services and affecting their viability (Low) R-8.4 Ranger 3 Deeps workforce/contractors contribute to continued or increased pressure on services (Low)

8.2.1.2 Infrastructure provision and maintenance

Well maintained infrastructure, including utilities, roads, accommodation and public buildings are essential for preserving the basic standard of living for the residents of Jabiru and the region and the long-term viability of Jabiru.

Ranger's influence over the provision and maintenance of infrastructure is considerable. The long-term viability of Jabiru in the absence of ERA will require investment and restructuring of responsibilities regarding service provision in Jabiru (see Chapter 5). As introduced in Section 8.1.2, ERA is currently responsible for the provision or maintenance of key elements of Jabiru's infrastructure. Furthermore, ERA pays rates to the Council which go towards public infrastructure maintenance, and royalties support GAC's outstation management.

In the absence of a long-term plan for the handover or management of infrastructure after mine closure, it is understood that if the Jabiru lease area becomes Aboriginal Land Trust land as part of a negotiated native title settlement, the Mirarr, represented by the GAC, will be the legally recognised traditional land owners and will have a say in most land matters relating to the Jabiru town area.¹⁴⁵ The quality of the infrastructure potentially inherited by the Mirarr is of interest to them as it could become their responsibility to maintain in the future. Jabiru's current housing and town infrastructure was established from 1979 (West Arnhem Regional Council 2013b) and presently very little investment is being made due to uncertainty about the future of the town (Environment Communications Information Technology and the Arts References Committee 2002). A plan for electricity generation in Ranger's absence has not been developed.

Aboriginal stakeholder concern regarding infrastructure provision and maintenance primarily related to the quality of outstations and Manaburduma housing, and roads in remote areas. Stakeholders also expressed shame, stress and anger regarding the quality of living conditions. While these issues are not currently directly influenced by Ranger, an opportunity exists for establishing improved service delivery in the region, particularly in the context of long-term planning (see Chapter 10 for further discussion of living conditions in outstations and Manaburduma).

The SIA identified four opportunities and one risk for Ranger 3 Deeps relating to infrastructure provision and maintenance, as detailed in Table 21 (following page).

¹⁴⁵ See Aboriginal Land Rights and Other Legislation Amendment Bill 2013, http://www.energyres.com.au/media/38_media_releases_2449.asp, and <http://newsroom.nt.gov.au/www.newsroom.nt.gov.au/indexc6dc.html?fuseaction=viewRelease&id=6313&d=5>.

Table 21: Risks and opportunities relating to infrastructure provision and maintenance

Opportunities	Risks
O-8.4 Ranger 3 Deeps revenue enables ERA to invest in long-term infrastructure needs (Med)	R-8.5 Ranger 3 Deeps workforce/contractors contribute to continued or increased physical pressure on infrastructure, reducing its quality (Low)
O-8.5 Ranger 3 Deeps revenue or royalties enables investment in outstation housing and facilities, either directly by ERA, or indirectly through royalties (Low)	
O-8.6 Ranger 3 Deeps allows ERA to contribute to, or participate in, long-term planning for the future of Jabiru infrastructure (Low)	
O-8.7 Ranger 3 Deeps allows ERA to contribute to the development of new or improved Jabiru infrastructure (Low)	

8.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to services and infrastructure, each discussed in detail below:

- The quality and viability of services.
- The quality and viability of infrastructure.

8.2.2.1 The quality and viability of services

Local and regional stakeholders could be positively impacted by Ranger 3 Deeps if the quality or availability of services is enhanced as a result of the project and any associated activities. They could be negatively impacted if the quality or availability of services is reduced.

The SIA process identified one very-high rated opportunity, one medium-rated and one low-rated opportunity and four low-rated risks that could *directly* contribute to these outcomes. The greatest opportunities identified were the potential for ongoing funding of the Kakadu West Arnhem Social Trust (O-8.1), investment of Ranger 3 Deeps revenue and royalties in social services (O-8.2) and improved communication from ERA regarding workforce planning enabling improved service planning (O-8.3).

Four risks were identified whereby the proposed development has the potential to affect the viability or quality of service delivery, through pressures on housing for services staff (R-8.1), ineffective communication (R-8.2), reduced population base (R-8.3) or increased pressure on services (R-8.4).

In addition, a number of opportunities and risks relating to infrastructure provision and maintenance were identified that have the potential to *indirectly* impact on the quality and viability of services, such as through the investment in infrastructure needs which would be utilised by service providers.

Figure 18 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the quality and viability of services.

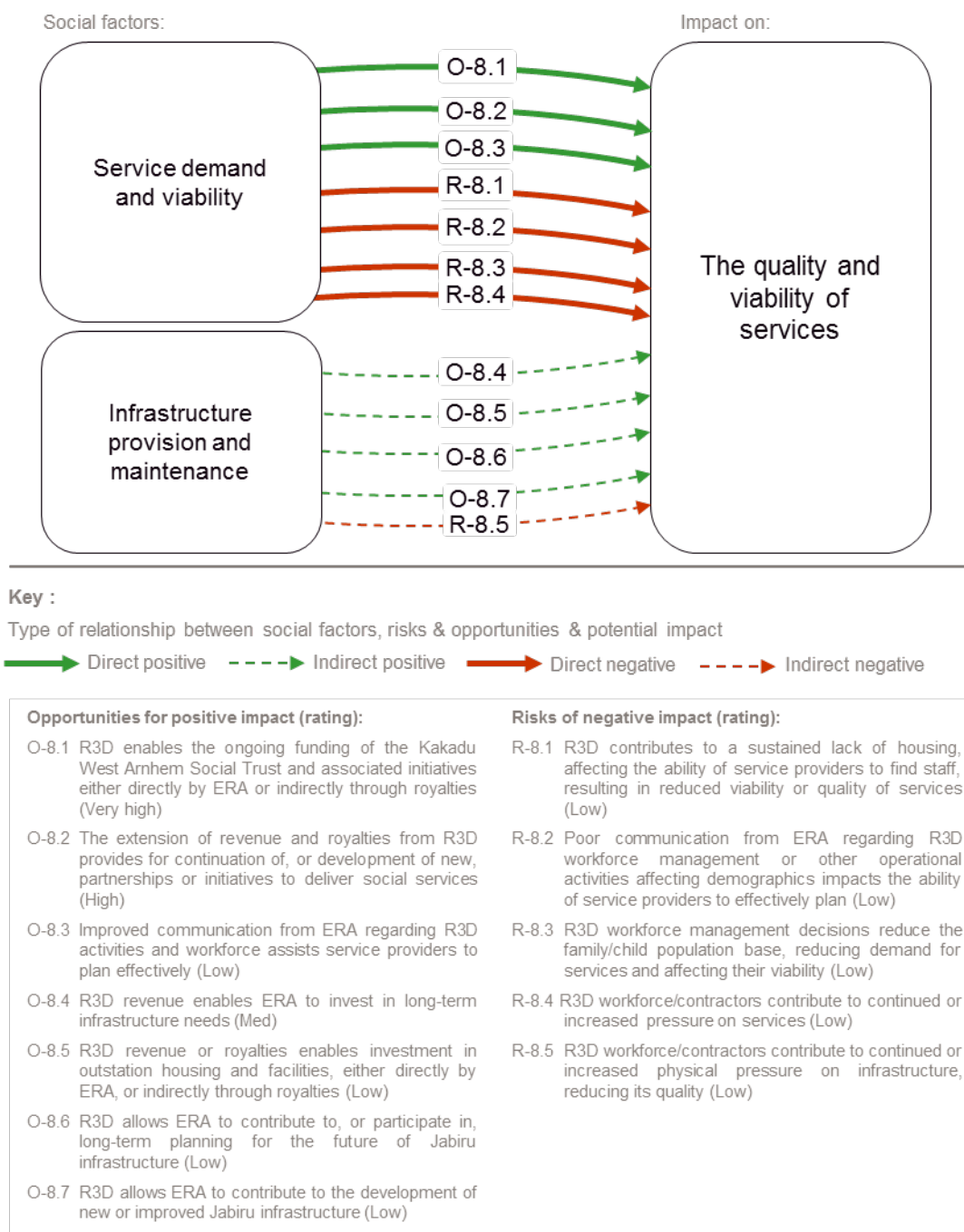


Figure 18: Impact map - the quality and viability of services

Overall, the Ranger 3 Deeps development presents a number of very strong opportunities to deliver improvements to service delivery, and a number of minor risks.

In order to realise the opportunities and mitigate the risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, community partnership fund, education partnership, in-kind and discretionary funding.
- Communications activities such as quarterly business updates.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could further contribute to the quality and viability of services. They include:

- ERA's decision-making regarding community investments or partnerships unrelated to Ranger 3 Deeps;
- the level of support for, and investment in, services by service providers, government, Aboriginal Corporations and the Kakadu West Arnhem Social Trust; and
- decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

8.2.2.2 The quality and viability of infrastructure

Local and regional stakeholders could be positively impacted by Ranger 3 Deeps if the quality or availability of infrastructure is enhanced as a result of the project and any associated activities. They could be negatively impacted if the quality or viability of infrastructure reduces.

The SIA process identified one medium-rated and three low-rated opportunities and one low-rated risk that could *directly* contribute to these outcomes.

The opportunities relate to the potential for Ranger 3 Deeps to enable improved planning or investment in infrastructure within Jabiru and the region, either directly by ERA, or by third parties (O-8.4 to O-8.7). Additionally, Ranger 3 Deeps presents a risk that the workforce and contractors contribute to increased physical pressure on infrastructure (R-8.5).

A number of opportunities and risks relating to service provision and maintenance were identified that have the potential to *indirectly* impact on infrastructure quality and availability.

Figure 19 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the quality and viability of infrastructure.

Overall, the Ranger 3 Deeps development primarily presents opportunities to improve infrastructure quality and viability.

In order to realise these opportunities and mitigate the risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, in-kind and discretionary funding.
- Maintenance of ERA infrastructure assets.
- Communications activities such as quarterly business updates.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could further contribute to the quality and viability of infrastructure. They include:

- ERA's decision-making regarding infrastructure or assets unrelated to Ranger 3 Deeps, such as such as closure or expansion of FIFO accommodation;
- the level of support for, investment in, and planning for infrastructure and maintenance needs by businesses, government and Aboriginal Corporations; and
- changes in leasing arrangements for Jabiru town that may occur if the Jabiru native title claim is settled.

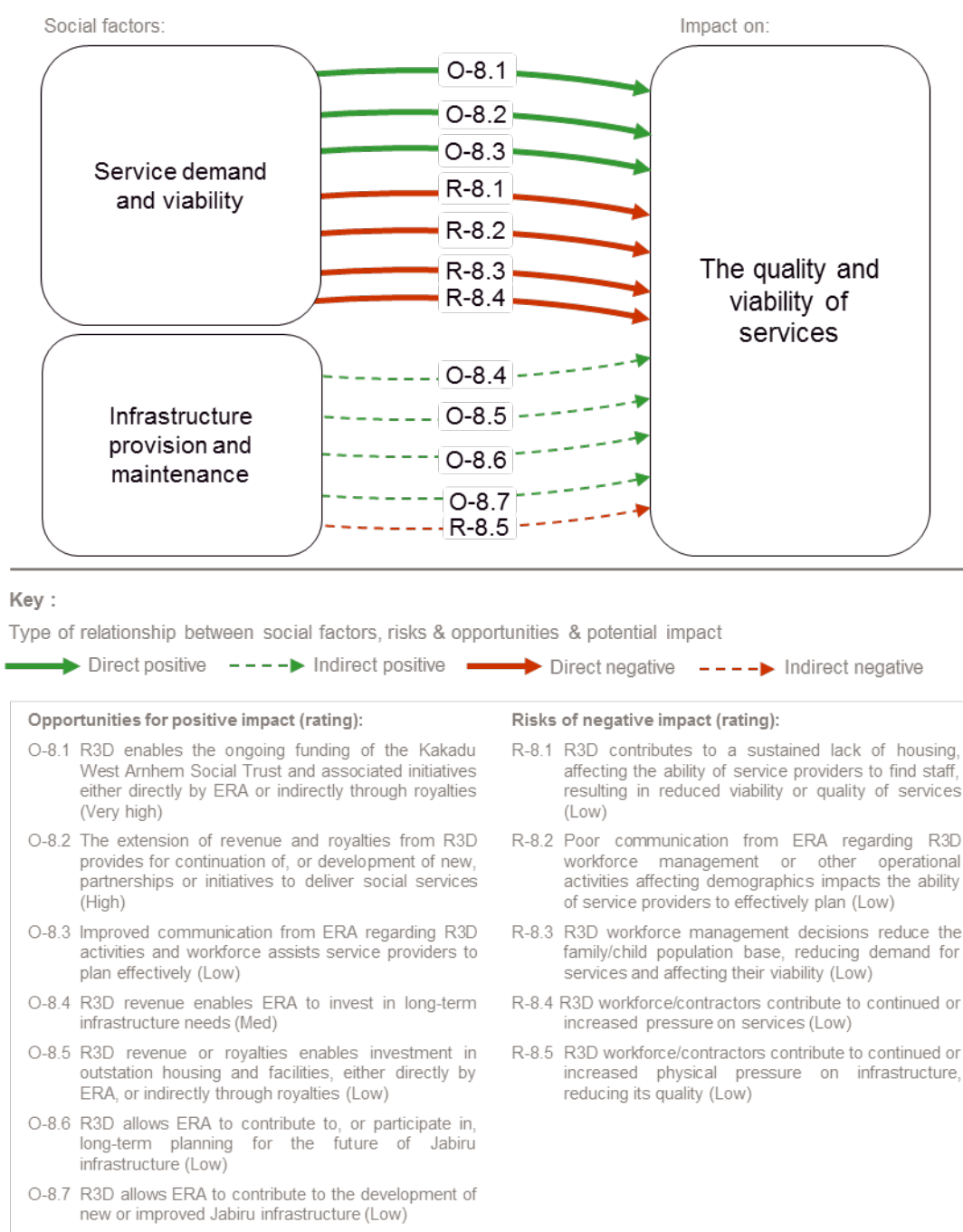


Figure 19: Impact map - the quality and viability of infrastructure

9 EMPLOYMENT AND INDUSTRIES

This chapter considers social impacts from the Ranger 3 Deeps development on employment and industries in the region. It provides an overview of current and historical factors contributing to social change relevant to employment and industries, followed by SIA findings on the potential positive and negative impacts of Ranger 3 Deeps.

The SIA uses the concept of employment as defined by the International Labour Organisation (ILO) which categorises employment as either being “paid employment” or “self-employment”,¹⁴⁶ with employees considered to have a contract or agreement with the same employer on a continuous basis over a period of time.¹⁴⁷

This chapter includes a discussion of businesses and industries operating in the region and Ranger's contribution to the local and regional workforce as well as opportunities through direct and indirect employment. The chapter also considers the potential for skills and capacity building amongst stakeholder groups, as well as potential risks and opportunities relating to employment, industry diversity and resilience.

9.1 BACKGROUND

9.1.1 Current state of employment and industries

Ranger's contribution to the local and regional economy is considerable. In 2012, Ranger and its associated operations were estimated to directly contribute 67% of Jabiru's gross value added,¹⁴⁸ 43% for Alligator¹⁴⁹ and 1.3% for the NT (ACIL Tasman 2013, p.v). Incorporating Ranger operations and ERA's capital expenditure, the contribution to gross value added rises to 87% for Jabiru, 58% for Alligator and 3.6% for the NT, the latter equal to \$580 million (ACIL Tasman 2013, p.vi).¹⁵⁰ At the Territory level, this is comparable to the direct gross value added of whole industries such as “art and recreation services”, or “electricity, gas, water and waste services” and “information media and telecommunications” (ACIL Tasman 2013, p.vi).

According to ABS census 2011, the key industries of employment in Jabiru are mining, accommodation and food services, and education and training. The key industries of

¹⁴⁶ ILO Resolutions Concerning Economically Active Population, Employment, Unemployment and Underemployment Adopted by the 13th International Conference of Labour Statisticians, October 1982, para 9 (International Labour Organisation 1982).

¹⁴⁷ ILO Resolutions Concerning International Classification of Status in Employment Adopted by the 15th International Conference of Labour Statisticians, January 1993, para.8 (International Labour Organisation (ILO) 1993)

¹⁴⁸ According to ACIL Tasman (2013, p.24) gross value added measures, “an industry's contribution to an economy by summing its payments to the factors of production – land, labour and capital. It is a standard measure used in Australia to represent an industry's contribution to an economy. At the state or territory level, the sum of gross value added across all industries plus net taxes on products is used to derive Gross State Product (GSP).”

¹⁴⁹ Note the ‘Alligator’ region referred to above is a 2006 ABS statistical area (2006 Australian Statistical Geography Standard) and is not equivalent to the Alligator Rivers Region. It does, however provide an indicator of the contributions to the economy of Ranger more broadly than at the local level.

¹⁵⁰ In 2011 Australian dollars (ACIL Tasman 2013).

employment in the region are public administration and safety, mining and education and training.¹⁵¹

Table 22: Industries of employment for Jabiru and West Arnhem (ABS Census 2011, BCP - Jabiru, West Arnhem, NT (B43c))

Industry of employment	Jabiru	West Arnhem
Mining	36.7%	11.9%
Accommodation and food services	15.2%	8.2%
Education and training	7.5%	11.1%
Public administration and safety	6.5%	16.8%
Construction	5.8%	5.9%
Health care and social assistance	4.0%	6.6%
Other services	2.6%	17.3%

Ranger is a major contributor to the overall workforce and employment characteristics of the region and, as a result, Jabiru's employment rate is relatively high, with the majority of residents in full-time employment. According to the 2011 census, 36.7% of Jabiru's workforce was employed in the mining sector (Australian Bureau of Statistics 2011c).

The high level of employment is reflected in income statistics for the town. The median income for Jabiru residents' is greater than for residents across West Arnhem and the NT, as shown in Table 23, both for indigenous and non-indigenous persons. It is noted that the median income of indigenous people in Jabiru is considerably greater than the median across the region and NT. The reasons for this have not been examined in this SIA, but it may include receipt of royalty money and active employment.

There is a significant gap between the incomes of indigenous and non-indigenous people at all three scales. The median income of indigenous residents ranges from 23% to 38% of the median for non-indigenous residents (Australian Bureau of Statistics 2011b; Australian Bureau of Statistics 2011c).¹⁵²

Table 23: Median total personal income of indigenous and non-indigenous residents (ABS Census 2011)

Median total personal income \$/week	Jabiru	West Arnhem	Northern Territory
Indigenous persons/households with indigenous persons	\$483	\$270	\$269
Non-indigenous persons/other households	\$1,287	\$1,149	\$925
Median income earned by indigenous persons as a percentage of non-indigenous income	38%	23%	29%

¹⁵¹ 'Other services' accounted for 17.3% of regional employment. This category includes industries such as hairdressing and beauty, religious services, repair and maintenance services (Australian Bureau of Statistics 2011g).

¹⁵² ABS statistics for total personal income includes the total weekly income that is received and includes pensions and allowances such as welfare payments. It may include royalty payments if they are declared by the recipient as part of their income (Australian Bureau of Statistics 2013).

9.1.1.1 Tourism in the region and Northern Territory

Tourism is a significant industry in the region, with KNP being a key attraction. Tourist visitors to KNP peaked in 1994 at 240,000 people per annum, however this appears to have declined as “Parks Australia figures estimate there were 165,000 leisure visitors to Kakadu National Park in 2011-12”¹⁵³ (Tourism NT 2012, p.2) led primarily by a decrease in international visitors (Tremblay 2007). The SIA consultation supported these figures, with tourism businesses and KNP staff both noting that tourist numbers to Jabiru and KNP were declining.

Access routes to KNP are through two major highways, the Arnhem Highway and Kakadu Highway, or via air to Jabiru. Jabiru provides services to many of the tourists who visit the region, with some choosing to stay in town at tourist accommodation such the caravan park and the Gagudju Crocodile Holiday Inn, while others purchase goods and supplies from local businesses while passing through. In meeting this need, Jabiru has evolved over time from being a mining service town to becoming a regional centre.

It is well established that the NT has a high reliance on tourism, more so than any other state or territory in Australia (Tourism NT 2013, p.1). Hospitality, including food services and accommodation, as well as retail trade are the largest contributors to tourism employment in the Territory (Tourism NT 2013, p.2).

9.1.1.2 Other local and regional businesses

In addition to tourism, small scale local and regional businesses are important for the provision of goods and services to locals and visitors in Jabiru and the region. These businesses include the following:

- Tourist-related businesses, for example, the Gagudju Crocodile Holiday Inn and AAA Charters.
- Businesses providing goods and/or services such as the local supermarket, bank, and service station.
- Local, Territory and Commonwealth government agencies and service providers including West Arnhem Regional Council, NT Police, and the OSS.
- Social and sporting clubs such as the Golf Club and Jabiru Sports and Social Club.
- Aboriginal organisations including the GAC and Warnbi.
- Other service providers including the childcare centre and health centre.

9.1.1.3 Indigenous-owned enterprises

In the first years of Jabiru's progressive establishment from the early 1980s, most shops and other businesses were owned and run by non-indigenous people. Over time this situation has changed as Aboriginal organisations have actively invested in the town and region.

¹⁵³ This figure is understood to relate to the financial year 2011-12, not across two years.

One of the most prominent Aboriginal organisations in Jabiru is the GAC. The GAC has made investments in and/or owns the following:

- The GAC office complex in Jabiru.
- The Kakadu Youth Centre in Jabiru.
- The Djidbidjidbi Residential College in Jabiru.
- Houses and associated buildings at Madjinbardi (Mudginberri), Djirrbiyuk (Whistle Duck) and other outstations.
- Three retail businesses, the Two Rivers Newsagency, Marrawuddi Gallery, and Anmak An-me cafe at Bowali Visitors Centre (Gundjeihmi Aboriginal Corporation 2014b).

Indigenous tourism enterprises in the region include the Gagudju Association's Gagudju Crocodile Holiday Inn, Gagudju Lodge Cooina and Yellow Water Cruises,¹⁵⁴ as well as Injalak Arts in Gunbalanya.¹⁵⁵

In Gunbalanya, the Indigenous Land Corporation (ILC) operates two businesses; Gunbalanya Station and Gunbalanya Meats (Australian Government Indigenous Land Corporation 2012). Employees receive training in beef production and meat processing, and in 2011-12 these enterprises employed 20 indigenous people.

Operating locally, Warnbi is the sub-contracted provider of RJCP for the West Arnhem Region. As such, Warnbi is charged with assisting local indigenous and non-indigenous people into employment, and is also contracted to provide maintenance for Kakadu outstations (Department of Social Services 2013).

Whilst the unemployment rate for the indigenous population is relatively low for both Jabiru and the West Arnhem region (7% and 10%, respectively),¹⁵⁶ the percentage of the indigenous population that are not participating in the labour force is considerable. According to the 2011 census, 29% of indigenous residents in Jabiru and 49% of indigenous people in West Arnhem were not participating in the labour force. Reasons for non-participation in the labour force were not examined for this SIA. Anecdotally, factors for exclusion from the labour force included focusing on home-duties and child minding, disability and cultural reasons (including welfare culture).¹⁵⁷

9.1.2 Ranger's past and present contribution to social change

As previously discussed, the Jabiru economy is underpinned by a narrow base, with mining being the town's principal provider of jobs and the main driver of Jabiru's economic

¹⁵⁴ See <http://www.gagudju-dreaming.com>.

¹⁵⁵ See <http://www.injalak.com/>.

¹⁵⁶ ABS Census 2011 of Population and Housing

¹⁵⁷ For further detail on labour force statistics see <http://www.abs.gov.au/ausstats/abs@.nsf/mf/6220.0>

development. While other sectors such as tourism, services and education are significant, they are also highly dependent on economic activity generated by Ranger.

According to the 2012 ACIL Tasman Economic Impact Assessment report, Ranger generated 71% of all direct and indirect jobs in Jabiru, 47% of all jobs in the region and 2.6 % of the Territory's employment (ACIL Tasman 2012, vi).

At 31 January 2014, Ranger employed 485 staff (equivalent to 480.1 FTE), of which 44% were residential, 38% were FIFO, 7% were DIDO and 11% were Darwin-based. Of this workforce, 15.8% were indigenous. At the same point in time, ERA also engaged 852 contractors, the majority on short-term arrangements for specific projects.¹⁵⁸

9.1.3 Other activities contributing to social change

Social change has also been contributed to by the actions of other mining businesses, industries and service providers, in addition to the effects of government policy decisions.

Aside from the Ranger ore body, there have been other ore bodies and mineral leases in the region. One such deposit is the Koongarra uranium deposit, located approximately 30 km south of Ranger.¹⁵⁹ In March 2013 the Koongarra lease was rescinded and the country was returned and incorporated into KNP. This has resulted in KNP rangers being provided the opportunity to manage more country within KNP, however, it also means that any exploration and employment opportunities linked to mining on the lease have been forgone.

A number of other industries and businesses have ceased across the region, such as the closure of the Mudginberri abattoir in 1987 following an ongoing industrial dispute and contraction of the buffalo farming sector.

The West Arnhem Regional Council (formerly named West Arnhem Shire Council) has responsibility for local government service provision to five towns and communities including Jabiru and Gunbalanya (see Chapter 5). In its 2012-13 Annual Report, the council reiterated its commitment to "... developing pathways to get local people into jobs" (West Arnhem Shire Council 2012, p.24). In working towards this objective, the Council has Commonwealth Operational Funding to assist with programmes such as jobs transition and jobs creation packages.

In July 2013, the Community Development Employment Program and other community services were replaced by the RJCP. Jobfind Centres Australia is now the West Arnhem RJCP provider, with Warnbi subcontracting.¹⁶⁰ Broadly speaking, the intent behind these changes is to improve the Commonwealth Government's programmes aimed at increasing workforce participation, in line with its stated policy aim of "everyone who can work should work" (Department of Employment 2014).

¹⁵⁸ Full time equivalent (FTE) figures are not available (information provided by ERA).

¹⁵⁹ See <http://www.environment.gov.au/topics/science-and-research/supervising-scientist-division/supervision-and-assessment/koongarra/>

¹⁶⁰ See <http://www.dss.gov.au/our-responsibilities/indigenous-australians/programs-services/communities-regions/community-development-employment-projects-cdep-program/remote-jobs-and-communities-program-rdp>.

9.2 SIA FINDINGS

This section summarises the SIA findings relating to employment and industries. As noted above, Ranger 3 Deeps would be developed in a context of relatively static and narrow business and employment opportunities. This is linked with the existing role of Ranger being the most significant employer in Jabiru and the mainstay of the town's economy.

In relation to employment and industries, the Ranger 3 Deeps development has the potential to impact both positively and negatively on,

- access to employment and the capacity of the region's workforce; and
- the diversity and resilience of businesses and industries in the region.

The SIA has identified two risks and nine opportunities for the Ranger 3 Deeps development to contribute to these impacts. These risks and opportunities relate to the following social factors:

- Employment and industry in Jabiru and the region.
- Aboriginal employment and enterprise development.

Section 9.2.1 describes each of these social factors and presents the related risks and opportunities. Section 9.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

9.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

9.2.1.1 Employment and industry in Jabiru and the region

As noted above, 36.7% of Jabiru's workforce was employed in the mining sector in 2011 (Australian Bureau of Statistics 2011c). As the only mine operating in the region, it is likely that Ranger generates most, if not all, of the direct and indirect mining employment in the town.

During the SIA consultation, some stakeholders expressed uncertainty about future employment opportunities in Jabiru, including uncertainty regarding whether the Ranger 3 Deeps development proceeds or not. Perceptions and concerns were varied, and included,

- ambiguity over workforce stability and continuation of jobs, including concern over redundancies;
- the number of potential new jobs and the types of jobs that the Ranger 3 Deeps development may or may not generate;
- the effect on Jabiru's economy, population and social environment should workforce numbers either decrease or increase; and
- the viability of services such as childcare and banking, if the resident population decreases.

If Ranger 3 Deeps is approved, the total expected workforce for Ranger will be greater than the current workforce. The Ranger 3 Deeps workforce is estimated at 180-280, contributing

to a total expected workforce of 600-750 FTE over the period 2016 to 2021, compared to the current level of 485 FTE.¹⁶¹ The Ranger 3 Deeps development will require specialist technical skills and positions, most of which will be filled through the creation of positions, in addition to those that will be retained in the existing operations such as those at the processing plant, which will remain unchanged. There will be some areas, such as materials movement, where the current level of roles will not be required for Ranger 3 Deeps (or continued operations) due to the changing nature of the Ranger operation. Therefore, there is the potential for some reduction of staff in specific workforce areas. Uncertainty amongst the workforce with regard to job security was noted during SIA consultation. As one stakeholder commented,

A potential issue is that underground mining requires a different skill set, so people who live here would not be required anymore ... this would see a lot of people leaving town, and would impact the community... (ERA employee).

Ranger will continue to operate and process stockpiled ore if approval is not granted for the Ranger 3 Deeps development, whilst it remains economically viable to process lower grade ore. This will require an ongoing workforce regardless of the project being approved. In either case, the operation will continue to be a major employer in the region, providing ongoing training and development opportunities and other associated benefits.

Regional training and workplace skills programmes are provided by organisations such as the West Arnhem College which has partnerships and runs support programmes with a range of industry and community groups such as the GAC, the Indigenous Land Corporation and ERA (West Arnhem College 2014b). Through such arrangements, ERA has the opportunity to demonstrate to students the career opportunities available to them in the mining industry and this may influence some students to undertake work experience at Ranger, or to complete their tertiary education to gain a professional role within the industry. During 2013, two year 12 students from Gunbalanya carried out structured work placements and four school based apprentices were employed at Ranger. Additionally, 16 adult apprentices were employed.¹⁶²

During SIA consultation, some stakeholders noted concerns that the presence of Ranger can be limiting for young people and students because it can be seen as a “rite of passage.” As one participant stated, “I don’t want my kids to follow a production line and just leave school and go to the mine because that’s what you do” (Jabiru resident).

Other stakeholders considered that rehabilitation of the Ranger site was an opportunity to enhance work and business opportunities in the region, as well as to improve land management, tourism, and long-term environmental monitoring. As one stakeholder from a civil society group commented, “... this would bring long term stability to the area rather than short term mining”. It is noted that rehabilitation has already commenced on the Ranger site and will continue over the next decade, regardless of whether Ranger 3 Deeps is approved or not (ERA 2014b).

The continuation of mining activities and the development of Ranger 3 Deeps may compete with other businesses and industries in attracting and retaining employees. For instance,

¹⁶¹ ERA human resources March 10 2014 and Workforce Estimation for SIA Consideration, prepared March 14 2014.

¹⁶² ERA human resources data, prepared March 18 2014.

employers in other industries, such as local government or hospitality, may find staffing a challenge if they are unable to match the wages or salaries offered by ERA or encounter a shortage of business premises or accommodation to house their staff.

Tourism was viewed by some stakeholders as a key future economic pillar and source of employment in Jabiru and the region in a post-mining environment:

[I] see many things that can be determined for our future. We'll have jobs with KNP and tour guides and revegetation and plantation (indigenous community member).

However, other stakeholders were hesitant, or sceptical, as to whether the tourism industry would provide enough employment and revenue to sustain Jabiru at its present social-economic level in the future:

Tourism is dropping and declining. And people come out to find an unattractive town (Jabiru service provider).

Everyone wants this place to keep going, to be a tourism hub, but that's only a 6 month operation due to the seasons up here. It's not feasible during the wet season. What happens the other half of the year? (Jabiru resident).

Despite the issues mentioned above, the SIA did not identify significant risks in relation to employment and industry in Jabiru. Rather, it was determined that the Ranger 3 Deeps could provide mostly opportunities via reducing uncertainty, providing economic stability and supporting employment.

The SIA identified five opportunities and one risk for Ranger 3 Deeps relating to employment and industry in Jabiru and the region, as detailed in Table 24 below.

Table 24: Risks and opportunities relating to employment and industry in Jabiru and the region

Opportunities	Risks
O-9.1 Ranger 3 Deeps enables ERA to support indirect employment linked to Ranger sustaining the level of employment in the region (High)	R-9.1 Ranger 3 Deeps contributes to the continued dependence on direct and indirect employment from Ranger therefore contributing to a socio-economic reliance on mining and a delay to a post-mining economy (Med)
O-9.2 Ranger 3 Deeps enables ERA to maintain high levels of direct employment at Ranger, sustaining or increasing the level of employment in the region (Very high)	
O-9.3 Ranger 3 Deeps reduces uncertainty over Ranger's future by providing more stability in the local economy and enhancing the potential for increased investment by government and commercial operators (High)	
O-9.4 Ranger 3 Deeps leads to ERA employees and their families continuing to reside in Jabiru, thus increasing the availability of skilled workers for other regional businesses (Med)	
O-9.5 Ranger 3 Deeps leads to a continuation of ERA employees and their families residing in Jabiru using local businesses, services and supporting service-sector employment (Med)	

9.2.1.2 Aboriginal employment and enterprise development

As mentioned previously, Jabiru has a number of indigenous-owned and operated business and associations. These businesses create or contribute to training and employment opportunities for indigenous people. It was noted by some stakeholders that there is still further potential for indigenous business development in the region, particularly in the tourism sector.

The Ranger 3 Deeps development may provide greater certainty in the region regarding employment, economic development and the future of Jabiru. This has the potential to influence Aboriginal organisations such as the GAC and Gagudju Association to further invest in Jabiru and the region. Ranger 3 Deeps also has the potential to benefit Aboriginal businesses and future enterprise development because it will enable ERA to support Aboriginal employment in other industries, as well as regional skills development through training, apprenticeships, and its education partnership with West Arnhem College. This sentiment was captured by one stakeholder who commented that “the mine needs to keep purposely investing in employment opportunities for local indigenous people.”

From 2008-2012, the indigenous workforce at ERA has varied from 15%-19%. In 2013, the indigenous workforce was 16% (79 employees) (ERA 2012a, p.5). ERA asserts that there are strong opportunities to continue direct indigenous employment programmes and sponsorships should the Ranger 3 Deeps development proceed (refer to SIMP in EIS Appendix 15 for more details on commitments).

The SIA consultation identified some key challenges in relation to Aboriginal employment and opportunities linked with mining. For instance, some stakeholders noted that the Ranger 3 Deeps development continues a reliance on mining royalties from Ranger, and thus delays the region in transitioning to a post-mining economy. As one stakeholder commented “I’d like to see that we don’t rely on the mine so much to live and the handouts. We’ve got too modern because of the big money influence”.

The SIA identified four opportunities and one risk for Ranger 3 Deeps relating to Aboriginal employment and enterprise development, as detailed in Table 25 below.

Table 25: Risks and opportunities relating to Aboriginal employment and enterprise development

Opportunities	Risks
O-9.6 Ranger 3 Deeps enables continuation of ERA’s education partnership, training and apprenticeship programmes, thus supporting regional skills development (High)	R-9.2 Ranger 3 Deeps contributes to continued dependence by Aboriginal organisations on royalties contributing to a socio-economic reliance on mining and a delay to a post-mining economy (High)
O-9.7 Ranger 3 Deeps enables ERA to indirectly support Aboriginal employment in other industries, businesses and service providers (incl. GAC) (High)	
O-9.8 Ranger 3 Deeps enables ERA to continue its high levels of Aboriginal employment at Ranger (High)	
O-9.9 Ranger 3 Deeps reduces uncertainty amongst Aboriginal corporations/organisations over Ranger’s future, thus contributing to greater certainty about the future of the local economy and leading to possible increased investment by such organisations (Low)	

9.2.2 Potential social impacts related to employment and industries

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to employment and industries, each discussed in detail below:

- Access to employment and the capacity of the region's workforce.
- The diversity and resilience of businesses and industries in the region.

9.2.2.1 Access to employment and the capacity of the region's workforce

The workforce in the region (both indigenous and non-indigenous) could be positively impacted by the Ranger 3 Deeps development if it contributes to an improvement in access to employment and the capacity of the region's workforce. The potential positive impact also extends to building the capacity and skills of the local workforce to address employment gaps in the community. Ranger 3 Deeps also has the potential to positively impact the region through sustaining businesses and industry such as retail, tourism and services, as well as investment in current community programmes.

Alternatively, current employees and those seeking employment may be negatively impacted if there is a decrease in employment opportunities or access to employment due to the Ranger 3 Deeps development.

The SIA process identified one very-high, four high and one medium-rated opportunities and one medium-rated risk that could *directly* contribute to these outcomes. The greatest opportunities are that Ranger 3 Deeps could enable ERA to maintain levels of direct employment at Ranger, both for indigenous and non-indigenous people (O-9.2 and O-9.8), as well as indirect employment through associated businesses and contractors (O-9.1). Ranger 3 Deeps also enables the continuation of direct education, apprenticeships and training partnerships with West Arnhem College (O-9.6), as well as the direct and indirect support of organisations such as the GAC to continue social programmes which support local and regional skills development (O-9.7). In addition, partners of ERA employees and families that reside in Jabiru may bring skills and experience to the region that could benefit other businesses (O-9.4).

The risk relates to the potential for a delay in Jabiru's transition to a balanced regional skills base and post mining economy due to continued dependence on direct and indirect employment from Ranger (R-9.1).

All other risks and opportunities identified in this chapter have the potential to *indirectly* affect access to employment.

Figure 20 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and access to employment and the capacity of the region's workforce.

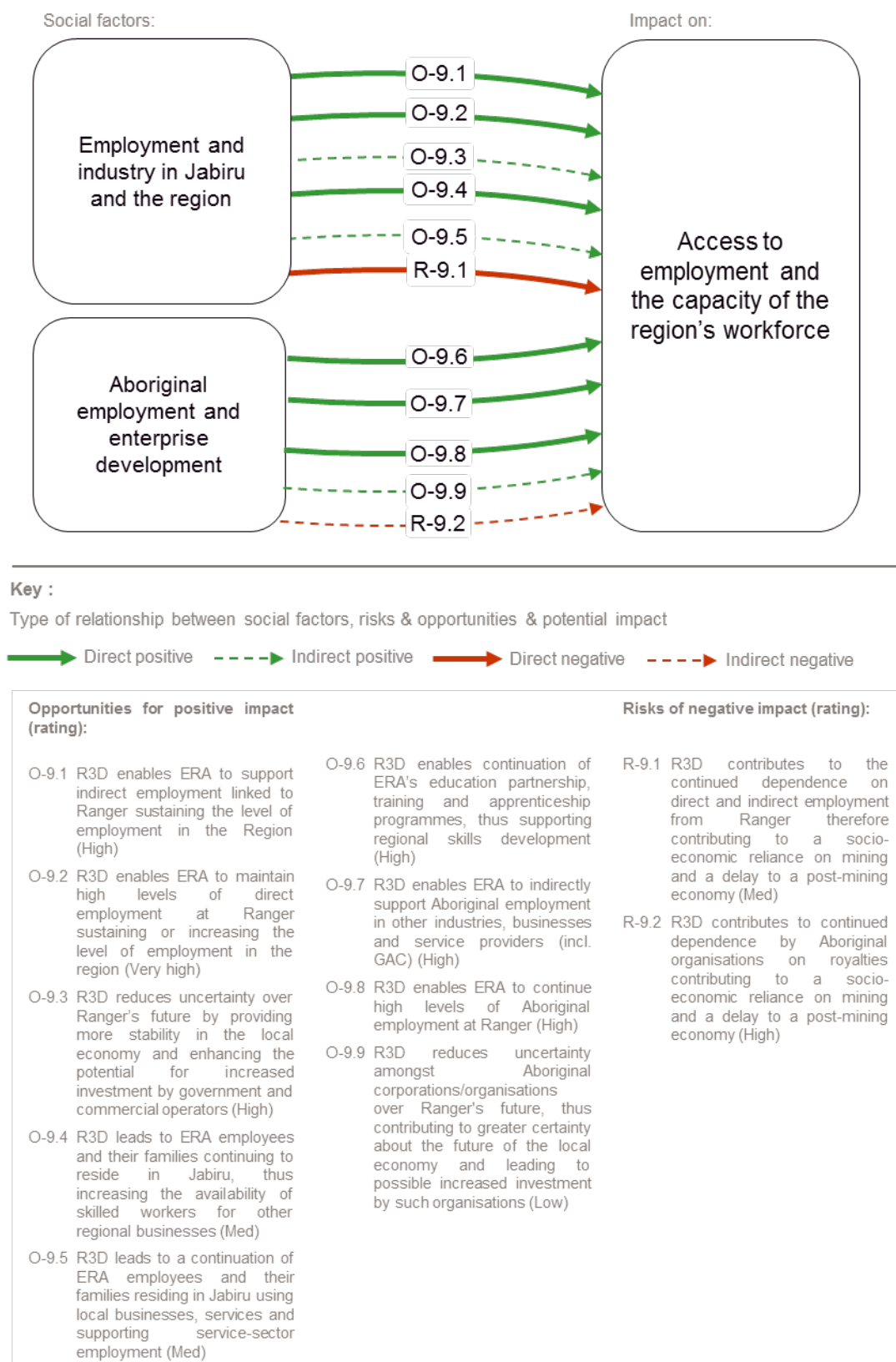


Figure 20: Impact map – access to employment and the capacity of the region's workforce

Overall, the Ranger 3 Deeps development presents strong opportunities to enable the continuation and potential growth of employment opportunities and skills development.

In order to realise the opportunities and manage the risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including the community partnership fund, education partnership, in-kind and discretionary funding.
- Workforce management procedures, including employing locally where possible.
- Human resources policies such as diversity policy and indigenous employment programmes.
- Pre-employment programmes such as school-based apprenticeships, vocational education training and traineeships.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there is also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to access to and availability of employment, as well as skills and capacity development. They include,

- decisions by other organisations and businesses to close or expand, which may have an impact on regional employment availability;
- ERA's decision-making regarding operations or activities unrelated to the Ranger 3 Deeps development but relevant to other aspects of the operation such as rehabilitation, closure or expansion of FIFO accommodation; and
- the quality of partnership organisations or other businesses in delivering training and capacity building to ERA employees, trainees, students or apprentices.

9.2.2.2 The diversity and resilience of businesses and industries in the region

Other industries and businesses operating in Jabiru and the region may be positively impacted by Ranger 3 Deeps as its development assists with business certainty, employee opportunities and possibly the promotion of business diversity and resilience. However, other businesses and industries may also experience a loss of available employees or sustained uncertainty. These contributing factors could lead to lack of investment, business vulnerability and loss of resilience, which may reduce the number of businesses and industries operating in Jabiru and the region.

The SIA process identified three high, one medium and one low-rated opportunity, as well as one high and one medium-rated risk that could *directly* contribute to these outcomes. Firstly, the development may enhance business and industry diversity and resilience by providing indirect employment and supporting other businesses and industries to enhance indigenous employment opportunities (O-9.1, O-9.7). Secondly, the development may enhance business and industry diversity and resilience through ERA employees and families using local businesses and services (thus supporting service sector employment) (O-9.5). Thirdly, the Ranger 3 Deeps development may support greater economic certainty in the region, allowing for better business planning, decision-making and regional investment by other commercial operators, government and Aboriginal organisations (O-9.3 and O-9.9).

Conversely, the Ranger 3 Deeps development has the potential to further embed reliance on ERA for local and regional employment as well as royalty distribution and benefits (particularly those royalty streams associated with ERA's 2013 Ranger Mining Agreement with Traditional Owners) (R-9.1 and R-9.2).

Other risks and opportunities identified in this chapter have the potential to *indirectly* affect diversity and resilience of businesses and industry in the region.

Figure 21 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the diversity and resilience of businesses and industries in Jabiru and the region.

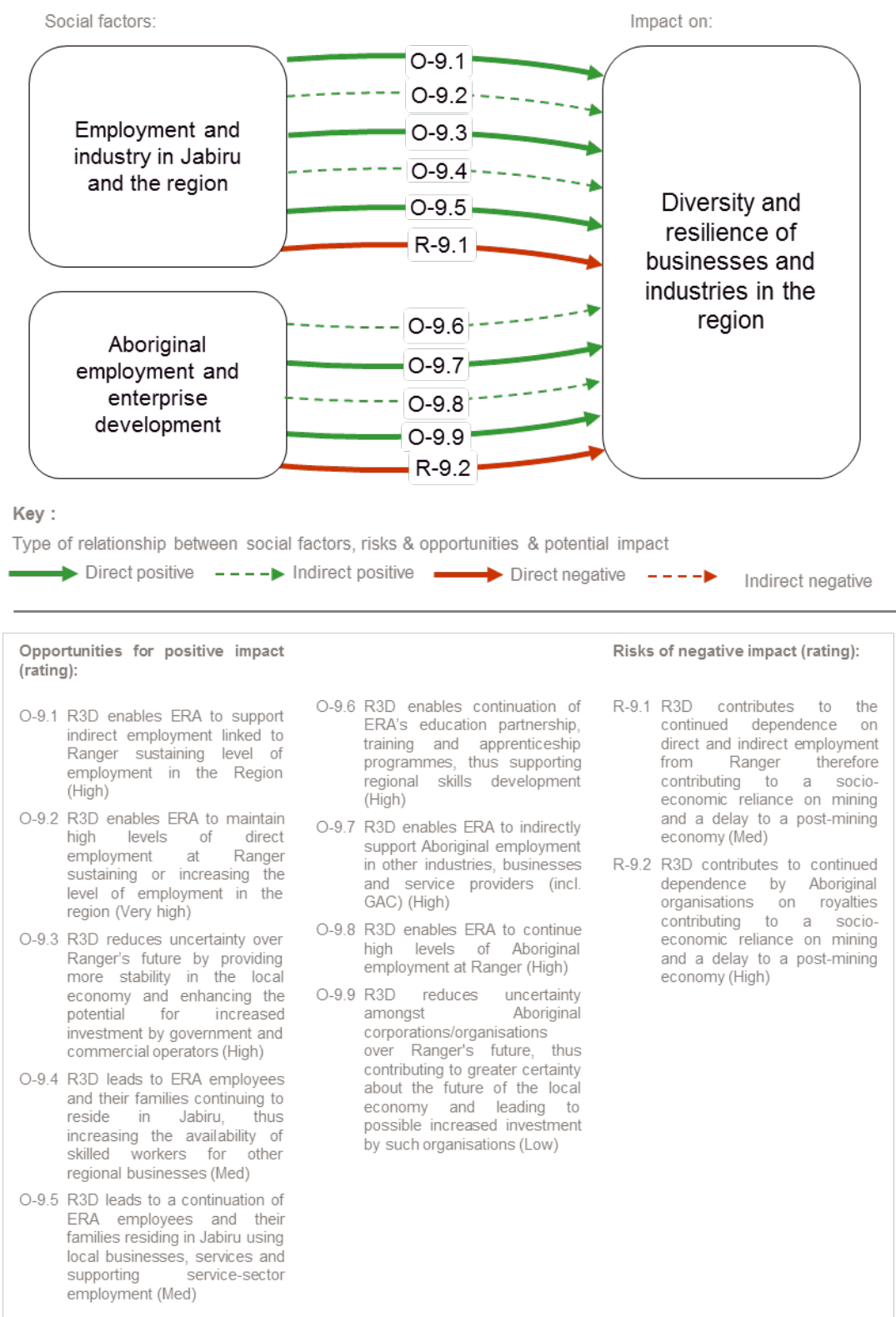


Figure 21: Impact map - the diversity and resilience of businesses and industries in the region

Overall, the Ranger 3 Deeps development presents a range of strong opportunities, with fewer risks, for contributing to the diversity and resilience of business and industry in Jabiru and the region.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations activities, including with services providers and businesses, such as quarterly business updates and communications plan.
- Local and regional procurement commitment.
- Human resources policies, such as the diversity policy and procurement policy.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are a range of other activities in the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the diversity and resilience of businesses and industries in the region. These include,

- decisions made by local organisations and businesses to either close down or expand. This may have an impact on other businesses regarding diversity or business certainty, and their ability to adapt to a changing business environment;
- fluctuations in tourism numbers and the ability for related businesses and industries to adapt to changes;
- ERA's decision-making regarding operations or activities unrelated to the Ranger 3 Deeps development but relevant to other aspects of the operation such as rehabilitation, closure or expansion of FIFO accommodation which have an impact on local and regional, businesses; and
- decisions made by the Council which have implications for local and regional business and industry.

10 THE DISTRIBUTION OF BENEFITS AND SOCIAL EQUITY

This chapter considers potential social impacts relating to the distribution of benefits and social equity relevant to the Ranger 3 Deeps development. This includes social impacts relating to the distribution and use of mining royalties and other potential social benefits such as improvements to living conditions, access to services and facilities, and health and education outcomes. While many of these issues are also discussed in other chapters, this chapter looks more holistically at the extent to which benefits are realised and distributed across different sectors of the community.

Social equity is defined in the SIA with reference to the concept of sustainable development.¹⁶³ In *Our Common Future*, the report published by the World Commission on Environment and Development in 1987 (widely known as the Brundtland Report), social equity was identified as one of the “three pillars” of sustainable development alongside environmental protection and economic development (Drexhage & Murphy 2012, p.2).¹⁶⁴ In this context, it is generally understood that “equity implies a need for fairness (not necessarily equality) in the distribution of gains and losses, and the entitlement of everyone to an acceptable quality and standard of living” (Beder 2000, p.2).

The benefits arising from resource development are often distributed unevenly across and amongst different sectors of the community (Pattenden, Everingham & Oñate 2011). This can result in the exacerbation of existing social inequity or the introduction of new disparities, and can contribute to tension and conflict in the community. Often it is the most vulnerable groups in a community that bear the greatest cost of development, and are unable to share in benefits due to limited influence and resources. Whilst it is primarily the responsibility of governments to manage the distribution of benefits from resource developments, the decisions and actions of the developers themselves can also have significant influence over the outcomes.

It is important to note that it is not possible for this SIA to draw conclusions on what a ‘fair’ distribution of benefits might be; that is a matter for wider societal and political debate. This SIA can, however, highlight a range of viewpoints requiring attention when considering fair and equitable outcomes from the Ranger 3 Deeps development.

¹⁶³ The concept of social equity has wide and varying interpretations across a range of different fields and disciplines see: <http://www.socialequity.unimelb.edu.au/what-is-social-equity/>.

¹⁶⁴ The concept of social equity was adopted by all levels of Australian government through the 1992 National Strategy for Ecologically Sustainable Development which included a ‘core objective’ to “provide for equity within and between generations”. This Strategy continues to inform government policy today, providing “broad strategic directions and framework for governments to direct policy and decision-making. The strategy facilitates a coordinated and co-operative approach to ecologically sustainable development and encourages long-term benefits for Australia over short-term gains” (Department of the Environment 2014a).

10.1 BACKGROUND

10.1.1 Current state of the distribution of benefits and social equity

The current state of the socio-economic environment, including service delivery, in Jabiru and the region is discussed in other chapters of this report, particularly Chapters 5, 6, 7 and 8. Of specific relevance to this chapter are, as detailed below: the mining royalty distribution system established by the Commonwealth through the ALRA and Aboriginal Benefits Account (ABA); the distribution of royalties to Aboriginal people by royalty-receiving organisations established under the ALRA; socio-economic disparity in the region; and the delivery of services and infrastructure.

The benefits flowing from Ranger are largely governed by the ALRA and agreements made pursuant to it that determine the value of royalties from Ranger to the Commonwealth and Aboriginal interests.

The present royalty arrangements for Ranger are established in the *Ranger Uranium Mining Project – Section 44 Agreement Amendment and Restatement Deed* of 14 January 2013 (the 2013 agreement). The 2013 agreement updates the 1978 Ranger Uranium Project Section 44 Agreement (1978 Agreement) which was finalised after 13 years of negotiation.¹⁶⁵ The parties to the agreements¹⁶⁶ include ERA, the Mirarr Traditional Owners (and the GAC), the NLC and the Commonwealth Government. ERA's Australian Securities Exchange announcement dated 24 January 2013 notes the following about the content of the agreements:

Mr Atkinson noted that "The Mining Agreement does not contemplate the future of mining beyond the existing Ranger Authority. It covers the existing operations and addresses a range of historical issues. It also provides a structured approach for ongoing engagement and collaboration between the GAC and ERA on matters of mutual interest." Key features of the agreements include:

- Mirarr Traditional Owners will receive an increased share of the financial benefits from the Ranger mine;*
- A regional Sustainability Trust will deliver social initiatives in the local region. The GAC and ERA are represented on the Trust and will each contribute funds on an annual basis;*
- A Relationship Committee will be immediately established to ensure effective information sharing and review processes between ERA and GAC; and*
- An agreed approach to increasing opportunities for local Aboriginal participation in business development, training and employment (ERA 2013c).*

¹⁶⁵ The 1978 Agreement was the subject of legal action between the NLC and Commonwealth for several years in the 1990s, ostensibly about the circumstances in which the agreement was reached and the scope and size of benefits and royalties established.

¹⁶⁶ Not all the parties are on each agreement.

The GAC press release dated 24 January 2013 referring to the same suite of agreements includes the following key statements,

... Importantly, the agreements cover existing operations on the Ranger Project Area. They do not deal with future mining beyond the existing Ranger Authority or underground mining at the so-called Ranger 3 Deeps deposit beneath Pit 3 ...

The agreements, among other things, establish a new social trust to provide socioeconomic initiatives to the region, and provide greater Mirarr input into Ranger's operation via a new relationship committee.

The finalisation of talks comes just two months after the ending of mining at Ranger Pit 3. Last week ERA applied to the Australian Government to mine uranium at Ranger 3 Deeps, converting the current exploration tunnel to an operational mine. A decision has yet to be made.

The executive officer of the GAC, Justin O'Brien said, "These agreements update the provisions of the original and unfair agreement imposed on the Mirarr in 1978. Almost immediately after its signing the NLC sought to overturn that agreement, which led to 13 years of litigation. The renegotiation of that 35-year old agreement has taken 14 years and comes in the twilight years of Ranger's current operation," he said. "The agreements do, however, provide the Mirarr and others with firmer and fairer footing upon which to tackle the social disadvantage of Aboriginal people across the region. The agreements also formally underscore the improving relationship between the traditional landowners, the mining company and government" (Gundjeihmi Aboriginal Corporation 2013d).

The suite of agreements covers all activities on the RPA through to 2026. Under the agreements, ERA makes royalty payments of 5.5% of net sales revenue from Ranger mine production (ERA 2013). The Commonwealth Government distributes royalty equivalents as follows:

- 1.25% is disbursed to the NT Government for use as general revenue.
- 4.25% is disbursed to NT based Aboriginal interests including,
 - o a proportion to the Aboriginal Benefits Account for the benefit of Traditional Owners as well as all Aboriginal people in the NT; and
 - o a proportion for the benefit of Traditional Owners (via the NLC) (ERA 2013; Scambary 2013, p.75).

Additionally, under the suite of agreements, ERA makes,

- annual contributions to the Kakadu West Arnhem Social Trust; and

- increased rental payments to the Traditional Owners.¹⁶⁷

Furthermore, ERA pays rates of \$1,130,000 per annum to the West Arnhem Regional Council (information provided by ERA).

The nature of the distribution of these royalties and benefits and their effects on equity across the region are discussed below.

10.1.1.1 Distribution of mining royalties by the Commonwealth

The payment of royalty money from mining on Aboriginal land is based on a distribution formula linked with functions of the Aboriginals Benefit Account (ABA), which is established under the ALRA.

A key issue relating to the distribution of benefits from mining throughout the NT is the operation of the ABA, which is a statutory account that has specific functions in relation to the ALRA.¹⁶⁸ The ABA was established to use royalties raised from mining on Aboriginal land for the benefit of all Aboriginal people of the NT.¹⁶⁹ Each year an equivalent amount of royalties paid to the Commonwealth Government for mining on Aboriginal land is paid to the ABA and then used for,

- initiatives of benefit to Aboriginal people living in the NT (beneficial payments at the discretion of the Commonwealth Minister for Indigenous Affairs);
- distribution to Traditional Owners who are affected by mining operations on their land (in the case of Ranger this is via the NLC to royalty associations such as the GAC, who then redistribute funds to their members and/or invest in social programmes);
- support of the administration of the statutory Land Councils;
- support for the acquisition and administration of land leases through the Office of Township Leasing; and
- support for the administration of the ABA (Department of Social Services 2012c).¹⁷⁰

¹⁶⁷ These payments were established through an agreement with the Commonwealth Government and NLC prior to 2013, revised under the suite of agreements in 2013.

¹⁶⁸ "The ABA is a Special Account for the purposes of the *Financial Management and Accountability Act 1997* (FMA Act). It is administered by the Department of Families, Housing, Community Services and Indigenous Affairs in accordance with the requirements of the Part VI of the ALRA" (Department of Social Services 2012c). Payments out of the ABA are made under Section 64 of the ALRA.

¹⁶⁹ Some specific provisions relating to royalties from uranium mining are covered in the Atomic Energy Act 1953; however, royalty amounts from uranium mining on Aboriginal land in the NT are still paid into the ABA.

¹⁷⁰ For more, see <http://www.dss.gov.au/our-responsibilities/indigenous-australians/programs-services/land-native-title/aboriginals-benefit-account-aba> and <http://www.nlc.org.au/articles/info/the-mining-industry-and-the-nlc/>.

The funds are distributed in the following percentages:

- 40% of the royalties to statutory Land Councils to fulfil their responsibilities under the ALRA (distributed on the basis of population, the NLC has historically received around 22%).
- 30% of the royalties to Aboriginal people affected by mining conducted on their land.
- 30% for the administration of the ABA and for distribution to Aboriginal people throughout the NT (Department of Social Services 2012c; Scambary 2013, p.75).

The above system of royalty distribution is intended to,

- balance the need for the Commonwealth to fund the administration of Land Councils for statutory functions;
- recognise the right of Traditional Owners to receive a proportion of royalties generated from their land; and
- enable the Commonwealth to retain the ability to spend royalties throughout the NT for the benefit of the wider NT Aboriginal population.

The broader system of benefit distribution established under the ABA reflects some of the same tensions as between local and regional distribution of monies seen in the distribution of funds from royalty associations such the GAC and, formerly, the Gagudju Association.

Some stakeholders raised criticisms about the system, for example, that the present arrangements with the ABA means that statutory Land Council funding is linked to mining revenue generated on Aboriginal land, and hence is linked to continued or new mining. Furthermore, the present ABA system means that the total sum of royalty money generated from Ranger on Mirarr land is not reflected in the royalties they receive, although it is noted that no land access compensation/royalty regime (indigenous or non-indigenous) in Australia sees the full sum of royalties generated from land returning to land owners.¹⁷¹ In addition, a significant percentage of royalty money is spent elsewhere in the NT, on initiatives the Mirarr and other affected Aboriginal people do not control or influence. The Commonwealth government has also been regularly criticised (including by the Aboriginal Social Justice Commissioner) over many years and many different administrations, on the use of the ABA not being in “accord with conditions included in relevant legislation” (Cleary 2012; Scambary 2013, p.77,78).

10.1.1.2 Distribution of royalties by the NLC and royalty receiving organisations

The distribution of royalties from Ranger has represented one of the most significant opportunities for positive change for Aboriginal people in the region. It has also long been associated with a range of social issues, particularly disputes about individual, family and clan entitlement to royalty money, whether royalties should be paid in cash and/or invested, and what social programmes should be funded (Information provided by ERA). However, it is important to be mindful that the above issues are seen across the whole of Australia where

¹⁷¹ Note that the Crown owns minerals under Commonwealth law. Therefore landowners, including Aboriginal landowners are compensated for access to the land, rather than for the minerals.

mining occurs on Aboriginal land and/or where mining benefits and royalty agreements are in place. For example, in recent years the Pilbara has been a flash point for disputes amongst and within Aboriginal groups over mining money. Similarly, in the NT, the Walpiri Traditional Owners of the Tanami mine have a long history of debate around distribution of royalties (Elias 2001). Disputes over distribution of royalties and other benefits from mining are also common in society more broadly, for instance in Western Australia the “Royalties for Regions” policy debate, and on a family level the ongoing dispute in the Rinehart family over access to and distribution of the Rinehart family trust’s mining wealth.

One of the more significant historic issues relating to royalty distribution from Ranger is the role of associations nominated by the NLC to manage the distribution of royalties. The Gagudju Association was first established in 1980 to perform this role, and was the primary royalty-receiving association for Ranger until the mid-1990s when disputes arising between the Gagudju Association, some Mirarr Traditional Owners and the NLC resulted in the NLC taking steps to establish the GAC (Scambary 2013, pp.116–118). At the time when it was a royalty association, the Gagudju Association’s membership included a broad group of Traditional Owners from the Kakadu region and others from the “area affected” by Ranger (including those in a “company relationship” with Traditional Owners). Importantly, the “area affected” had not been defined when the Gagudju Association’s membership was formed; this was a key source of debate. In March 1996, the NLC defined the “area affected” as consisting of the RPA Jabiru town lease, and the Magela floodplain “to the confluence of Magela Creek with the East Alligator River” (Aboriginal Project Committee 1997d, p.39).¹⁷² This effectively established the Mirarr as the primary clan group whose traditional lands are affected by Ranger.¹⁷³ The GAC, representing Mirarr Traditional Owners, replaced the Gagudju Association as the primary royalty-receiving association in 1995.

The exact circumstances of the shift from the Gagudju Association to the GAC are still the subject of significant debate. The 1997 KRSIS noted:

Membership of the Gagudju Association has been a constant source of tension and dispute. The definition of the “area affected” by the Ranger mine is the first of a series of questions that need to be addressed in order to determine the proper membership of a royalty-receiving association. That definition remains unsettled. Still more prominent as a result of dissatisfaction and dispute in recent years, is the question of special entitlements accruing to the traditional owners of a mine site itself, over those accruing to other affected peoples. Claims of entitlement to money

¹⁷² Significantly, Scambary notes the following about the NLC’s evolving approach to defining traditional owners groups in the 1990s,

Increasingly through the 1990s the NLC had come into dispute with Indigenous organisations it had established under the ALRA, particularly in relation to the issue of representation. Organisations such as Gagudju and the Jawoyn Association had expansive memberships that had a tendency to consume the specific land interests of sectors of their membership. Increasing sophistication in relation to the identification of traditional owners and consultation processes allowed the NLC to seek instruction from specific Indigenous groups, often without recourse, or against the wishes of such organisations. As such the NLC was often accused of undermining the authority of such organisations (Scambary 2013, p.117).

¹⁷³ The NLC still consults with Aboriginal people in the region broadly to fulfil its statutory role to consult with other “affected aboriginal people”.

are a manifestation also of a claim to respect (Aboriginal Project Committee 1997e, p.38).

During the SIA consultation, it was evident that some tension still exists about royalty distributions, for example, statements were made questioning how tightly or broadly the royalty receiving group should be defined. For instance, different ideas about how traditional ownership should be defined, including views on kinship and ceremonial obligations, were discussed in the context of the narrowing of the royalty receiving group. Such views were also put forward in the context of discussion and debate about greater regional equity and/or the specific development needs of an area. However, it is important to note such discussion and debate is common across the whole of Aboriginal Australia where distribution of benefits from mining occurs. For statutory land councils like the NLC, and royalty associations such as the GAC, it is standard business to engage on these issues on a weekly, if not daily basis. Consequently, the presence of debate does not necessarily suggest inequity, rather it is a common outcome of royalties being part of the economic life a community.

The GAC's status as the royalty association linked to Ranger was not questioned in any official capacity by any key stakeholder organisation during the SIA consultation.

Under the ALRA, all money paid to statutory land councils arising from mining agreements is held in trust by the land council for Traditional Owners. In the case of Ranger, the NLC receives royalty funds from the Commonwealth and then passes the money onto the GAC.¹⁷⁴ Royalty associations must abide by a number of reporting obligations and other rules which, if not followed, may lead to the land council suspending or cancelling further payments (Central Land Council 2014).

As the identified royalty recipient organisation with respect to Ranger (Gundjeihmi Aboriginal Corporation 2013a, p.3), the GAC's income from payments from the Commonwealth (via the NLC, in turn based on royalties paid from the Ranger operation), is considerable. The implications of its decisions regarding expenditure are therefore one of the most influential determinants of socio-economic status and equity in the region.

In the 2011-12 financial year, the GAC's "receipts from royalties" were \$5,793,760, rising to \$27,171,080 in 2012-13 (Gundjeihmi Aboriginal Corporation 2013b, p.13) following the negotiation of the 2013 Agreement which provided a "significant injection of immediate funds and an improved royalty equivalent receipt in future years" (Gundjeihmi Aboriginal Corporation 2013b, p.3).

Under the 2013 Agreement, the GAC directs a considerable portion of received royalties to the Kakadu West Arnhem Social Trust, in addition to other social programmes and investments.

During SIA consultation, it was reported by a number of participants that the GAC has historically distributed money in cash to its own members, as well as to members of the Gagudju Association (in the period after 1996). These cash payments were commonly linked to mining royalties by interviewees.

¹⁷⁴ Following receipt of royalty funds from the Commonwealth, the Land Council must pay the money to Traditional Owners (as determined by the land council) within six months of receiving it. The funds are typically paid to royalty associations that have rules about membership and how the money can be spent.

Regional Aboriginal peoples reported during SIA consultation that they had stopped receiving cash payments from the GAC towards the end of 2013. The causes of this change were not made clear during consultation, but it was perceived by a number of SIA participants to be due to the social issues arising historically from cash payments and a move to longer-term social investments by the GAC. In the absence of cash payments, regionally affected Aboriginal peoples therefore receive benefits from Ranger only through initiatives targeted at the regional Aboriginal population, as well as through other indirect benefits (e.g., ERA initiatives). Stakeholders interviewed reported that the GAC continues to make cash payments to its members twice a year.

Banarra was unable to confirm the exact nature of cash payments made by the GAC to indigenous people within the region during the SIA, however the frequency with which the matter was raised by stakeholders (both indigenous and non-indigenous) suggests the issue is worthy of note in this report.

10.1.1.3 Socio-economic disparity in the region

The region is similar to most other parts of the NT and Australia in that high levels of socio-economic disadvantage persist amongst Aboriginal people. In the most recent census (2011), the West Arnhem Local Government Area ranked 25th out of 546 local government areas across Australia on the Index of Relative Socio-economic Disadvantage, and 8th out of 16 within the NT (Australian Bureau of Statistics 2011h) (see also Chapter 6). This places the region in the top 5% of the most disadvantaged regions across Australia, and midway within the NT. Two major studies done on the social impacts of mining in the region in 1985 and 1997 concluded that the region as a whole had not materially benefited from the presence of Ranger (Aplin 2004).

In contrast to the region, Jabiru¹⁷⁵ is positioned within the middle of the Index of Relative Socio-economic Disadvantage (Australian Bureau of Statistics 2011h) when compared to other localities across both Australia and the NT. The difference in rankings between Jabiru and the broader region suggests a significant disparity in factors such as standard of living, educational attainment and health between Jabiru residents (predominately non-Aboriginal people employed by Ranger, local social services or government agencies) and the wider, predominantly Aboriginal, ARR population.

Such disparity is not unusual in mining contexts, but is notable when considering the distribution of benefits from Ranger across its host region. The distribution of benefits since Ranger's establishment has been strongly debated, and considered by some to have contributed to a range of negative social issues, such as increased anti-social behaviour linked to alcohol consumption and the creation of dependence on royalty monies as a means of livelihood (Wilson 1997).

Some of the social benefits for local and regional communities arising from Ranger are discussed in previous chapters, and include development of infrastructure and services, employment, business opportunities, royalties, and specific payments for identified initiatives, directly, and through the Kakadu West Arnhem Social Trust. However, the extent to which the potential benefits of Ranger have been realised is called into question by the level of

¹⁷⁵ The 13.4 square kilometre Statistical Local Area (SLA) of West Arnhem (S) – Jabiru (710154663)

social disadvantage that persists today amongst Aboriginal people of the region. It is also worth noting that Aboriginal people in the region have historically received royalties from the now closed Nabarlek mine (opened in 1979 and decommissioned in 1995) and they continue to receive KNP gate revenue (Department of the Environment 2014e).

The findings from the *Social Impact of Uranium Mining Project* undertaken by AIATSIS¹⁷⁶ between 1979 and 1984 found mixed results in terms of the extent to which the positive impacts anticipated in the Fox Inquiry had been realised (Australian Institute of Aboriginal Studies et al. 1984). Most notably, in relation to social equity, the study concluded that while the development of Ranger (and the significant royalties paid to Aboriginal peoples deemed 'affected' by the development) had not reduced Aboriginal poverty, it had provided "moneys [sic] with which Aborigines can, and do, buy more alcohol" and had "produced a desire for and a greed about money, in deleterious ways" (Australian Institute of Aboriginal Studies et al. 1984).

The 1997 KRSIS also raised concerns regarding social issues in the region, finding that: "Statistical indicators show the social problems of the region to be unimproved since the 1980s and similar to those of neighbouring communities" (Aboriginal Project Committee 1997e, Executive Summary). The study identified needs related to housing and outstation infrastructure in the region, health and nutrition, alcohol-related issues, accessibility of education, support for traditional ceremony and other social activities, and training and employment. The study also discussed problems arising "as a consequence of the need for Aboriginal people to organise themselves to manage the benefits of mining", including unresolved tensions and disputes relating to the definition of the "area affected" and the membership of the royalty-receiving association, which at that time was the Gagudju Association. The contested nature of the distribution of benefits between Traditional Owners of the RPA and other affected peoples was also highlighted (Aboriginal Project Committee 1997e, Executive Summary).

The scale of monetary benefit that has flowed from Ranger since its establishment is reported variously as follows: ERA reports that it has contributed \$445 million, of which \$100 million has been to the Commonwealth and Territory Governments, and \$345 million to Aboriginal interests¹⁷⁷ (provided by ERA); Scambary reports that Ranger has contributed \$207.7 million to the Aboriginals Benefit Account since its establishment (Scambary 2013, p.75); and the Australian Uranium Association reports a total of \$226 million in royalties from 1980 to 2009 (Australian Uranium Association 2009). This figure does include rent money or other non-royalty cash amounts paid to Traditional Owners directly or indirectly by ERA.

The extent to which these mining royalties have been invested by the GAC and Commonwealth and NT Governments for the overall benefit to Aboriginal people in the region is contested. The CEO of the GAC recently stated:

Despite three decades of mining royalties, the socio-economic standing of local indigenous people remains below that of the NT average and well below the national standard. It is only in very recent years that income from Ranger has been

¹⁷⁶ At the time called the Australian Institute of Aboriginal Studies.

¹⁷⁷ Note that, in 2013, the GAC received a direct payment from the ABA.

adequately invested in social and cultural development programmes (Gundjeihmi Aboriginal Corporation 2012).

As suggested by this statement, there are signs that the situation has recently started to change. For example, the recent 2013 suite of agreements have provided the opportunity for the GAC to direct royalties away from cash payments to investments and social development programmes, as has the establishment of the Kakadu West Arnhem Social Trust.¹⁷⁸

However, even with these changes it was evident through the SIA consultations that the Mirarr and GAC continue to hold the long-standing view that royalties cannot redress the historic and ongoing impact of Ranger being developed without their consent on their traditional country. In an interview with GAC representatives it was noted that,

The Jabiluka history has now become intergenerational to protect that valley. I've sought to open up discussion with the Mirarr to make sure I know what viewpoint they have. They believe they don't need all the 'good' things that come with mining, they don't need it, they don't want it. And it's the same on Ranger 3 Deeps – it's their call.

10.1.1.4 Delivery of and access to services and infrastructure

It is widely recognised that the provision of services and infrastructure by Ranger and other organisations has been of general benefit to the region. Previous studies have identified, however, that the region has received fewer government services, due to royalty money or direct investment by ERA supplanting services or funding that government in most cases would ordinarily provide. For example, the *Community Report* in 1997 KRSIS stated:

The Commonwealth notes that the KRSIS found that Aboriginal people in the Kakadu region may not be much better off than people in regions where there are no funds derived from mining and tourism. The Commonwealth notes the conclusion that this is possibly attributable to an unintentional substitution of mining and tourism incomes for monies from governments that are intended for social welfare and service (Collins 2000, p.62).

Similarly, the 1997 Senate inquiry, *Impact of Uranium Mining on Aboriginal Communities in The Northern Territory*, noted:

There is a concern that royalty equivalent monies is used to provide for services that would otherwise be provided by government. The NLC states that "Aboriginal people are forced to consider the mining of their land in order to meet the citizenship rights which are available to other non-Aboriginal Australians." While some believe that royalty equivalent monies allow Aboriginal people access to health, housing and other services, others argue that these are basic rights available to other Australians and they do not have to give up their land to get them (Wilson 1997).

¹⁷⁸ It is noted however that initiatives established such as the Djidbidjidi Residential College and Children's Ground are in still in their early stages and publically available material on their progress and impact is not yet available.

10.1.2 Ranger's past and present contributions to social change

Social change related to socio-economic equity in the region is inextricably linked to the activities of Ranger, particularly the distribution of mining royalties and Ranger's role as infrastructure provider. The following are key areas in which actions taken by Ranger have contributed to current socio-economic advantage and disadvantage, much of which has been discussed in detail above:

- The generation of royalties for distribution to the Commonwealth and NT Governments, Traditional Owners and NLC.
- The establishment and implementation of the 2013 Agreement, providing for an increase in royalties, establishment of the Relationship Committee with GAC and establishment of the Kakadu West Arnhem Social Trust (amongst other measures).
- The provision of funding for the Kakadu West Arnhem Social Trust and participation on its board.
- The provision of other community relations initiatives, including the community partnership fund, education partnership, in-kind and discretionary funding.
- The generation of direct and indirect employment opportunities in Jabiru and the Region.
- The provision of infrastructure including housing and electricity in Jabiru.
- A potential reduction in government expenditure in Jabiru due to ERA infrastructure and service provision. Whether redirection of government funds can be directly attributed to Ranger remains subject to debate. Remote and regional Australia is replete with communities and towns, with and without mining, that have been subject over time to inconsistent government decision-making in relation to funding for infrastructure and services.

10.1.3 Other activities contributing to social change

Other activities that have contributed to social change regarding socio-economic equity and the distribution of benefits primarily relate to the actions of government and royalty-receiving organisations. The following are key activities or outcomes that have contributed to change:

- The shift between 1994 and 1996 whereby the responsibility for receiving and distributing royalties was passed from the Gagudju Association to the GAC (Scambary 2013, p.77).
- The GAC's governance and decisions regarding distribution and investment of royalties and rental payments, including the investment from 2012 into initiatives such as the Djidbidjidbi Residential College, and the end of cash payments to Gagudju Association members from late 2013.
- The GAC's governance over its initiatives, including provision of services to other (non-Mirarr) affected Aboriginal peoples.
- Warnbi's management of outstation infrastructure.

- The establishment and governance of the Kakadu West Arnhem Social Trust.
- The NT government and Council's provision of services and infrastructure requisite to the needs of the regional population.
- The agency and capacity of those receiving royalties, welfare payments or salaries to invest in their own future.
- Legislative, government policy and administrative changes including:
 - o the Commonwealth Government's decisions regarding distribution and investment of Ranger royalties through the Aboriginal Benefits Account;
 - o the NT Government's administration of received Ranger royalties;
 - o the establishment of the government welfare system and associated community development initiatives from the 1970s onwards; and
 - o the Commonwealth Government's Northern Territory National Emergency Response into the management of various areas of Aboriginal policy and governance.

10.2 SIA FINDINGS

This section summarises the SIA findings relating to the distribution of benefits and social equity. As previously discussed, Ranger 3 Deeps would be developed in an environment with considerable inequity and continued debate over the distribution of mining royalties.

In relation to the distribution of benefits and social equity, the Ranger 3 Deeps development has the potential to impact both positively and negatively on the,

- quality of life of Aboriginal people in the region;¹⁷⁹ and
- sense of equity amongst Traditional Owners and other Aboriginal peoples regarding the distribution of benefits from Ranger.

The SIA has identified seven opportunities and four risks for the Ranger 3 Deeps development to contribute to these impacts. These opportunities and risks relate to the following social factors:

- Access to socio-economic benefits of Ranger.
- Social and political participation.

Section 10.2.1 describes each of these social factors and presents the related opportunities and risks. Section 10.2.2 then discusses the ways these opportunities and risks could contribute to positive and negative impacts.

¹⁷⁹ "WHO defines Quality of Life as Individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment" (World Health Organization 1997, p.2).

10.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

10.2.1.1 Access to socio-economic benefits of Ranger

The potential for mining royalties to deliver socio-economic benefits to communities in the region is both a significant opportunity and one of the greatest challenges for Ranger, as is equity of access to those benefits.

As discussed above, ERA's responsibilities in relation to the payment of mining royalties until 2026 is determined through the 2013 suite of agreements, and while they do not make direct reference to the Ranger 3 Deeps development, it is understood from ERA that they apply to all Ranger activities conducted on the RPA through to 2026. This means that the potential for Ranger 3 Deeps to influence social change primarily relates to the effects of the continuation of the present royalty arrangements.

ERA is not responsible for determining how Ranger royalties are distributed. However, ERA has made, and continues to make, considerable contributions through investments in initiatives both directly (e.g., through the education partnership), and indirectly (e.g., through the Kakadu West Arnhem Social Trust).

ERA has also had significant influence over housing and other infrastructure in Jabiru due to its role as the major economic stakeholder, as well as being the owner of, or historically having funded and/or built most of the infrastructure and housing in Jabiru.¹⁸⁰

Whilst it is recognised that initiatives, services and infrastructure provided or supported by Ranger have been of general benefit to people across the region, the SIA consultations identified concerns about equity in access to these benefits, and how they will be delivered in the near and long-term future. Particular issues raised by stakeholders during the SIA included the following:

- Lack of access to housing and concerns and/or uncertainty about how housing is allocated.
- Lack of understanding about whether GAC-funded social initiatives are accessible to the regional Aboriginal community or restricted to Mirarr people and affiliates only.
- Disparity in living conditions between Manaburduma, outstations and Jabiru.
- Access to quality services and infrastructure outside Jabiru, including education for outstation residents in the wet season.

The SIA identified four opportunities and three risks for Ranger 3 Deeps relating to the socio-economic benefits of Ranger, as detailed in Table 26(following page).

¹⁸⁰ Refer to Chapters 5 and 8 for further information.

Table 26: Risks and opportunities relating to access to socio-economic benefits of Ranger

Opportunities	Risks
O-10.1 Continuation of royalties due to Ranger 3 Deeps results in improved socio-economic circumstances for Traditional Owners and other affected Aboriginal people (Low)	R-10.1 The distribution of royalties from Ranger 3 Deeps exacerbates tensions and conflicts between Traditional Owners and other affected people regarding equity in the distribution of benefits from Ranger (High)
O-10.2 Through continued revenue, royalties and presence in Jabiru, Ranger 3 Deeps enables ERA to leverage relationships and networks to reduce socio-economic inequity across the region (High)	R-10.2 Royalties associated with Ranger 3 Deeps contribute to a decline in the socio-economic well-being of Mirarr and other affected Aboriginal people (Med)
O-10.3 Ranger 3 Deeps enables the continuation of social initiatives funded/administered by the GAC from royalties (High)	R-10.3 Continuation of royalties as a result of Ranger 3 Deeps contributes to continued social cohesion challenges, including alcohol use, violence and other forms of antisocial behaviour (High)
O-10.4 Ranger 3 Deeps creates opportunities to contribute to improvements in access to social services, including education, through changes in policy, increased investment or support (Med)	

10.2.1.2 Social and political participation

Issues relating to social and political participation have been discussed previously in a number of chapters.¹⁸¹ They are discussed in this section in order to specifically consider equity in social and political participation, particularly as it relates to the distribution of benefits.

It is generally understood that social equity is best achieved through processes supporting and encouraging the participation of relevant or affected stakeholders. Rio Tinto's Sustainable Development Strategy, for example, notes that "a culture of trust and transparency is key to successful mineral development that brings benefit to all parties ... through honest engagement with all our stakeholders" (Rio Tinto 2012a).

The SIA consultation indicated that Aboriginal residents in the region have considerable concerns about their ability to participate in social and political life (as noted in chapter 5) and the resulting inequity. Concerns included,

- the fraught, distrustful and uncertain communication between ERA, the Mirarr (and GAC) and other affected peoples;
- their desire or ability to participate meaningfully in consultation and approvals processes relating to Ranger 3 Deeps (including this SIA) within required timeframes;
- the role of Aboriginal associations and key community leaders in decision-making, and their capacity to reconcile and fairly represent the views of different sectors of the community; and

¹⁸¹ Chapter 2 considers social and political participation in relation to Aboriginal cultural values. Chapter 3 considers it in relation to specific rights of social determination and processes of FPIC, and Chapter 5 in relation to formal governance and administration of the Region.

- divisiveness, conflict or disagreement between different Aboriginal groups or representative bodies, reducing the effectiveness of their involvement.

Activities specifically relating to the Ranger 3 Deeps development are unlikely to result in any significant change to current levels of engagement and involvement of Aboriginal people in the region and their representative bodies. As a result, Ranger 3 Deeps is likely to affect the distribution of benefits and social equity largely only through the continuation of existing processes that involve participation from the Mirarr, the GAC, the NLC and other Aboriginal groups in the region.

The SIA identified three opportunities and one risk for Ranger 3 Deeps relating to social and political participation, as detailed in Table 27 below.

Table 27: Risks and opportunities relating to social and political participation

Opportunities	Risks
O-10.5 Ranger 3 Deeps results in continuation of the role and resources of GAC (as the royalty receiving organisation) enabling the strengthening of its financial position and governance capacity (Med)	R-10.4 Ineffective communication regarding Ranger 3 Deeps royalty distribution leads to conflict or distrust between ERA and other stakeholders (Low)
O-10.6 Improved communication regarding Ranger 3 Deeps royalty distribution improves relationships between ERA and other stakeholders (Low)	
O-10.7 Participation of Traditional Owners and other affected Aboriginal people in decision-making related to Ranger 3 Deeps increases their sense of empowerment and engagement (Low)	

10.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on two areas in relation to the distribution of benefits and social equity, each discussed in detail below:

- The quality of life of Aboriginal people in the region.
- Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger.

10.2.2.1 The quality of life of Aboriginal people in the region

Aboriginal people in the region could be positively impacted if Ranger 3 Deeps and/or associated activities, such as the investment of royalties, create new opportunities to improve their quality of life, thus reducing the socio-economic disadvantage experienced across the region. They could be negatively impacted if quality of life is reduced through actions associated with Ranger 3 Deeps.

The SIA process identified two high, one medium, and one low-rated opportunity, and one high and one medium-rated risk that could *directly* contribute to these outcomes. The opportunities for improvements in the quality of life of Aboriginal people in the region are through the continuation or improvement of social initiatives funded through royalties (O-10.1 and O-10.3), improvements in access to services (O-10.4), and the utilisation of ERA's

leverage to reduce inequalities across the region (O-10.2). The risks presented relate to the potential for royalties to lead to an overall decline in socio-economic well-being of Aboriginal people across the region (R-10.2) or to continued social cohesion challenges such as alcohol use (R-10.3).

Other opportunities and risks identified in this chapter have the potential to *indirectly* affect the quality of life of Aboriginal people, primarily through changes to social and political participation.

Figure 22 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the quality of life of Aboriginal people in the region.

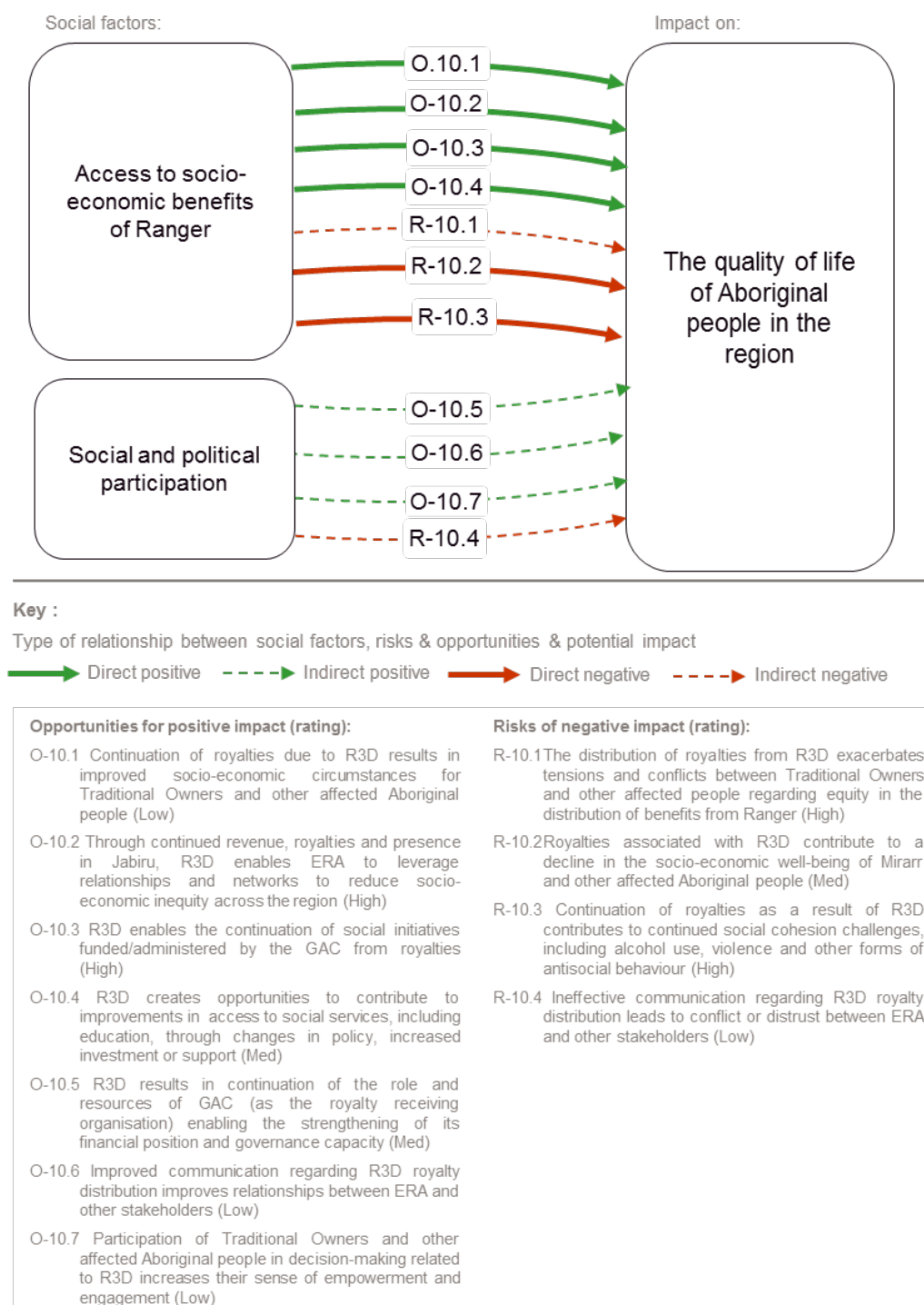


Figure 22: Impact map - the quality of life of Aboriginal people in the region

The Ranger 3 Deeps development primarily presents opportunities to improve the quality of life of Aboriginal people in the region through the distribution of benefits, balanced by a smaller number of risks.

In order to realise these opportunities and mitigate risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, community partnership fund, education partnership, in-kind and discretionary funding.
- Engagement with the GAC, NLC and Traditional Owners through agreed mechanisms, such as the MOU and 2013 Agreement.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the quality of life of Aboriginal people in the region. They include,

- ERA's decision-making regarding operations or activities unrelated to Ranger 3 Deeps, such as development of additional infrastructure used by the public;
- management of initiatives and services by service providers, government and Aboriginal Corporations;
- the administration of the Aboriginal Benefits Account by the Commonwealth government; and
- decisions by Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

10.2.2.2 Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger

Aboriginal people in the region could be positively impacted if they perceive that Ranger 3 Deeps activities lead to an improvement in the equitable distribution of benefits from Ranger, or they could be negatively impacted if the opposite occurs.

The SIA process identified one high, one medium and three low-rated opportunities, and one high and one low-rated risk that could *directly* contribute to these outcomes. The opportunities for an improved sense of equity regarding the distribution of benefits from Ranger relate to the potential for the utilisation of ERA's leverage to reduce inequalities across the region (O-10.2), the continuation or improvement of social initiatives funded through royalties (O-10.1), improved access to social services (O-10.4) and improvements in communication with, and participation of Aboriginal peoples in decision-making (O-10.6 and O-10.7). The high-rated risk identified relates to the potential that existing tensions and conflicts in relationships between Aboriginal peoples is exacerbated through continuation of the existing royalty regime (R-10.1). Furthermore poor communication regarding royalty distribution might also reduce the quality of ERA's relationship with its stakeholders (R-10.4).

Other risks and opportunities identified in this chapter have the potential to *indirectly* affect the quality of life of Aboriginal people.

Figure 23 illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger.

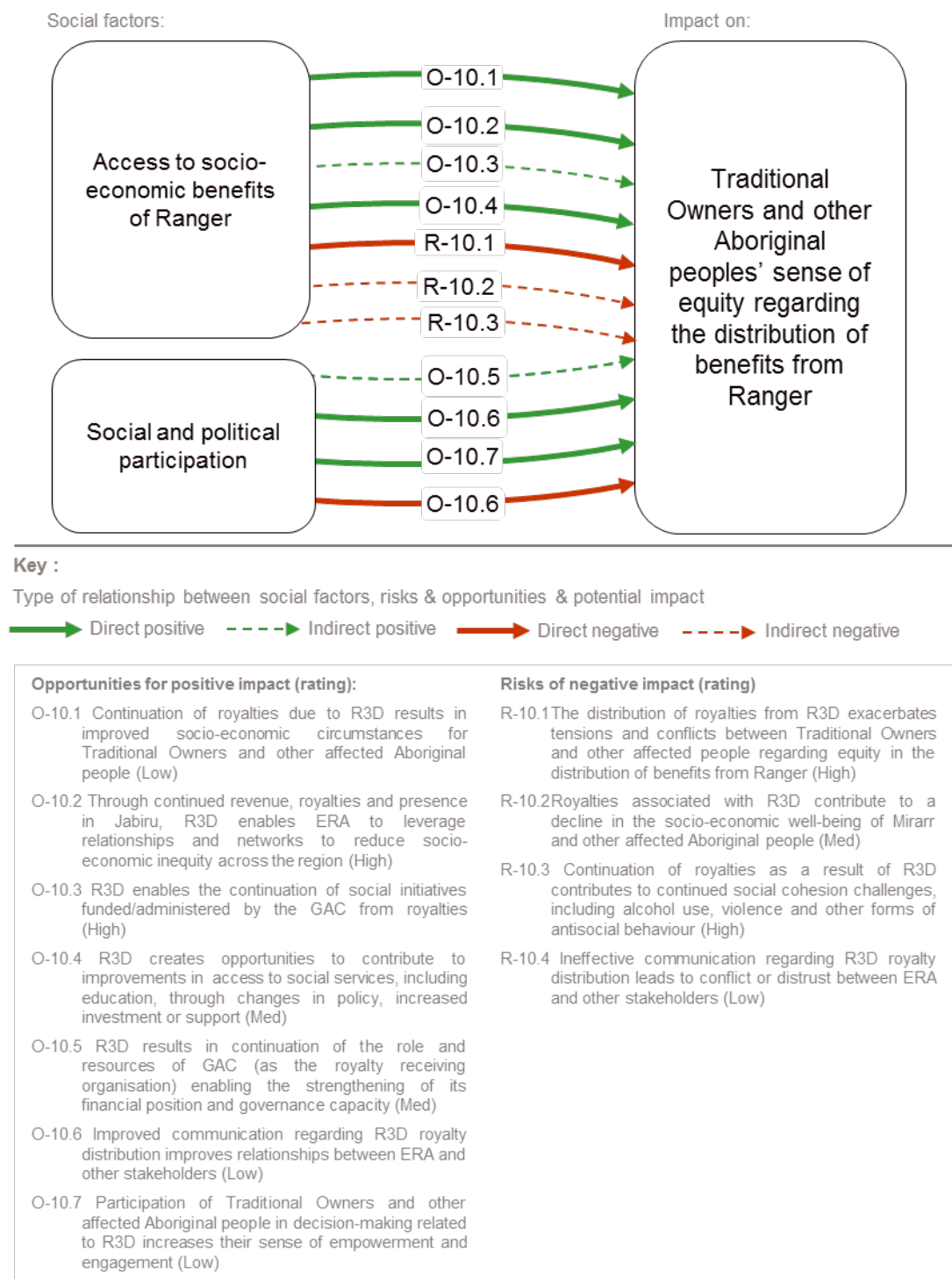


Figure 23: Impact map - the distribution of benefits from Ranger

Overall, the Ranger 3 Deeps development primarily presents opportunities to improve Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger, with a number of associated risks.

In order to realise the opportunities and mitigate the risks, ERA has committed to continuing the following management activities:

- Community relations initiatives, including participation on the Kakadu West Arnhem Social Trust board, community partnership fund education partnership, in-kind and discretionary funding.
- Active participation on the Relationship Committee (with GAC) and maintenance of key stakeholder relationships.
- Engagement with the GAC, NLC and Traditional Owners through existing mechanisms.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could further contribute to Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger. They include,

- ERA's decision-making regarding operations or activities unrelated to Ranger 3 Deeps, such as support for initiatives to better plan the future of Jabiru;
- communications with Traditional Owners and other Aboriginal peoples by Aboriginal Corporations, the NLC and other bodies;
- the level of support for, and investment in, services and infrastructure by service providers, government and Aboriginal Corporations; and
- decisions of Aboriginal representative bodies regarding the distribution of mining and other royalty payments.

11 ENVIRONMENTAL QUALITY AND NATURAL RESOURCES

This chapter considers potential social impacts of the Ranger 3 Deeps development relating to environmental quality and natural resources that are valued and used by local and regional stakeholders, including indigenous communities and the Mirarr Traditional Owners. It provides an overview of current and historical factors contributing to social change within the region relevant to the environment and natural resources, followed by SIA findings on the potential positive and negative social impacts of the Ranger 3 Deeps development.

Environmental quality and natural resources relate to characteristics of the environment, such as air and water quality and their relationship with people and communities. The EIS process that this SIA is a component of has involved technical environmental impact studies that informed this chapter. However, the scope of this chapter focuses solely on considering social impacts related to the environment; the results of technical environmental studies are included in the EIS.

As noted previously, the RPA is surrounded by the World Heritage-listed KNP, therefore, management of the environment and natural resources is critical to sustain the values of KNP (refer also to Chapter 4).

11.1 BACKGROUND

11.1.1 Current state of the quality of the natural environment

The environmental values of the region were first formally recorded during the Alligator Rivers Region environmental fact-finding study conducted in the early 1970s (see CSIRO Division of Wildlife Research 1974). The region's natural features, including its variety of land forms, vegetation and animal life were described in detail in the Fox Report (Fox 1977, p.49). The Fox Report identified four main subregions: the plateau, lowlands, flood plains and tidal flats, and emphasised their uniqueness and difference in the wet and dry seasons. The following section provides a brief description of the physical characteristics of each subregion, and a map (Figure 24) of the different subregions, which indicates the location of Ranger in the lowlands.

habitat for birds, and species like buffalo, which were introduced into the region in the late nineteenth century, and that feed off pastures that grow in KNP. In the wet season, the plains become vast expanses of water, with lush and varied vegetation; in the dry season numerous birds populate the area (Fox 1977, p.50). These ecosystems are therefore dominated by fluctuation between wet and dry seasons, with rainfall which is on average 1,485 mm annually (Petty et al. 2007)

As acknowledged in the Fox Report, KNP's regional significance is both representative and unique. The ecosystems within KNP are representative of many similar regions of northern Australia but it also has a unique drainage basin, the South Alligator River, which incorporates all of the major habitat types of the NT. There are a number of plant and animal species in KNP that do not occur in any other national park. The conservation values of KNP are enhanced because it is such a large area, and managed as a national park, while other habitats in the NT are managed for other purposes such as defence or agriculture (Director of National Parks 2007, p.9).

Nationally, KNP's significance lies in its biodiversity and cultural values. Internationally, KNP's significance is recognised due to its expansive wetlands that are used by numerous migratory species, including more than 50 species of birds (Director of National Parks 2007, p.13). KNP is therefore a unique area of conservation and biodiversity, abundant in natural and cultural values. As a result of the region's environmental significance, its protection and sustainability is important to a wide range of stakeholders, and many have worked and campaigned to ensure its safe future.

Traditional Owners continue to live on outstations within KNP and local non-indigenous and indigenous residents use it for recreational purposes. KNP is a popular destination for national and international tourists,¹⁸² however, this has created ongoing challenges in relation to balancing tourism activities, joint management with Traditional Owners, and conservation goals. KNP has also long been a focus of social and scientific research. Similarly, conservationists and environmental non-government organisations have conducted campaigns to protect it from mining and other industry, for instance, the 'Kakadu Campaign' by the Wilderness Society.

Overall, there are a number of stakeholders with competing interests and involvement in KNP, including Traditional Owners, other affected Aboriginal peoples, tourists, businesses, industry, conservationists and researchers.

11.1.2 Ranger's past and present contributions to social change

Since Ranger began operations in 1980, there has been a steady inflow of people coming to the area for mining or to pursue lifestyle and employment opportunities. The increase in population and activity has generated infrastructure development for accommodation and services, which has had an impact on the surrounding environment through land clearing and waste generation.

Within the RPA, there have been ongoing mining exploration and environmental monitoring activities since 1980. The greatest environmental disturbance has, and continues to be,

¹⁸² Refer Chapter 6 for visitor numbers.

Ranger's operating area. Pit 3 was mined until November 2012, with ore being transported to the processing area (ERA 2012a, p.8). Pit 3 is currently being backfilled and will be progressively rehabilitated over the coming years.

Land clearing, erosion control, water management and tailings management are constant areas of focus for ERA. However, as a result of the large scale operation, a sizeable environmental footprint remains and will require ongoing management and rehabilitation through to 2026 (see Chapter 4, which discusses the potential risks, opportunities and impacts linked to rehabilitation and natural and cultural heritage). Current and proposed rehabilitation activities include processes to "backfill pits and ponds, treat the inventory of process water on site... remove all structures and rehabilitate the site to create and revegetate the final landform" (ERA 2014b).

The presence of Ranger within a national park has long been a focal point in the debate about the environmental impacts of uranium mining (see also Chapter 1). The impact of activities and environmental management on the RPA, are also contested, and in 2012 ERISS conducted an ecological risk assessment of the Magela Creek floodplain which considered the relative risks posed by mining and non-mining actions. The study concluded that non-mining landscape-scale risks to the floodplain (e.g., weeds, feral pig damage, unmanaged dry season fire) were greater than risks from mine water contamination and should receive further scrutiny and investment (Bayliss et al. 2012, p.115). The major identified ecological risk identified was para grass, a weed, due to its extent, effect and rapid spread (Bayliss et al. 2012, p.115).

11.1.3 Other activities contributing to social change

Every year thousands of tourists visit KNP, creating challenges in balancing tourism with cultural and environmental values. Threats to KNP through tourist activities include the introduction of non-native flora and fauna, for example, domestic animals, which can threaten native species. In addition, according to KNP staff interviewed, there have been instances where visitors to the park have hunted animals for recreation which, if not managed, can negatively impact biodiversity and fragile ecosystems. There is greater potential for this to occur when tourism management and investment directed at conservation and protection are diminished (Australian Government et al. 2005, p.10).

The safety of KNP visitors is extremely important to the Traditional Owners, who feel a sense of responsibility for visitors' well-being. Traditional Owners experience stress and grief when accidents occur on their country, and such instances have the potential for Traditional Owners to request closure of certain areas within KNP (Australian Government et al. 2005, p.16). Similarly, there are some sections of KNP that are permanently closed to the public to support the protection of certain species (Australian Government et al. 2005, p.10). These various closures all relate to the use and accessibility of the environment and natural resources and were noted in SIA consultation.

11.2 SIA FINDINGS

The Ranger 3 Deeps development will take place within the existing boundaries of the RPA. It is expected that any impacts relating to environmental quality and natural resources from the project will largely be a continuation of those already experienced by people working or living within the RPA.

In relation to environmental quality and natural resources, the Ranger 3 Deeps development has the potential to impact positively and negatively on the quality, integrity and liveability of the natural environment.

The SIA has identified five risks and three opportunities for the Ranger 3 Deeps development to contribute to these impacts which relate to the following social factors:

- The quality of the natural environment.
- Access to natural resources.

Section 11.2.1 describes each of these social factors and presents the related risks and opportunities. Section 11.2.2 then discusses the ways these risks and opportunities could contribute to positive and negative impacts.

11.2.1 Social factors, risks and opportunities related to Ranger 3 Deeps

11.2.1.1 The quality of the natural environment

The quality of the natural environment is influenced by multiple elements, including but not limited to, air and water quality and availability, noise and vibration, biodiversity, the health of terrestrial and aquatic flora and fauna, soil and vegetation characteristics, and aesthetics of the landscape.

Previous chapters of this SIA have highlighted how the natural environment of the region (including KNP) is enjoyed by a wide range of people both living within and visiting the area for a variety of purposes. With this in mind, it is important to note that the issue of “quality” will be interpreted differently according to the particular needs and values of different stakeholder groups. Whilst technical environmental studies are guided by very specific and quantifiable standards of quality, SIA also needs to consider the term from a qualitative and subjective perspective to assess how the quality of the environment is variously understood and experienced by people.

Currently, the quality of the natural environment is monitored, assessed and managed in a range of different ways across KNP and within the RPA. As discussed in Chapter 4, KNP has a joint management agreement which means it is managed in partnership between Parks Australia and Traditional Owners. Much of KNP is also Aboriginal land held under the ALRA.

The RPA is managed by ERA, in accordance with regulatory conditions, and ongoing monitoring and reporting is conducted by ERA, the Department of Mines and Energy and the OSS. A number of fora are associated with this monitoring and reporting including ARRAC, ARRTC, the Minesite Technical Committee and the Relationship Committee. Whilst there are clear tenure boundaries separating KNP from the RPA, Ranger is managed in the broader context of the surrounding land and other key stakeholders. For example, fire management is often conducted in collaboration with Parks Australia in its role as land manager for the surrounding KNP, and weed and feral animal management is also undertaken collaboratively. ERA manages the environmental quality of the RPA and does so in consultation and with the consent of the Traditional Owners through the new Ranger Mining Agreement reached in January 2013. ERA acknowledges that it is continuing to “develop areas of agreement and mutual interest with Gundjeihmi Aboriginal Corporation...” (ERA 2012a, p.30), however this is likely to progress slowly given the extent of historical and

current concerns raised by the Mirarr and other affected Aboriginal people regarding possible water contamination and other environmental impacts resulting from mining at Ranger.

In order to assess the potential impacts of Ranger 3 Deeps on environmental quality, ERA have commissioned a range of studies, such as a literature review of flora and fauna information relevant to the RPA which concluded that “impacts to terrestrial flora and vertebrate fauna associated with the proposed vent raises¹⁸³ would be insignificant in a local and regional context” (ENV Australia Pty Ltd 2012, p.i). This research and more recent studies, including a survey undertaken specifically for the EIS, all indicate a very low potential for the Ranger 3 Deeps development to impact on adjacent flora and fauna. Further detail is provided in the EIS.

As is common with all resource developments, regardless of their actual environmental impact, the SIA consultation identified a range of stakeholder perceptions and concerns about the potential impact of Ranger 3 Deeps on the environment. These included concerns about aesthetic changes to the landscape, noise, water and air quality as well as the impacts on access to and enjoyment of the environment generally.

The SIA identified three opportunities and four risks for Ranger 3 Deeps relating to the quality of the natural environment, as detailed in Table 28 below.

Table 28: Risks and opportunities relating to the quality of the natural environment.

Opportunities	Risks
O-11.1 Closure and rehabilitation activities enabled by Ranger 3 Deeps enhance the quality of the natural environment (High)	R-11.1 The quality and integrity of the natural environment may be compromised by Ranger 3 Deeps due to new infrastructure and/or any incidents that may occur (Low)
O-11.2 Jabiru and regional community members are engaged and satisfied with environmental management processes and information related to Ranger 3 Deeps, which leads to improved well-being (Low)	R-11.2 Australian and international community members and organisations are not satisfied or are disengaged with environmental management and information related to Ranger 3 Deeps, leading to criticism or backlash (Low)
O-11.3 Territory, national and international community members and organisations are engaged and satisfied with environmental management processes and information related to Ranger 3 Deeps (Low)	R-11.3 Concerns regarding the quality of surface and/or groundwater resources affect cultural practices and enjoyment of KNP and the RPA by Traditional Owners and other affected Aboriginal people (Low)
	R-11.4 Ranger 3 Deeps contributes to a reduction in local and regional communities' ability to undertake or enjoy regular daily activities due to changes or disruptions to the physical or natural environments e.g., road closures, noise, vibration, water flow (Low)

11.2.1.2 Access to natural resources

As discussed in Chapter 2, Traditional Owners and other indigenous people residing in the region access a range of sites and areas as part of their day-to-day living and for cultural

¹⁸³ The vent raises were the primary focus of the review.

purposes. They also utilise certain plant and animal species as traditional food sources. In addition, many parts of KNP are available for public use. In relation to Ranger, the RPA is not a fenced area and access is provided to Traditional Owners and other indigenous people through the Ranger Mining Agreement 2013, however general public access is not advised or encouraged. The immediate area surrounding Ranger's footprint is fenced for health and safety reasons.

The SIA consultations highlighted a range of stakeholder concerns relating to current and future uses of KNP that may be affected by the Ranger 3 Deeps development. For Traditional Owners and other indigenous people residing in the area, concerns raised related to how the Ranger 3 Deeps development may impact on existing issues, such as limiting access to country on the RPA or adjacent parts of KNP, and fears relating to environmental pollution. Other concerns, expressed less frequently, related to the potential for a continuation of (or increase in) FIFO workers and temporary local residents hunting and using motor bikes in prohibited or restricted areas of KNP.

The SIA identified one risk for Ranger 3 Deeps relating to access to natural resources, as detailed in Table 29 below. No opportunities were identified.

Table 29: Risks and opportunities relating to access to natural resources

Opportunities	Risks
None identified ¹⁸⁴	R-11.5 Ranger 3 Deeps contributes to a reduction in the use of the environment and natural resources for the purposes of daily living, health and well-being, economic activity or leisure and recreation due to perceptions regarding environmental quality (Low)

11.2.2 Potential social impacts of Ranger 3 Deeps

The SIA found that the Ranger 3 Deeps development has the potential to impact on one area in relation to environmental quality and natural resources; the quality, integrity and liveability of the natural environment.

11.2.2.1 The quality, integrity and liveability of the natural environment

Local residents and communities could be positively impacted by Ranger 3 Deeps if the development improves the liveability of the environment, i.e., if individuals or groups feel a stronger connection and sense of belonging to the area as a result of improvements to the liveability of the region. Liveability encompasses the characteristics that create a place where people want to live, and may be realised at macro and micro levels. Activities that enhance liveability include the adoption of sustainable practices to preserve the natural environment for current and future generations, and community-led initiatives, community groups and other efforts that bring about a positive connection to the environment.

¹⁸⁴ Note that opportunities relating to the involvement of Traditional Owners and other affected Aboriginal peoples in environmental management and related decision-making are considered in Chapter 2.

At the same time, local residents and communities could be negatively impacted by Ranger 3 Deeps if the development adversely affects or reduces the liveability of the environment. This could occur if local residents and communities no longer enjoy living in their local natural environment or if it becomes harmful to them.

The SIA identified one high and one low-rated opportunity, and four low-rated risks for Ranger 3 Deeps to *directly* affect the quality and integrity of the natural environment. The opportunities relate to the potential for closure and rehabilitation activities contributing to the enhancement of the natural environment (O-11.1) and the potential for local and regional community members to be engaged around the environmental management processes at Ranger 3 Deeps, therefore improving or maintaining their levels of satisfaction regarding the quality of the natural environment (O-11.2).

The risks relate to the potential for Ranger 3 Deeps to compromise the natural environment due to new infrastructure and and/or incidents that may occur (R-11.1), and the potential for the development to prevent the community undertaking regular activities and thus disrupting their daily routine (R-11.4). There is also the potential for a reduction in use of the environment and natural resources for daily living or cultural activities due to concerns or perceptions of poor environmental quality (R-11.3 and R-11.5).

In addition, one risk and one opportunity were identified that have the potential to *indirectly* affect the quality, integrity and liveability of the natural environment. These both relate to NT, national and international stakeholder satisfaction regarding environmental management and associated communication (O-11.3 and R-11.2).

Figure 25 (following page) illustrates the relationships between the social factors, risks and opportunities related to Ranger 3 Deeps and the quality, integrity and liveability of the natural environment.

Overall, the SIA findings indicate that the Ranger 3 Deeps development has the potential to impact both positively and negatively on the quality, integrity and liveability of the natural environment, with slightly more risks being identified than opportunities.

In order to realise these opportunities and mitigate the risks, ERA has committed to continuing the following management activities:

- Environmental monitoring and management plans.
- Consideration of future rehabilitation and environmental quality through Ranger 3 Deeps' draft closure model, integrated tailings water and closure prefeasibility study and joint closure projects such as ERISS research.
- Community relations activities such as traditional burning programmes with GAC, quarterly business updates, communications plan, the Relationship Committee, and ERISS engagement.

ERA has also committed to additional measures as detailed in the SIMP (Appendix 15 of the EIS).

It is noted that there are also a range of other activities occurring within the region (outside the specific scope of Ranger 3 Deeps) that could also contribute to the quality, integrity and liveability of the natural environment. They include,

- ERA's decision-making regarding cultural heritage and environmental management unrelated to Ranger 3 Deeps;
- KNP management practices;
- communication with Aboriginal stakeholders regarding land and water management by the NLC, GAC and ERISS; and
- changes to the tourism industry, or societal norms, on the value of the natural environment.

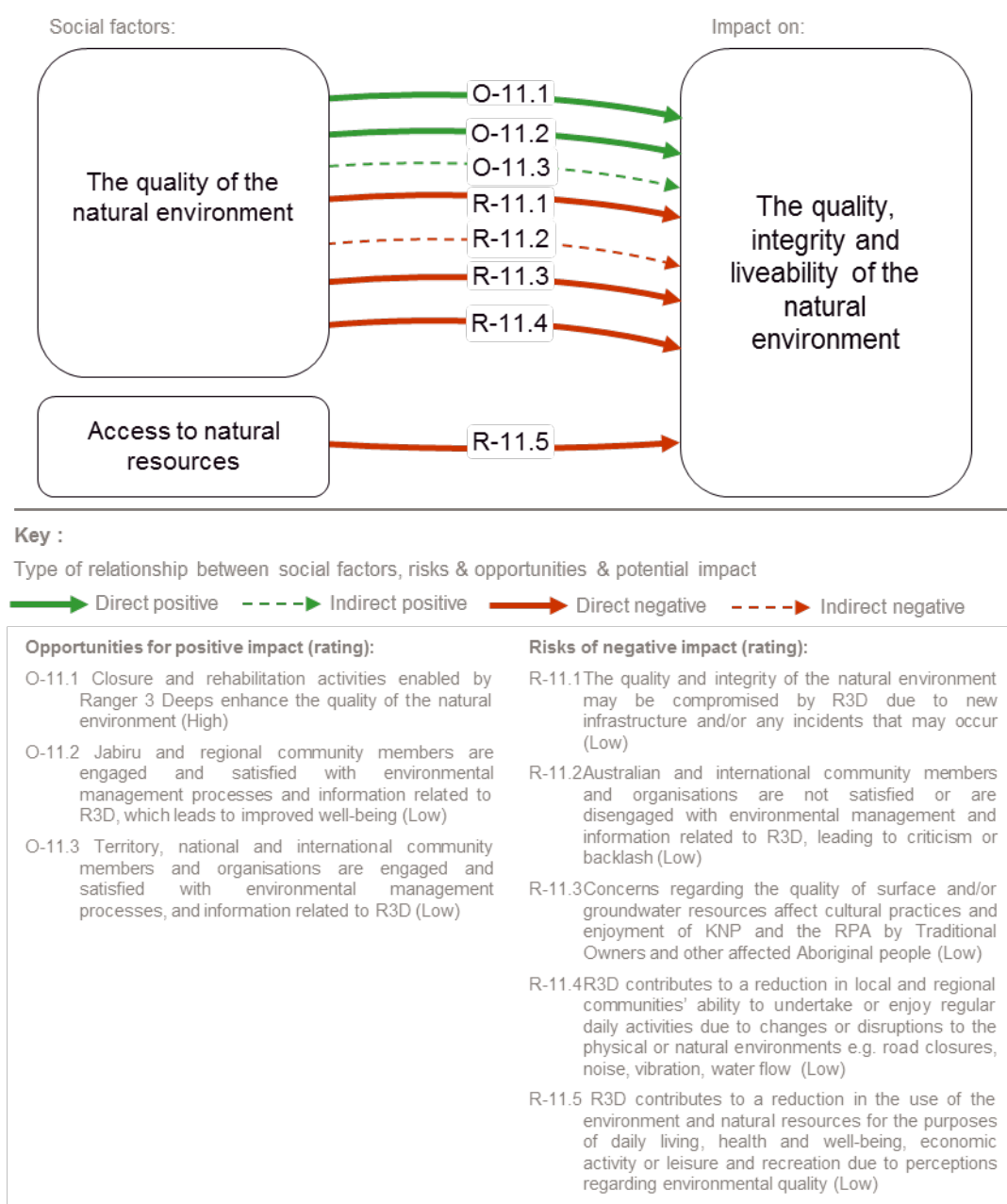


Figure 25: Impact map - the quality, integrity and liveability of the natural environment

12 CUMULATIVE IMPACTS AND SUMMARY FINDINGS

This chapter summarises the major findings of the report and includes discussion of cumulative impacts. Additional summary tables of impacts, risks and opportunities are provided in the final section of the chapter.

The SIA identified 18 potential impacts¹⁸⁵ relating to 51 opportunities and 52 risks. This indicates that Ranger 3 Deeps presents a balance of risks and opportunities for social change. In Banarra's opinion, overall the Ranger 3 Deeps development has greater potential for positive social outcomes than negative ones. This is consistent with the assessment that there is a greater balance of high and very high opportunities compared to risks, as shown in Table 30.

Table 30: Summary of risks and opportunities

Rating	Opportunities	Risks
Very high	3	0
High	13	6
Medium	12	5
Low	23	41
Total	51	52

12.1 SIGNIFICANT IMPACTS AND OPPORTUNITIES

Nine impacts were identified whereby, if Ranger 3 Deeps is approved and proceeds as planned, it has the potential to provide significant opportunities.¹⁸⁶ These impacts are listed below in order of the number of very high and high-rated opportunities associated with them:

1. Access to employment and the capacity of the region's workforce - one very high and four high-rated opportunities (Chapter 9).
2. Diversity and resilience of businesses and industries in the region - three high-rated opportunities (Chapter 9).
3. The stability of the population - three high-rated opportunities (Chapter 6).
4. The quality and viability of services - one very high and one high-rated opportunity (Chapter 8).
5. The quality of life of Aboriginal people in the region - two high-rated opportunities (Chapter 10).
6. The effectiveness of representative organisations - one very high-rated opportunity (Chapter 5).
7. The enjoyment and protection of natural and cultural heritage - one high-rated opportunity (Chapter 4).

¹⁸⁵ ERA management responses to impacts are provided in the SIMP (Appendix 15 of the EIS).

¹⁸⁶ Impacts were deemed to be significant where they had two or more directly associated high-rated opportunities, or one or more directly associated very high-rated opportunity.

8. Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger - one high-rated opportunity (Chapter 10).
9. The quality, integrity and liveability of the natural environment - one high-rated opportunity (Chapter 11).

The first four impacts above relate directly to Ranger, insofar as Ranger 3 Deeps will contribute to enhancing and sustaining Ranger's presence by providing employment and business opportunities, as well as a stable population base, to support service delivery in Jabiru and the region. Notably, such opportunities can also be further enhanced through the initiatives of ERA and other organisations in the region. The seventh and ninth impacts also relate directly to Ranger activities, presenting opportunities to improve rehabilitation activities and capacity.

The fifth and eighth impacts present opportunities for actions related to Ranger 3 Deeps to assist in addressing long-term and systemic quality of life issues for Aboriginal people in the region. Despite the presence of Ranger for over 30 years, many affected Aboriginal communities and groups remain impoverished. Importantly, the opportunities associated with this impact are not solely related to the proposed Ranger 3 Deeps development - rather they require a range of parties such as the NT and Commonwealth Governments (including OSS and KNP), the GAC, the JTDA, the Council and ERA to coordinate their actions and purposefully implement social initiatives aimed at change (or to continue or improve those already in place).

The sixth impact presents an opportunity for Ranger 3 Deeps to contribute to the long-term effectiveness of representative organisations, particularly with regard to the future vision and improved governance of Jabiru. Similar to the fifth impact above, this area requires collaborative action from multiple parties to be realised.

12.2 SIGNIFICANT IMPACTS AND RISKS

No key impacts with associated risks were identified that meet the criteria used for the key impacts associated with opportunities outlined in the preceding section, as just six high-rated risks were identified in this SIA. The following identified impacts each have one associated high-rated risk:

- The enjoyment and protection of people's rights - one high-rated risk (Chapter 3).
- The effectiveness of representative organisations – one high-rated risk (Chapter 5).
- The perception of health, well-being and personal safety by individuals and communities - one high-rated risk (Chapter 7).
- Diversity and resilience of businesses and industries in Jabiru and the region - one high-rated risk (Chapter 9).
- The quality of life of Aboriginal people in the region – one high-rated risk (Chapter 10).
- Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger - one high-rated risk (Chapter 10).

Each of these impacts is associated with a risk that Ranger 3 Deeps, without focussed attention and appropriate management, may exacerbate or help maintain. The associated risks are directly related to the development and operation of Ranger 3 Deeps and may not eventuate in its absence. This potential is discussed below, as a cumulative impact.

12.3 CUMULATIVE IMPACTS

The SIA has identified three areas in which Ranger 3 Deeps has the potential to generate cumulative social impacts, and which thus invite coordinated and collaborative responses from key stakeholder organisations. These areas are:

1. Sustainable community benefits from revenue and royalties.
2. A planned vision for the future for Jabiru.
3. Continuation or exacerbation of existing negative issues.

The following sections discuss each cumulative impact.

12.3.1 Sustainable community benefits from revenue and royalties

If Ranger 3 Deeps is approved, it will provide a sustained and significant royalty stream to Traditional Owners and present a major opportunity to continue positive social programmes to address indigenous socio-economic disadvantage. In order for this potential to be realised, multiple parties must continue to invest in such initiatives.

As noted throughout the SIA report, despite considerable royalties paid to Traditional Owners and affected Aboriginal people in the region for over 30 years, they remain significantly disadvantaged when compared with the non-indigenous population. The causes of indigenous social-economic disadvantage are complex and outside the scope of this SIA, however it is clear that, over much of the life of Ranger a portion of royalties have been distributed in cash leading to short-term benefits, but with few long-term benefits. Ranger royalties are also perceived to, and have likely, contributed both to negative social impacts in both the short and long-term and to perceptions of inequity in the distribution of benefits between Traditional Owners and other affected peoples. However, if Ranger 3 Deeps is approved it will be developed at a time when royalties are, in part, being invested in long-term sustainable initiatives, either directly by the GAC, or through the recently established Kakadu West Arnhem Social Trust. A number of initiatives, including the Kakadu West Arnhem Social Trust-funded Children's Ground and the GAC-funded Djidbidjidbi College, show early signs of providing sustainable benefits to the regional Aboriginal community. Both are, indirectly, funded by Ranger revenue and royalties.

If Ranger 3 Deeps is not approved, royalties from Ranger will reduce over time in line with declining production until such time that the mine is no longer economically viable and operations cease. Consequently, positive social initiatives may be less sustainable, and opportunities for further initiatives less feasible.

The SIA identified several high and very high-rated opportunities which provide guidance about how this positive impact can be realised. These are:

- Ranger 3 Deeps enables the ongoing funding of the Kakadu West Arnhem Social Trust and associated initiatives either directly by ERA or indirectly through royalties;

- Ranger 3 Deeps enables investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population;
- Ranger 3 Deeps enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population;
- Ranger 3 Deeps enables the continuation of social initiatives funded/administered by the GAC from royalties;
- the extension of revenue and royalties from Ranger 3 Deeps provides for continuation of, or development of new, partnerships or initiatives to deliver social services; and
- through continued revenue, royalties and presence in Jabiru, Ranger 3 Deeps enables ERA to leverage relationships and networks to reduce socio-economic inequity across the region.

12.3.2 A planned vision for the future of Jabiru

If Ranger 3 Deeps is approved, financial and social investment into Jabiru will be sustained or enhanced, leading to a potential cumulative impact. Approval of Ranger 3 Deeps will allow all stakeholders with an interest in Jabiru (including residents, business, government, and Traditional Owners) to have greater certainty about Ranger's future, and therefore that of Jabiru. Sustained or enhanced investment and greater certainty over the future of Jabiru will also enable more clarity about the town's future, including its planning. At present, Jabiru's governance is complex and there is no shared vision for the town's future amongst key stakeholder organisations.

The degree to which the socio-economic status of Jabiru relies on Ranger, and would be enhanced by approval of Ranger 3 Deeps, has not been assessed in this SIA. However, the following key facts make clear Ranger's pivotal role in Jabiru:

- ERA is responsible for providing approximately one third of direct employment opportunities in Jabiru.¹⁸⁷
- ERA provides substantial indirect business and employment opportunities through suppliers and contractors.
- ERA is the owner, leaser or provider of significant infrastructure in Jabiru including the majority of housing, electricity and the airport.
- ERA has provided substantial royalties to Traditional Owners and other affected Aboriginal people for more than 30 years.
- ERA provides financial support for the Kakadu West Arnhem Social Trust for investment in social initiatives.

¹⁸⁷ See Chapter 9.

- ERA provides other financial and in-kind support for regional services and organisations.

Regardless of whether Ranger 3 Deeps is approved, under the terms of Ranger's current mining agreement, ERA will remain present and invested in Jabiru to 2026.¹⁸⁸ However, if Ranger 3 Deeps is not approved, ERA's capacity to invest in the future of Jabiru (including royalty payments) will be reduced, along with revenue, as Ranger continues to process stockpiled ore to 2021 and rehabilitate the mine area through to 2026. (The implications of this potential reduced investment in Jabiru and the region by ERA have not been considered in depth in this SIA).

At the time this SIA was undertaken, the majority of stakeholders perceived the socio-economic future of Jabiru in the absence of Ranger 3 Deeps to be uncertain, with potential decline in both the short and long-term.

Realising the opportunities associated with the above will require considerable investment and coordination between multiple key stakeholders organisations, particularly ERA, GAC, the Council, JDTA and the NT and Commonwealth Governments (including KNP). The following high and very high-rated opportunities are associated with this cumulative impact:

- Ranger 3 Deeps enhances the opportunity for key organisations (including those with governance roles) to plan for the future of Jabiru.
- Increased certainty over the future of Jabiru leads to retention of Jabiru residents and increased use of the town by visiting Aboriginal people and casual visitors, such as tourists.
- Ranger 3 Deeps enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population.
- The extension of revenue and royalties from Ranger 3 Deeps provides for the continuation of, or development of new partnerships or initiatives to deliver social services.
- Ranger 3 Deeps enables ERA to support indirect employment linked to Ranger, sustaining the level of employment in the region.

12.3.3 Continuation or exacerbation of existing negative issues

As detailed in the three positive cumulative impacts discussed above, the approval of Ranger 3 Deeps may provide a number of opportunities to redress historic issues linked directly or indirectly with Ranger. However, in the absence of effective planning and initiatives, Ranger 3 Deeps also has the potential to directly or indirectly contribute to a continuation or exacerbation of existing social issues in the region. This can also be characterised as the risks associated with approval of Ranger 3 Deeps if key stakeholder organisations in the Region (including ERA) continue a "business as usual" approach.

¹⁸⁸ In the absence of Ranger 3 Deeps, the nature of ERA's presence will be determined by the economic viability of maintaining processing operations.

Most notably, this cumulative impact includes issues relating to the future use of Ranger royalties and associated social cohesion challenges (e.g., alcohol use, violence and other forms of antisocial behaviour). ERA reports that, over the life of Ranger it has delivered \$445 million in royalties, of which \$100 million has been to the Commonwealth and Territory governments, and \$345 million to Aboriginal interests (ERA annual reports).¹⁸⁹ Despite this investment, prevalent issues remain, including,

- long-standing concerns about water contamination by a range of stakeholders (e.g., local residents, local indigenous groups, and national and international green groups);
- the well-being of Mirarr Traditional Owners and other affected Aboriginal peoples, particularly individuals who have long-opposed Ranger and who see its ongoing presence as a source of concern;
- stakeholder fatigue linked to participation in processes associated with Ranger and Ranger 3 Deeps; and
- uncertainty about the future of Jabiru or lack of planning for the town's future.

Relevant risks identified that rate highly include that,¹⁹⁰

- Traditional Owners and other affected Aboriginal peoples are aggrieved as FPIC is not required for Ranger 3 Deeps approval under conditions of the Ranger Authority;
- Ranger 3 Deeps contributes to continued or increased concern amongst local and regional communities about possible, or perceived, contamination of water and food resources, and the health implications of consuming them;
- Ranger 3 Deeps enables a business as usual approach in the governance of Jabiru and inadequate future planning for Jabiru is undertaken;
- Ranger 3 Deeps contributes to continued dependence by Aboriginal organisations on royalties contributing to a socio-economic reliance on mining and a delay to a post-mining economy; and
- the distribution of royalties from Ranger 3 Deeps exacerbates tensions and conflicts between Traditional Owners and other affected people regarding equity in the distribution of benefits from Ranger.

12.4 OTHER RECURRING THEMES

In addition to the cumulative impacts noted above, one key recurring theme was identified during the SIA regarding stakeholder relationships and communications. The theme did not have associated high or very high risks, however, the frequency with which it was raised by stakeholders indicates that it is significant.

¹⁸⁹ As noted throughout this report, royalties and royalty equivalent payments have been paid to a range of recipients for a range of purposes, including administration of the GAC (and the Gagudju Association before it), cash payments to members of royalty-receiving organisations, and investment in regional initiatives.

¹⁹⁰ No risks were rated very high.

12.4.1 Stakeholder relationships and communications

Jabiru and the region are challenged by complex governance and administration, as well as historically fraught relationships between some key stakeholder organisations. Stakeholder comments also suggested that some key organisations have high staff turnover that may contribute to less effective administration and communication. The SIA consultations identified that a key characteristic of Jabiru and the region is that the relationships between key organisations are entrenched in a way that does not promote good communication and, to a noticeable degree, are defined by mistrust, misinformation and misunderstanding. The accumulation of these factors has contributed to an environment where communication is often unclear, leading to a range of poor outcomes. There is a clear opportunity here for improvement.

The SIA identified a disconnect between the reality of the activities (and impacts) of Ranger, as well as those proposed for Ranger 3 Deeps, and the perceptions and stated views of key organisations. During the SIA consultation, stakeholders raised concerns about issues such as housing provision, health services, royalty distribution, and environmental quality that were at odds with public statements made by the organisations' responsible for the action or impact. While some issues will always be the subject of debate, for example opinion on what constitutes best-practice environmental rehabilitation, it was evident that basic facts relating to ERA, Jabiru town governance, indigenous people and environmental management were subject to poor information exchange and communication. At times, it was apparent that communication was not simply unclear or ineffective, but was significantly compromised by mistrust.

This issue was not noted across high and very-high rated risks, but was clearly apparent during the SIA consultation and in analysis of historical and contemporary sources. Approximately ten opportunities and six risks relate to this theme. Poor communication and understanding linked with entrenched thinking has historically been, and remains, a concern for many stakeholders with direct and indirect links to both Ranger and to the proposed development.

Ranger 3 Deeps presents an opportunity for entrenched issues around perception and understanding to be improved through collaborative planning and communication about the development's impact and its relationship to the existing Ranger mine. Key organisations with responsibility for communicating with regional stakeholders include ERA, the NLC, the GAC, KNP, the Council, the NT and Commonwealth Governments (including OSS). Communication and cooperation needs to be improved between the above organisations, as well as from them to the public (including indigenous and non-indigenous).

12.5 SUMMARY TABLES

The following tables summarise the impacts (Table 31) and direct high and very high rated opportunities and risks (Table 32 and Table 33) identified through the SIA.

Table 31: Impacts by aspect (number of associated direct very high or high risks or opportunities shown in brackets)

Aspect	Ranger 3 Deeps may have an impact on
Aboriginal cultural values and activities	• The ability of Aboriginal people to manage and use land and waters (0) • The sense of trust that Aboriginal people have in the management of land and waters by others (0) • The ability of Aboriginal people to maintain and develop culture (0)
Rights	• The enjoyment and protection of peoples' rights (1)
Natural and cultural heritage	• The enjoyment and protection of natural and cultural heritage (1)
Political representation, governance and administration	• The effectiveness of representative organisations (2) • The appropriate and effective involvement of individuals in decision-making by representative organisations (0)
Population and communities	• The stability of the population (3) • The quality of the social environment (0)
Health and well-being	• The health and well-being of individuals and communities (0) • The perception of health, well-being and personal safety of individuals and communities (1)
Services and infrastructure	• The quality and viability of services (2) • The quality and viability of infrastructure (0)
Employment and industries	• Access to employment and the capacity of the region's workforce (5) • Diversity and resilience of businesses and industries in the region (4)
Distribution of benefits and social equity	• The quality of life of Aboriginal people in the region (3) • Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger (2)
Environmental quality and natural resources	• The quality, integrity and liveability of the natural environment (1)

Table 32: Very high and high-rated opportunities

Type	Reference	Opportunity
Very high opportunities	O-5.1	Ranger 3 Deeps enhances the opportunity for key organisations (including those with governance roles) to plan for the future of Jabiru
	O-8.1	Ranger 3 Deeps enables the ongoing funding of the Kakadu West Arnhem Social Trust and associated initiatives either directly by ERA or indirectly through royalties
	O-9.2	Ranger 3 Deeps enables ERA to maintain high levels of direct employment at Ranger, sustaining or increasing the level of employment in the region
High opportunities	O-4.3	Ranger 3 Deeps enables improved capacity within ERA to plan and manage rehabilitation over the life of the mine, resulting in an improved ability for the RPA to be successfully incorporated into KNP
	O-6.1	Increased certainty over the future of Jabiru leads to retention of Jabiru residents and increased use of the town by visiting Aboriginal people and casual visitors, e.g., tourists
	O-6.2	Ranger 3 Deeps enables investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population
	O-6.3	Ranger 3 Deeps enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population
	O-8.2	The extension of revenue and royalties from Ranger 3 Deeps provides for continuation of, or development of new partnerships or initiatives to deliver social services
	O-9.1	Ranger 3 Deeps enables ERA to support indirect employment linked to Ranger sustaining the level of employment in the region
	O-9.3	Ranger 3 Deeps reduces uncertainty over Ranger's future by providing more stability in the local economy and enhancing the potential for increased investment by government and commercial operators
	O-9.6	Ranger 3 Deeps enables continuation of ERA education partnership, training and apprenticeship programmes, thus supporting regional skills development
	O-9.7	Ranger 3 Deeps enables ERA to indirectly support Aboriginal employment in other industries, businesses and service providers (incl. GAC)
	O-9.8	Ranger 3 Deeps enables ERA to continue its high levels of Aboriginal employment at Ranger
	O-10.2	Through continued revenue, royalties and presence in Jabiru, Ranger 3 Deeps enables ERA to leverage relationships and networks to reduce socio-economic inequity across the region
	O-10.3	Ranger 3 Deeps enables the continuation of social initiatives funded/administered by the GAC from royalties
	O-11.1	Closure and rehabilitation activities enabled by Ranger 3 Deeps enhance the quality of the natural environment

Table 33: Very high and high-rated risks

Type	Reference	Risks
Very high risks	Nil	
High risks	R-3.1	Traditional Owners and other affected Aboriginal peoples are aggrieved as FPIC is not required for Ranger 3 Deeps approval under conditions of the Ranger Authority
	R-5.2	Ranger 3 Deeps enables a business as usual approach in the governance of Jabiru and inadequate future planning is undertaken
	R-7.1	Ranger 3 Deeps contributes to continued or increased concern amongst local and regional communities about possible, or perceived, contamination of water and food resources, and the health implications of consuming them
	R-9.2	Ranger 3 Deeps contributes to continued dependence by Aboriginal organisations on royalties contributing to a socio-economic reliance on mining and a delay to a post-mining economy
	R-10.1	The distribution of royalties from Ranger 3 Deeps exacerbates tensions and conflicts between Traditional Owners and other affected people regarding equity in the distribution of benefits from Ranger
	R-10.3	Continuation of royalties as a result of Ranger 3 Deeps contributes to continued social cohesion challenges, including alcohol use, violence and other forms of antisocial behaviour

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Please note that where 'information provided by ERA' is cited in text this refers to emails or non-public documents provided by ERA for the purposes of this SIA.

13.1 LEGISLATION

Aboriginal Land Rights (Northern Territory) Act 1983

Aboriginal Land Rights and Other Legislation Amendment Act 2013 (Commonwealth)

Aboriginal Sacred Sites (Northern Territory) Act 1989

Atomic Energy Act 1953 (Commonwealth)

Environmental Assessment (Northern Territory) Act 1982

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Financial Management and Accountability Act 1997 (Commonwealth)

Jabiru Town Development Act (Northern Territory) 1978

Native title Act 1993 (Commonwealth)

Northern Territory National Emergency Response Act 2007 (Commonwealth)

Racial Discrimination Act 1975 (Commonwealth)

The Social Security and Other Legislation Amendment (Welfare Payment Reform) Act 2007 (Commonwealth)

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**RANGER 3 DEEPS UNDERGROUND MINE
SOCIAL IMPACT ASSESSMENT
REPORT FOR ENERGY RESOURCES OF AUSTRALIA LTD**

2014

APPENDICES



Report Details

Title: Ranger 3 Deeps Underground Mine Social Impact Assessment: Appendices

Version: Final

Date: July 10, 2014

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Note

These appendices supplement the report: *Ranger 3 Deeps Social Impact Assessment*, July 10, 2014. The report includes the glossary and bibliography relevant to these appendices.

Terms and limitations detailed within the SIA report apply to these appendices.

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APPENDIX A: BANARRA'S CAPABILITIES AND PROJECT TEAM

Banarra is a specialist sustainability consultancy providing a diverse range of services to clients in the corporate, government and not-for-profit sectors. Established in Sydney in 2006, Banarra is internationally recognised for its work supporting business to better understand and manage the social impacts of developments. Core to Banarra's purpose is to catalyse positive change in the relationships between companies and their host communities to achieve more equitable outcomes for all stakeholders.

Banarra's work covers many aspects of sustainability, including social and human rights, land access and cultural heritage, community investment, supply chain and labour practices. Disciplinary capabilities include impact and risk assessments, social research, land management, stakeholder engagement, training and capacity building, strategy development and audit and assurance. In particular, the business has extensive experience working with the mining industry locally and globally, at a corporate and site level.

1. RELEVANT CAPABILITIES AND EXPERIENCE

Select relevant capabilities include assessing the social impacts of resource development, working with indigenous Australian communities, and contributing to international knowledge sharing in social impact assessment practice.

1.1 Assessing the social impacts of resource development

Banarra has conducted voluntary SIAs for existing mining operations in Australia to inform life-of-mine and closure planning, with recent assessments conducted for operations in Western Australia and Tasmania, and including considerable engagement with traditional owners. Banarra has also conducted reviews of the quality and effectiveness of work undertaken by other providers to support capacity building of emerging impact assessors in Indonesia.

Outside the SIA discipline, Banarra has broad experience delivering social baseline studies, human rights risk and impact assessments, and community perception surveys, and conducting community relations audits to assess mine site adherence to company standards, including social impact management requirements.

Broader expertise in managing the social impacts of resource development extends to designing and supporting implementation of social and community relations management systems (including standards and guidelines). Banarra has also provided capacity-building services for community relations practitioners.

Banarra has delivered projects in a range of complex environments, including those with challenging cross-cultural and indigenous dynamics. Recent work has been conducted in West Africa, South America, Indonesia, remote indigenous Australia and Papua New Guinea.

1.2 Working with indigenous Australian communities

Banarra's experience with indigenous Australian communities includes work conducted directly for indigenous organisations, and engagement with indigenous communities within projects for organisations including mining companies.

Recent projects for indigenous organisations include the design of Law and Culture Plans through participatory processes, negotiating land access agreements, providing independent advice to assist indigenous groups challenge mining and exploration licences, repatriation of indigenous heritage (with AIATSIS), assisting with co-management conservation projects, conducting heritage surveys and providing of expert evidence for native title and cultural heritage matters. Much of this work has included facilitating relationship development between indigenous organisations, government, mining companies and other stakeholders such as pastoralists.

Within the mining industry, the Banarra team has engaged with indigenous groups and individuals as stakeholders for a range of projects including SIAs, social baseline studies and human rights impact assessments in Western Australia, Queensland and New South Wales. Banarra has also critiqued, provided input to, or produced mining companies' indigenous cultural awareness-training programs, heritage management plans, and other programs intended to support Law and Culture.

1.3 Contributing to international knowledge sharing

Banarra actively participates in interdisciplinary knowledge sharing to contribute thinking and practice to SIA and other relevant disciplines.

In the last two years, Banarra's contributions have included presentations at the Minerals Council of Australia Sustainable Development Conference in Thailand (2012), the 1st and 2nd International Seminars on Social Responsibility in Mining, Chile (2012-2013), the International Association of Impact Assessment's (IAIA) annual conferences in Portugal, Canada and Chile (2012-14), the Australian National University's Centre for Native Title Anthropology heritage symposium (2012), and the Environment Institute of Australia and New Zealand annual conference (2013). Banarra has presented papers on subjects including approaches to delivering SIAs and baseline studies within Indonesia, voluntary SIA, performance outcomes from community relations audits, incorporating human rights into SIA practice, the role of the SIA practitioner in building social licence to operate within SIAs, and cumulative impacts in SIA.

Project team contributions to international knowledge sharing are detailed below.

2. RANGER 3 DEEPS SIA PROJECT TEAM

The project team was comprised of the following Banarra team members, supported in quality assurance by the broader team.

Richard Boele	Role: Banarra's Founder and Managing Director. Specialist areas: Social and human rights management, sustainability strategy and management. Education: Bachelor of Mass Communication/Media Studies, Macquarie University. Appointments: Visiting Fellow, Department of Geography and Environment, Macquarie University; Industry Fellow, Centre for Social Responsibility in Mining, University of Queensland; Director of the United Nations Global Compact Network Australia. Memberships: The International Association of Impact Assessment.
Dr Bill Kruse	Role: Principal and Project Director; joined Banarra in 2007. Specialist areas: Anthropology, Australian indigenous heritage management, native title, social impact assessment and community relations, tourism, mining and development in Malaysian and Indonesia. Education: PhD in Social Anthropology, Australian National University; Graduate Diploma, Indonesian Language, Deakin University; Bachelor of Arts (Honours) Social Anthropology, University of Sydney,

	Appointments: Visiting Fellow, Research School of Humanities, Australian National University; Memberships: International Association for Impact Assessment, Fellow Australian Anthropological Society.
Christine Crispin	Role: Principal and Analysis Lead; joined Banarra in 2007. Specialist areas: Social research methodologies, qualitative research and analysis. Education: BA Communications (Social Inquiry), University of Technology, Sydney. Memberships: International Association for Impact Assessment.
Catriona Peterson	Role: Senior Consultant and Project Manager; joined Banarra in 2011. Specialist areas: Human rights and social impact assessment, stakeholder engagement and community relations management. Education: Master of Human Rights Law and Policy, University of New South Wales; Bachelor of Environmental Management, Macquarie University.
Claire Tucker	Role: Consultant and field, analysis and reporting team member; joined Banarra in 2011. Specialist areas: Social impact assessment, program evaluation and stakeholder engagement. Education: Post Graduate Certificate in Program Evaluation, University of Melbourne; Bachelor of Liberal Studies (1st Class Honours), University of Sydney; and Centre for Sustainability Leadership Fellowship Programme, 2013. Memberships: Environment Institute of Australia and New Zealand.
Špela Berlec	Role: Consultant and project analyst; joined Banarra in 2012. Specialist areas: Social research and human rights assessment. Education: Master of Human Rights, University of Sydney; Bachelor of European Studies, University of Ljubljana (Slovenia).

APPENDIX B: SIA METHODOLOGY

1. INTRODUCTION

Energy Resources of Australia Ltd (ERA) has proposed to develop an underground mine (Ranger 3 Deeps) within the Ranger Project Area. The Commonwealth and NT governments require ERA to submit an Environment Impact Statement (EIS) as part of the assessment process of the proposed development. A Social Impact Assessment (SIA) is a required component of the EIS and ERA has contracted Banarra to undertake this assessment.

This methodology report outlines Banarra's approach to identifying, assessing and reporting on the relevant and significant social impacts of the Ranger 3 Deeps development.

This report was originally written and provided to ERA in September 2013 as part of the ongoing SIA process. It has been updated for inclusion as a standalone Appendix in the final SIA Report.

1.1 Background

In March 2013, both the Commonwealth and Northern Territory governments determined that Ranger 3 Deeps required an assessment of environmental impacts in the form of an EIS. The Northern Territory Environmental Protection Agency (NT EPA) decided that the proposed development required an assessment under the *Environmental Assessment Act* (EA Act). The Commonwealth Minister for Sustainability, Environment, Water, Population and Communities (SEWPAC) considered that the development could potentially have a significant impact on a number of "matters of national environmental significance" protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In August 2013, the Commonwealth and Northern Territory governments jointly published guidelines for the development's environmental assessment; the *Guidelines for the Preparation of an Environmental Impact Statement, Ranger 3 Deeps Underground Mine, Energy Resources of Australia Ltd, August 2013* (the EIS Guidelines). The EIS Guidelines require an assessment of the social and economic impacts of Ranger 3 Deeps and the provision of a Social Impact Management Plan (SIMP) to address the risks and opportunities identified in the assessment. The SIA is also required to be conducted in line with Rio Tinto's *Communities Standard* (2011),¹ which is considered a leading practice document in the field of community relation and corporate social responsibility.

In addition to these statutory requirements, ERA has stated that it sees the Ranger 3 Deeps SIA as an opportunity to engage the local and regional community, including residents, employees, the Gundjeihmi Aboriginal Corporation (GAC) and the Northern Land Council (NLC). The SIA is also an opportunity to share information and support the community and other groups to understand the proposed development and provide clarity about existing and potential impacts.

¹ See, http://www.riotinto.com/documents/ReportsPublications/Communities_standard.pdf

1.2 The SIA process

The SIA process has been conducted by Banarra over a one year period commencing in June 2013. The SIA was specifically designed to respond to ERA's required scope of services, incorporating the requirements of the Commonwealth and Northern Territory governments as articulated in the EIS Guidelines.² The scope of services was revised over the course of the project, and the approach detailed in this methodology report reflects the final agreed scope.

The process has been informed by Banarra's knowledge and experience of SIA in the Australian resources sector, and peer reviewed by Professor Frank Vanclay, an internationally recognised expert in SIA methodology, of the University of Groningen (see Appendix H).

The key phases and steps of the SIA process are outlined in Figure 1 and briefly described below.³ The phases are then further detailed in Section 3.

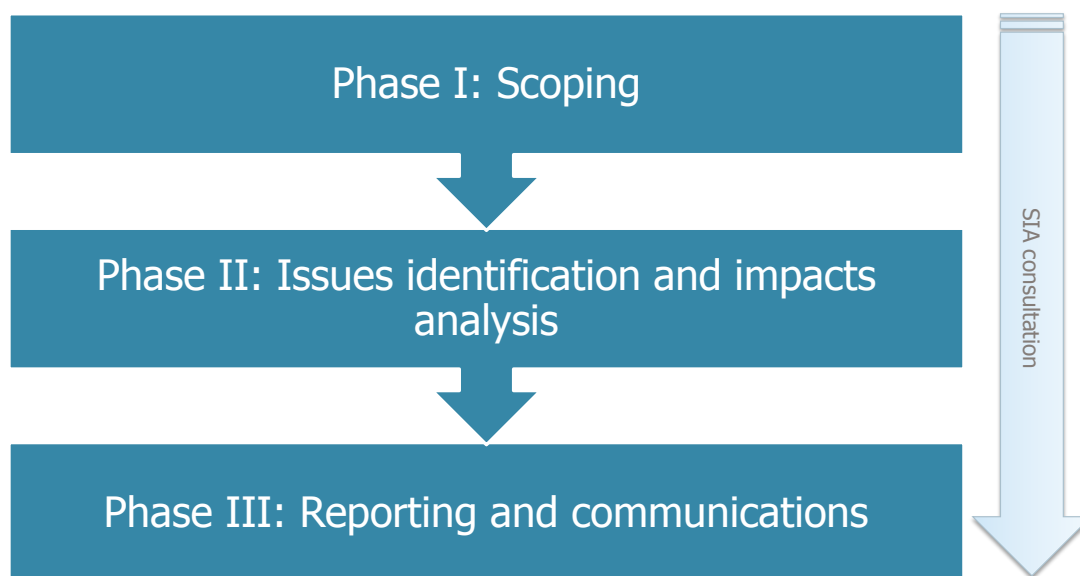


Figure 1: Phases of project methodology

Consultation with key stakeholders has been undertaken throughout the SIA process, including preliminary field trips in the scoping phase, approximately six weeks of fieldwork over several months, and validation of results as part of the reporting and communications phase.

Phase I, the scoping phase, involved preliminary engagement with stakeholders and planning of the SIA project. This included initial desktop research and consultation with stakeholders with the aim to understand the local context, discuss and agree on the SIA scope, identify additional stakeholders and plan the consultation.

² A full description of how the SIA process aligns with the Guidelines is provided in Appendix C.

³ It is important to note that despite the linear approach depicted in Figure 1, this SIA has been conducted as an iterative process, consistent with leading practice in impact assessment, and involved ongoing testing and refinement of the approach, assumptions and findings (Baines et al. 2013, p. 258; Franks et al. 2009 p. 20; Chanchitpricha & Bond 2013, p. 67; Howitt 2005, p. 217; O'Faircheallaigh 2009, p. 106).

Phase II, identifying issues and analysing impacts, involved an iterative process of consultation, desktop research and analysis. The aim was to gain a deeper understanding of the history and context surrounding the Ranger Uranium Mine and the social issues of most concern relating to the Ranger 3 Deeps development. In the later stages of this phase, the potential impacts of the development were identified and prioritised through a process of mapping and rating the issues that emerged through consultation. Results were tested and validated against social baseline data and feedback was obtained from ERA and other key stakeholders. This phase also included a workshop with ERA to assess the likelihood and consequence of the identified risks and opportunities with a view to mitigate negative impacts and enhance positive outcomes where possible.

Phase III, reporting and communications, involved documenting the SIA results in the SIA Report, impacts register and social impact management plan (SIMP). A presentation of key findings was prepared and distributed to stakeholders engaged through the SIA process. A management report comprising additional insights outside the scope of the EIS Guidelines report was also delivered to ERA.

1.3 Limitations

The SIA report has been written to present the findings of Banarra's research into potential social impacts of the Ranger 3 Deeps development. The following research and process limitations are acknowledged.

Desktop research: The desktop review process was undertaken in the first phase of the project and primarily involved analysis of publically available reports to understand the history and social context of Ranger. Some confidential reports were also assessed. Due to the particular history of Ranger there is an extremely large body of existing research relevant to the SIA. Banarra has endeavoured to assess as much as possible of the existing research for the SIA however, it is likely omissions have been made given the time and resource constraints of the research.

Consultation, fieldwork timing and team: This SIA was conducted in accordance with ERA's broader EIS process aimed at receiving statutory approval for Ranger 3 Deeps from the Commonwealth and NT Governments. As such, the consultation process, scope of engagement and timing of fieldwork was designed to meet these requirements. The main SIA consultation process was conducted from September 2013 onwards, which meant that wet season access to communities was a factor in the timing of some engagement activities, but not all. Banarra's iterative consultation and analysis process was designed as best as possible to fit such constraints, and the field team was available for face-to-face consultation typically for two-week blocks.⁴ Whilst research was conducted over a one year period, it was inevitable that Banarra was not able to engage with every stakeholder and stakeholder organisation identified, or all those who expressed interest in the SIA process, due to stakeholder unavailability or schedule changes.

It was not always practicable to have male and female consultation team members in the field at the same time. This may have had a limited impact on the willingness of stakeholders

⁴ The SIA team also conducted phone interviews when face-to-face interviews were not possible.

to engage and how they expressed their views. The majority of consultation was done by female team members.

In Banarra's opinion, stakeholder contribution to the SIA research has been sought from a representative range of relevant key stakeholders and key stakeholder organisations. One exception is noted, whereby resource and time constraints limited the extent to which regionally affected Aboriginal people could be consulted. This constraint was also paired with clearly evident consultation fatigue amongst the Aboriginal communities in general, including the Mirarr Traditional Owners. Aboriginal stakeholders were approached through appropriate processes and representative organisations, such as the GAC and NLC, however, this meant that the majority of indigenous consultation was conducted in the later stages of the fieldwork and Banarra was not able to do substantive follow up. It must be noted that consultation with Aboriginal people in the context of Ranger and KNP is challenged by elements of entrenched stakeholder opinions and established ways of doing things.

Some unpredicted external factors also impacted on consultation, notably the death of a senior Mirarr Traditional Owner and the December 2013 tank failure⁵ which placed pressure on many stakeholders.

In Banarra's opinion, the consultation and stakeholder input was adequate for the purpose of the SIA. Stakeholders will have the opportunity to comment on the findings of the SIA during the public comment period.

1.4 Key Concepts

This section presents some key concepts and explains how they have been understood and applied in this SIA process. It is not intended to provide a comprehensive overview of concepts relevant to SIA. Instead, it highlights those that are particularly relevant to the context of the Ranger 3 Deeps development or have been specifically identified within the EIS Guidelines.

1.4.1 Inclusive and appropriate engagement

An inclusive approach to engaging with affected communities is fundamental to a credible SIA. Inclusive engagement is also a requirement of Rio Tinto's *Communities Standard* (2011a). Rio Tinto's *Community Consultation and Engagement Guidance* (2011c)⁶ discusses inclusive engagement, explaining that:

The most vocal individuals or communities may not necessarily be the most affected. It is important that this distinction be made. Special care needs to be exercised to include groups who may traditionally be denied social power due to gender, ethnicity, class, caste or religion. Creativity, a high degree of cultural awareness and gender sensitivity are required in order to design an appropriate process that ensures such affected vulnerable and marginalised people are recognised and included (Rio Tinto 2011c, p. 4).

⁵ For further details see: http://www.energyres.com.au/documents/Fact_Sheet_3_Tank_Recovery_Community_March.pdf

⁶ See, http://www.riotinto.com/documents/Community_consultation_and_engagement_guidance_2011_2014.pdf

Other key concepts noted in Rio Tinto guidance documents relevant for SIA practice and considered in the methodology include,

- consultation and engagement are necessary at all stages;
- “representative” and “legitimate” are not necessarily synonymous; and
- access, literacy, frequency and length of the process must be considered when determining how to engage.

Banarra has focused on identifying and prioritising the different community and stakeholder groups that could be affected by, or have an interest in, Ranger 3 Deeps. Appropriate methods for engaging with each stakeholder group have also been developed to ensure they are given a voice and have appropriate input into the process.

A particular benefit of this approach is that it allows the voice of marginalised groups to be heard. Such groups are often not able to be effectively consulted within sampling-based research. Instead, we consider this approach to be particularly appropriate for SIAs because, in many cases marginalised groups can be the most adversely affected, or alternatively, have the most to gain from large development projects. This approach has allowed us to be flexible in adapting our approach in the field as new information came to hand.

1.4.2 Participatory engagement

The International Association of Impact Assessment (IAIA) SIA Principles define participatory engagement as: “[involving] stakeholders in the assessment of social impacts, the analysis of alternatives, and monitoring of the planned intervention.” It also states that an SIA should “build on local knowledge and utilise participatory processes to analyse the concerns of interested and affected parties” (Vanclay, 2003, p. 6).

ERA community relations staff engaged key stakeholders in the early planning stages of the SIA to seek their input on the objectives, scope and provider selection process for the SIA. This included the GAC as representatives of the Mirarr Traditional Owners. ERA also engaged Murray Garde, a linguist from the Australian National University, Canberra, to advise the SIA team and provide local knowledge and translation services. Dr Garde has worked closely with the Mirarr and other indigenous peoples within the ARR for over 20 years. He is a National Accreditation Authority for Translators and Interpreters Ltd (NAATI) accredited translator of the relevant indigenous languages.

Banarra has sought input from local stakeholders on how to best engage with key groups throughout the SIA process. Banarra met with the GAC, the NLC and other key stakeholders to understand the best methods and times for fieldwork to maximise the involvement of local indigenous stakeholders. This participatory approach continued throughout the SIA.

1.4.3 Cumulative Impacts

The EIS Guidelines require assessment of cumulative impacts. They provide the following definition of cumulative impacts:

Cumulative impacts can arise from compounding activities of a single operation or multiple mining and processing operations, as well as the aggregation and interaction

of mining impacts with other past, current and future activities that may not be related to mining (NT EPA & SEWPAC 2013, p.13).

Assessing cumulative impacts is an ongoing challenge for SIA practitioners. While some are well-known or more obvious than others, such as the impact on water quality from multiple nearby industrial and commercial developments, other activities may have a smaller effect but, when considered together or over a certain period of time, these effects become important when the number or extent of changes (or impacts) exceeds a certain threshold accepted by the community or government (Burdge & Vanclay, 1996). For example, changes in urban land use where a series of commercial developments slowly leads to a level of noise that is problematic for long-term residents of the area. It is challenging for a single proponent to do a comprehensive assessment of cumulative impacts within an SIA process because of the sheer breadth and number of activities that could be contributing to social change in a particular area.

This SIA has included consideration of the relationship between potential impacts relating to Ranger 3 Deeps, past and present impacts of Ranger and other social changes occurring in the region. However, the assessment of cumulative impacts has been limited to compounding activities of Ranger 3 Deeps. Discussion of these impacts has been included in Chapter 12 of the SIA report.

In addition, the SIA identifies other activities that could potentially contribute to cumulative impacts. These include past and present activities of the existing Ranger mine, such as royalty distribution, and other activities contributing to social change within the region, for example, KNP management practices, government policies, and activities of Aboriginal corporations. Whilst assessing these activities is outside the SIA scope, the potential for them to affect the way people experience the impacts of Ranger 3 Deeps has been considered at key stages of the SIA process, including when:

- defining the SIA scope (particularly the identification of the 10 social aspects);
- undertaking consultation design and fieldwork;
- conducting the impact mapping process and identification of social factors;
- identifying and assessing risks and opportunities; and
- developing the SIMP.

Each chapter of the SIA report notes other activities that could cumulatively affect the impacts of Ranger 3 Deeps.

1.4.4 Significance

Assessing the significance of impacts (including environmental, social, and economic impacts) should occur throughout any SIA, starting from the early phases of impact identification until the final stage of the assessment. The assessment of significance is often an important determinant for decision making by companies, stakeholders and authorities when reviewing the final impact assessment results (Ijäs et al. 2010).

According to the Commonwealth Government's 2013 *Significant Impact Guidelines*, a significant impact is:

...an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts (Department of the Environment 2013, p. 2).

The significance of potential impacts has been assessed at a number of key points in the SIA process, including through a team-based *multi-criteria analysis* involving all members of the Banarra SIA team (see Section 3.3.2 below). All potential impacts that were deemed to be significant have been included in the SIA report, and considered in the risk and opportunity assessment and SIMP.

2. ETHICAL PRACTICE

Determining the right ethical approach for a company-led SIA involving indigenous communities and undertaken within set timeframes is extremely challenging. Understanding the historical and present-day context of the area subject to the SIA and the groups with which the SIA is being conducted is paramount.

The ethical guidelines and frameworks for SIA practitioners, as well as discipline specific practitioners within an SIA, e.g., geographers and archaeologists, generally provide ethical reference points from which to step into methodology development, stakeholder engagement, and designing project outcomes. However, all ethical approaches must be tailored to the specific circumstances of a project and discipline specific ethics may not fully translate to the SIA context if the practitioner is fulfilling a role that is different from the original intent of the discipline, e.g., anthropologists involved in SIA are rarely researching and writing ethnographies.

This section highlights elements of relevant frameworks and issues specific to SIA with indigenous peoples that have been considered in this SIA.

1.5 Available ethical guidance

In Banarra's opinion, the 2007 National Statement on Ethical Conduct in Human Research (NSECHR) (Australian Government National Health and Medical Research Council, 2014), updated in March 2014, provides the best general ethical guidance for undertaking an SIA. The NSECHR puts forward a set of values and principles for ethical conduct, including:

- Respect for human beings: recognition of their intrinsic value, abiding by the values of research merit and integrity, justice and beneficence. Respect also requires having due regard for the welfare, beliefs, perceptions, customs and cultural heritage, both individual and collective, of those involved in research.
- Research merit and integrity: research justifiable by its potential benefit, which may include its contribution to knowledge and understanding, improved social welfare and individual wellbeing, and the skill and expertise of researchers. What constitutes potential benefit and whether it justifies research may sometimes require consultation with the relevant communities.

- Justice: taking into account the scope and objectives of the proposed research, and ensuring that the selection, exclusion and inclusion of categories of research participants is fair and accurately described in the results of the research.
- Beneficence: the likely benefit of the research must justify any risks of harm or discomfort to participants. The likely benefit may be to the participants, to the wider community or to both.

The NSECHR also provides guidance in relation to mutual responsibility, trust, ethical equality, consent, assessment of risk versus benefit, emotional risk and people in dependant or unequal relationships.

When conducting research with Aboriginal and Torres Strait Islander people, the NSECHR references the following papers; *Keeping research on track: A guide for Aboriginal and Torres Strait Islander peoples about health research ethics* (National Health and Medical Research Council 2006), *Guidelines for Ethical Research in Indigenous Studies* (AIATSIS, 2002)⁷ and *Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research* (National Health and Medical Research Council, 2003). Of particular mention are the six core values proposed for research in the National Health and Medical Research Council's 2003 document: reciprocity, respect, equality, responsibility, survival and protection, and spirit and integrity.

Academic and long-term SIA practitioner, Dr Richie Howitt's 2005 article, *The Importance of Process in Social Impact Assessments, Ethics, Methods, and Process for Cross Cultural Engagement*, provides a useful analysis of the particular challenges of SIA practice in Australia with indigenous people. Howitt references *Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research* (National Health and Medical Research Council, 2003) and argues that such guidelines are "a very strong foundation" for ethical engagement and provide for a "set of reference points and challenges that it is appropriate for us to meet every time we occupy the privileged position of researcher" (Howitt, 2005, p. 219). Howitt's article is an informed call to design and deliver SIA process with ethical values and knowledge of specific challenges in mind. This requires deep prior knowledge of the local context, paying close attention to iterative processes, as well as appropriate and responsive collaboration and relationships with local and key stakeholders over time.

1.6 Banarra's approach

Banarra's ethical approach to delivering the Ranger 3 Deeps SIA comprises the following key components:

- An internal assessment of the project conducted prior to a proposal being submitted to determine if the basic terms of the project, as understood at that time, would allow for an ethically sound SIA to be undertaken.
- Agreement with ERA reflected in the contract for services that the project methodology included a guarantee of independence, and that the level and approach

⁷ These guidelines have recently been updated in 2012 and the 2002 guidelines are no longer available online. See The Australian Institute of Aboriginal and Torres Straits Islander Studies, 2012.

to indigenous engagement, timeframes and costs allowed the project to be delivered consistent with the ethical principles outlined above.

- An iterative and participatory approach to conducting the SIA aimed at inclusive and collaborative engagement with key stakeholders.

Banarra acknowledges that ethics and their application are an ongoing process. Ethics are not fixed, static in time, or negotiated and set. With this in mind, the SIA process, particularly the engagement process, allowed for meaningful stakeholder involvement through planning fieldwork timeframes to allow for re-engagement if additional time was needed for stakeholders to understand the SIA process, consent to it and contribute as they felt comfortable to do so.

Transparency, another important element of ethical SIA practice, has also been considered, particularly in relation to communications and consultation planning. Communications materials have been developed in local indigenous languages and in culturally appropriate ways. The involvement of GAC and NLC in the scoping discussions and consultation process also supported transparent engagement with indigenous stakeholders. Banarra's contract with ERA stipulates that the final SIA remains an independent report that will be made public. This was a crucial methodological and ethical consideration for Banarra prior to undertaking the work. In addition, research questionnaires and interview templates developed for the SIA were designed to gain appropriate and informed consent in the SIA process from participants. No interviewees were paid for their participation and all participation was voluntary.

A research committee comprising representatives from key stakeholder organisations and groups has not been adopted for this SIA. This is primarily because the key indigenous organisations have elected to engage and assist but also retain the right to independently comment and provide submissions on the EIS as part of the approvals process. Banarra considers this approach to be respectful of their statutory role, including representative function, and their right to put forward a position and negotiate as part of the approvals process. The fact that key indigenous organisations support the SIA, and have elected to participate, supports the SIA as an independent process of value for the major parties.

In response to ethical concerns about the potential impacts of research on interview participants, the Banarra SIA team has undertaken social research and interview training run by Macquarie University's Department of Environment and Geography. The focus areas of the training were informed consent, ethical and context/cross cultural awareness during interviews and the impact of interviews on participants' well-being. Finally, as an internal process, Banarra team members were able to opt out of the project (at any point in time) if they felt it was not aligned with their personal values.

1.7 Discipline specific ethical guidance

In addition to the ethical guidance that has informed the SIA methodology, individual team members are subject to a range of discipline-specific ethics guidelines and codes of practice. These include:

- Banarra's Conflict of Interest Policy: All Banarra employees involved in the project are required to declare any interest in relation to the project, including but not limited to the following:

- Having a financial interest in a client (or competitor) company (e.g., shares).
 - Having close personal interests in a client (or competitor) company (e.g., spouse is employed at the organisation, client is a good friend or relative).
 - Having worked for a client (or competitor) company in the past (or going to work there in the future).
 - Acceptance of gifts or favours from clients.
 - Having business, secondary employment or voluntary activities which give rise to real or perceived conflicts of interest with Banarra's objectives and future activities.
- The Code of Conduct of the International Association for Impact Assessment (IAIA), see <http://www.iaia.org/membership/code-of-conduct.aspx>
 - The Australian Institute of Aboriginal and Torres Straits Islander Studies Guidelines for Ethical Research in Australian Indigenous Studies, see http://www.aiatsis.gov.au/_files/research/GERAIS.pdf
 - Commonwealth Department of Resources Energy and Tourism, Principles for Engagement with Communities and Stakeholders, see http://www.ret.gov.au/resources/Documents/mcmpr/Principles_for_Engagement_with_Communities_and_Stakeholders.pdf
 - The Australian Anthropological Society Code of Ethics, see http://www.aas.asn.au/docs/AAS_Code_of_Ethics.pdf
 - The Code of Ethics And Professional Conduct of the Environment Institute of Australia and New Zealand (EIANZ), see <http://www.eianz.org/aboutus/eianz-code-of-ethics>

3. METHODOLOGY

3.1 SIA consultation

The EIS Guidelines stipulated that:

The EIS must include information on any consultation about the proposal, including:

- *Any consultation that has already taken place;*
- *Proposed consultation about relevant impacts of the proposal;*
- *If there has been consultation about the proposed action, any documented response to, or result of, the consultation; and*
- *Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views (NT EPA & SEWPAC 2013, p. 4).*

Actions taken by Banarra in response to these requirements have been met in various forms throughout the consultation phase. The consultation phase primarily consisted of: stakeholder identification and classification; consultation planning; and consultation fieldwork.

The process of stakeholder identification and classification included a review of ERA's existing stakeholder map to understand key stakeholders and their relationship to ERA. Banarra also conducted context interviews with key ERA employees by way of introduction to the local landscape and context. Throughout the consultation phase, Banarra maintained a stakeholder database which assisted in managing communications such as invitations for interviews and interview schedules. The stakeholder database also acted as a repository of stakeholder information such as contact details, however this information was not shared publically and was only used for internal planning and fieldwork purposes.

Consultation plans were developed for each stage of major fieldwork. Two consultation plans were submitted to ERA for review and approval, as well as an interim consultation. Each plan outlined the objectives for fieldwork, identified stakeholders and methods of consultation.

Overall, four fieldwork trips were undertaken over the course of the SIA. Fieldwork included,

- a four day scoping trip to Darwin and Jabiru in July 2013 to establish relationships within ERA and with key organisations, as well as to understand the local context and landscape;
- a three week engagement program in Darwin and Jabiru in September 2013 with a three-person team taking part at various times. The consultation primarily focussed on local and regional non-indigenous stakeholders; and
- a two and a half week engagement program in Darwin, Jabiru and surrounding areas in November 2013 with a three-person team taking part at various times. The consultation primarily focussed on local and regional indigenous stakeholders. During this consultation Banarra was assisted by employees from the NLC; and,
- a week-long trip involving final meetings with key stakeholders organisations such as the NLC and GAC.

The main consultation method utilised throughout the SIA has been face-to-face semi-structured interviews either in groups or individually. Other engagement methods have included,

- telephone interviews;
- an online staff survey to enable ERA employees an opportunity to participate in the SIA. The online survey included a targeted set of interview questions seeking input on matters of greatest relevance to ERA employees;
- email requests to select stakeholders where email communication was identified as the preferred method by the stakeholders involved;
- group meetings for Aboriginal community members jointly organised by the NLC and Banarra. A high level introduction of the proposed underground mine was presented, followed by a session seeking input from attendees;

- attendance at board meetings of representative organisations such as the GAC and KNP; and
- attendance at ERA organised events, such as an ERA information day in Jabiru.

Banarra also developed a brochure outlining the SIA process and how to participate. It was uploaded to the ERA website and distributed to all Jabiru post boxes. All communications materials were developed with ERA and had ERA approval prior to being distributed. A flyer tailored for indigenous community members was also developed. Indigenous language audio translations of key concepts/information were made available at certain points of the consultation.

Detail of the stakeholder groups/individuals consulted is included in Appendix D.

3.2 Phase I: Scoping

The scoping phase involved:

- initial desktop research (including social baseline) and consultation with local stakeholders to understand the local context;
- discussion and agreement with ERA and local stakeholders on the scope of the SIA;
- identifying the stakeholders to be involved in the SIA; and
- planning the consultation with stakeholders.

Outcomes of this phase included a refined and agreed SIA scope and methodology, and an initial consultation plan for the early stages of fieldwork.

3.2.1 Context research

Initial context research provided the SIA project team with a preliminary understanding of the social, political, regulatory and operating context of Ranger and allowed the SIA to be designed to respond appropriately to the complex social and political history of Ranger and the region.

Research of the mine's context was undertaken through a review of previous studies and research reports, ERA planning and management documentation, articles and other publications relevant to Ranger and its social environment.⁸ An introductory site visit and a limited number of interviews with ERA management and key stakeholders were also carried out. The data collected through the document review and interviews was managed using the qualitative research software program NVivoTM. This allows the user to classify and organise ('code') large amounts of text-based data. Coded data was analysed and interrogated through generating a range of queries and excel-based reports. NVivoTM has been used to store and organise all qualitative data obtained throughout the SIA, thus enhancing the iterative process of data collection and analysis.

⁸ See References of the SIA Report for a full list of studies and other sources reviewed.

Results of the context research, in the form of NVivo™ outputs, were used to inform all other steps in the scoping phase including scope definition, consultation planning and social baseline data collection.

3.2.2 Scope definition

The SIA scope was defined according to the following parameters of investigation for the assessment:

- The activities that comprise Ranger 3 Deeps and the alternatives proposed (project definition).
- The elements of the social environment that could be directly or indirectly affected by Ranger 3 Deeps (social aspects).
- The geographic scales at which social impacts could occur.
- The stakeholder groups who could influence or be impacted by Ranger 3 Deeps (stakeholder map).

3.2.3 Project Definition

Through the context research, Banarra gained an initial understanding of the nature and extent of Ranger 3 Deeps and related management activities. It was important to understand the activities that may lead to social impacts before engaging with stakeholders. The project definition was then used as the basis of our working understanding of Ranger 3 Deeps and helped guide interview questions and semi-structured discussions with stakeholders. The project definition also helped identify which social issues raised during consultation were most relevant to Ranger 3 Deeps and therefore which should be prioritised for further analysis. The project definition has been continually updated over the course of the SIA and a final version can be found in Appendix E of the SIA report.

3.2.4 Social Aspects

Social aspects are elements of the social environment that could be directly or indirectly affected by the proposed Ranger 3 Deeps development. Ten social aspects were developed from a list of social changes commonly associated with resource development (Franks, 2012) and adapted through the context research in response to the specific social and historical context of Ranger. They were then validated during a scoping workshop held with ERA staff (see Chapter 1 of the SIA for an overview of the social aspects).

3.2.5 Geographic Scale

The SIA was required to consider social impacts at several geographic scales: local, regional, territory, national and global.⁹ These scales were mapped against the ten social aspects to determine the nature of impacts with the potential to occur at each scale. It was

⁹ These terms are consistent with ERA's Scope of Services and the Guidelines. The term 'local' refers to the township of Jabiru, 'regional' refers to the Alligator Rivers Region, 'territory' refers to the Northern Territory, and 'national/global' refers to Australia and the broader international population.

agreed in the scoping phase that the SIA would primarily focus on the local and regional scales as the majority of issues identified in historical sources and in preliminary interviews were associated with these areas. National and international issues have been considered, but have not been the focus of fieldwork or in-depth data analysis (see Chapter 1 of the SIA for more a more detailed description of the geographic areas relevant to the SIA).

3.2.6 Stakeholder Map

To determine the extent of stakeholder engagement to be undertaken in the SIA, ERA's stakeholders were mapped and categorised according to the level of impact they would potentially experience, their level of influence, and the strength of each stakeholder group's voice in the SIA process.¹⁰ Stakeholder mapping was updated continuously over the course of the project. Stakeholders were prioritised for engagement according to the following criteria:

- The potential level of impact was determined based on insights from context research on the current and previous levels of impact experienced relating to the Ranger's operation.
- Influence was determined based on assessment of the ability of stakeholders to influence the SIA process, ERA's decision making or the approvals process.
- Stakeholder voice was considered in terms of the strength to which each stakeholder group's views or perspectives had been heard and understood in the SIA process.

This initial prioritisation was revised and updated over the course of the SIA to incorporate the results of consultation and focus more specifically on the potential impacts of Ranger 3 Deeps.

3.2.7 Consultation planning

Consultation planning involved identifying appropriate methods for including stakeholders in the SIA, planning logistics for the fieldwork and for other forms of engagement to be undertaken. The general approach to consultation including inclusive, participatory and ethical engagement has been discussed in the sections above. Consultation plans were developed for each round of fieldwork and were developed with a view to,

- engage all stakeholder groups identified through the stakeholder mapping process;
- minimise stakeholder fatigue, particularly with indigenous stakeholders, recognising the extent of past and current engagement processes associated with Ranger and Kakadu National Park;
- meaningfully engage with stakeholders through cooperation with representative organisations; and

¹⁰ Banarra adapted and updated an existing ERA stakeholder database.

- collect sufficient relevant information on the potential impacts of the proposed Ranger 3 Deeps development (and alternatives) and actions that could be included in a SIMP to mitigate adverse impacts and enhance beneficial impacts.

3.2.8 Social baseline

This step involved compiling a description of the current social, cultural and economic environment surrounding Ranger 3 Deeps as required to inform the SIA, supported by appropriate qualitative and quantitative data. This social baseline data was used in the analysis of potential social impacts.

The social baseline is largely based upon data collected through research and sought from key stakeholders. Statistical data was primarily sourced from the Australian Bureau of Statistics' 2011 Census Community Profiles. This data was validated and supplemented with additional qualitative data collected through stakeholder interviews.

Baseline data is included throughout the SIA report, supplemented by Appendix F.

3.3 Phase II: Issues identification and impacts analysis

The identification of issues and analysis of impacts involved an iterative process of consultation, desktop research and analysis over a one year period. The aim was to gain a deeper understanding of the history and context surrounding Ranger and the social issues of most concern. The potential impacts of the Ranger 3 Deeps development were identified and prioritised through a process of mapping and rating the issues that emerged through consultation. Results were tested and validated against social baseline data and feedback obtained from ERA and other key stakeholders. This phase concluded with a workshop with ERA management to identify opportunities for enhancing positive outcomes, mitigating negative impacts and assessing the likelihood and consequence of the identified impacts occurring, once management actions are in place.

Outcomes of this phase included the development of the "social story" describing the complex history and context surrounding Ranger, completion of the assessment of significant social impacts relevant to Ranger 3 Deeps, and development of a SIMP.

3.3.1 Preliminary issues analysis

A preliminary analysis was carried out to identify all known social issues of relevance to Ranger 3 Deeps prior to consulting with stakeholders. The issues were documented in a preliminary analysis matrix (PAM).

Known social issues were identified via the context research and interviews, and also Banarra's understanding of social issues likely to be of concern to ERA's stakeholders. The list of issues was then updated following fieldwork to capture the key issues arising from stakeholder consultation. Transcripts from fieldwork interviews were also coded using NVivo™, allowing the creation of reports showing the frequency of issues raised across the different stakeholder groups. These two parallel processes (using PAM and NVivo™) enabled analysis of the research data from two different perspectives. The first, informed by the direct experience of the field-based team; and the second contextualised within the data collected during the scoping phase of the project.

3.3.2 Significance of potential social impacts

Significance of potential impacts has been determined through prioritisation of the social factors identified in impact maps (see Section 3.3.3 below). Each social factor was assessed against a set of criteria that incorporated consideration of the,

- level of stakeholder interest or concern expressed during the SIA consultation (stakeholder interest);
- extent to which ERA decisions and actions associated with Ranger 3 Deeps could affect social change (relevance);
- relative size of the potential impacts experienced by people if the social changes were to occur (magnitude); and the
- length of time that the impact-causing activity will occur (duration).

These criteria were applied at a number of key points in the SIA process to test and refine the team's understanding of the priority issues emerging through consultation and to identify and address any gaps in the data being collected. On completion of the main consultation period, the Banarra SIA team undertook a team-based *multi-criteria analysis* applying the scoring system outlined in Table 1 below.¹¹

Table 1: Criteria used in significance assessment

Criteria	Description	Data source	Scoring
Stakeholder interest	Level of interest or concern expressed by stakeholders engaged through SIA consultations	NVivo™ & PAM	3) Very significant issue for a particular stakeholder group or of high concern/interest to a number of stakeholder groups 2) Issue of medium concern/interest to a number of stakeholder groups 1) All other issues
Relevance	Extent to which Ranger 3 Deeps decisions and actions could affect a change in the social environment	Impact maps	3) Significant effect 2) Noticeable effect 1) Marginal effect
Magnitude	Relative size of the impacts felt by people due to social changes related to Ranger 3 Deeps	Context research and analysis of social baseline data	3) Transformational or significant change 2) Noticeable change 1) Marginal change
Duration	Length of time that the impact causing activity will occur	Project definition	3) Beyond the life of mine 2) For the operating life of the mine 1) One-off or short term

The assessment was informed by quantitative and qualitative data in conjunction with judgements made by the SIA team. Each theme received a score out of three for each criteria and a total score out of 12. The social factors were then ranked according to their total score and a threshold was identified that determined which themes represented

¹¹ The criteria and a scoring system for the assessment were developed based on leading practice methods of impact assessment (Ijäs et al. 2010), adapted to suit the local context.

significant potential social impacts. The threshold was selected based on the judgement of the SIA team and validated with selected stakeholders.

Overall, 26 themes were identified as significant. These themes were then further refined and consolidated to reach a total of 25 themes which appear in the SIA report as social factors.

3.3.3 Social changes connected with Ranger 3 Deeps

This step involved shifting the focus of analysis from a stakeholder-centric perspective of social *issues* of relevance to Ranger and the surrounding region, to determining the potential social *impacts* of the proposed Ranger 3 Deeps development. Potential social impacts were identified through an impact mapping process. This involved developing visual representations (or impact maps) of the connections (or causal pathways) between,

- the social factors (originally called themes) which detailed initial and subsequent social changes that may result from the activity;
- the potential risks and opportunities associated with the social impact;
- the nature of the relationships between the risks and opportunities, and impacts, either direct or indirect; and
- the social impacts that could potentially be experienced or felt by people if these social changes were to occur.

Figure below is an example of the mapping process which highlights the relationship between the social factors, potential risks and opportunities, and social impacts¹².

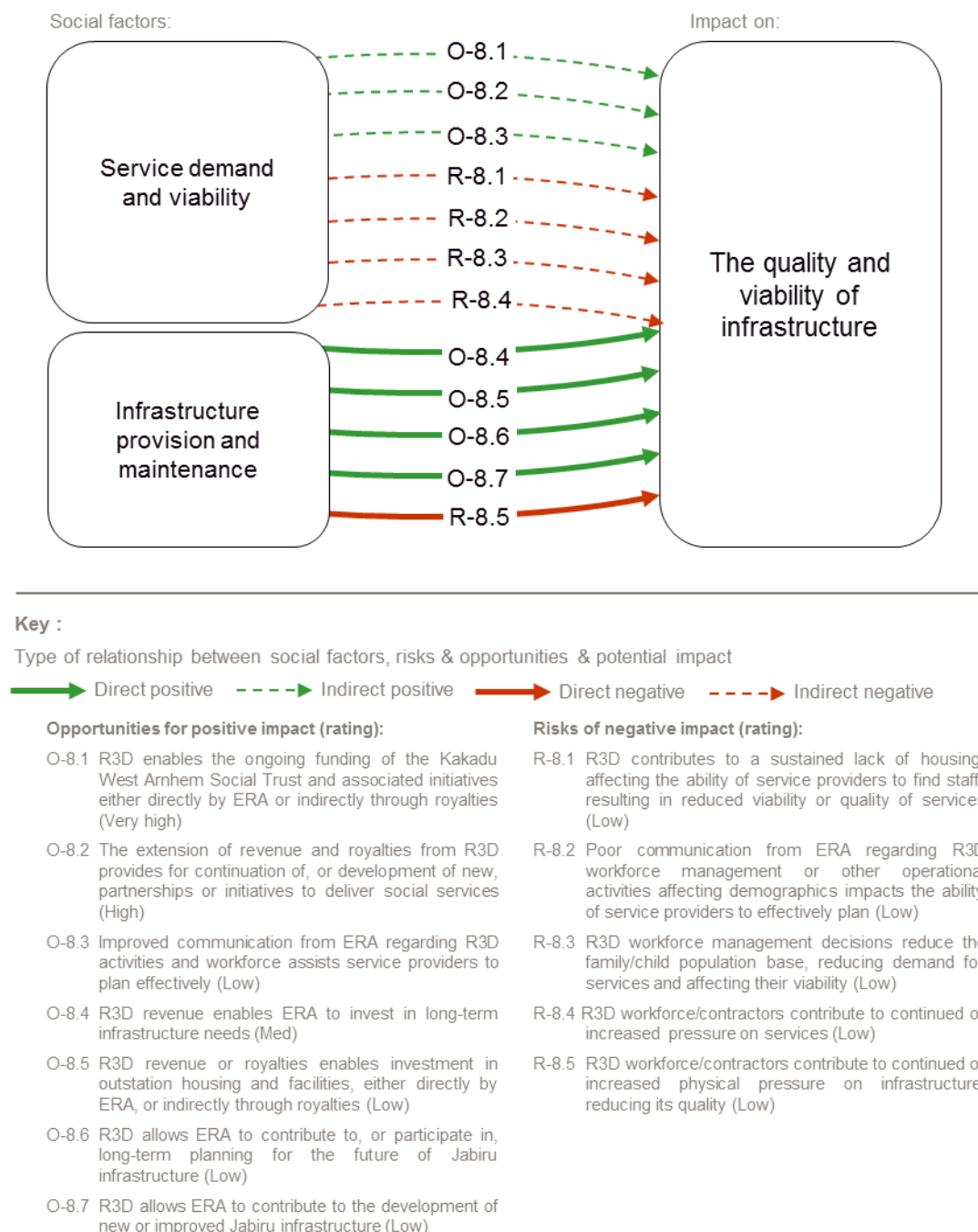


Figure 2: Example of an impact map for the social aspect 'services and infrastructure'

¹² Frank Vanclay's conceptualisation of social impacts has been applied in this SIA (Vanclay, 2002). Vanclay emphasises the importance of distinguishing between "social changes" and "social impacts" and gives the following example: "An increase in population, or the presence of strangers, are not the "felt" impacts. Instead, the impacts that will likely result from these change processes are changed perceptions about the nature of the community (communityness, community cohesion), changed perceptions about personal attachment to the community, and possibly annoyance and upsetness as a result of the project" (Vanclay 2002, p.192).

3.3.4 Risk and opportunity assessment

The EIS Guidelines required the use of a risk assessment approach to: identify and discuss the full range of risks, rank those risks, and identify stakeholders who could be potentially affected. This requirement was realised in the SIA through a two-day SIA Risk and Opportunity Workshop. The workshop, held at the ERA office in Darwin, provided an opportunity for Banarra to work with ERA management, community relations personnel and members of the EIS team, to,

- assess and discuss the risks and opportunities connected to the Ranger 3 Deeps project;
- develop a greater understanding of those relevant risks and opportunities; and
- identify current and new responses to mitigating risks and maximising opportunities.

The workshop assessed over 140¹³ risks and opportunities related to the social factors identified through the SIA research and analysis.¹⁴ Figure below demonstrates the relationship between the aspects, social factors and risk and opportunities.

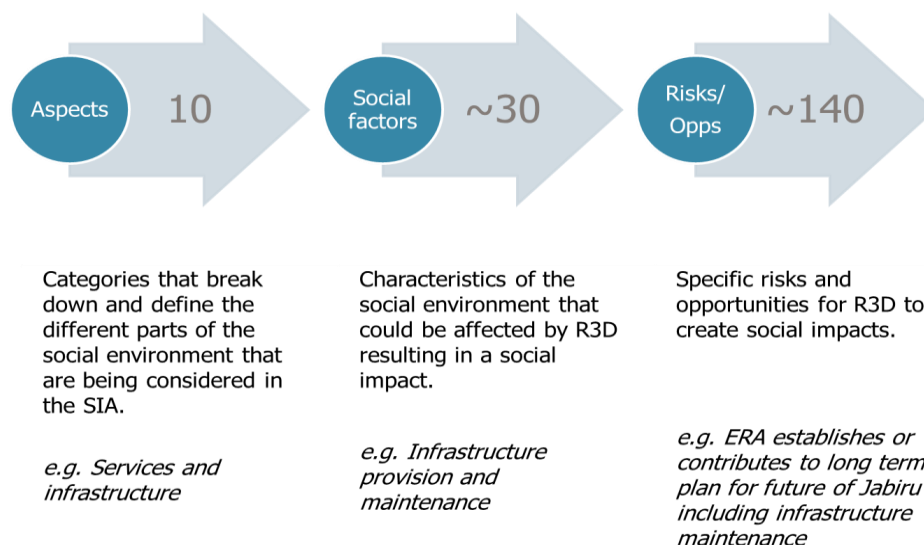


Figure 3: Relationship between the aspects, social factors and risk and opportunities

The process involved considering the likelihood of identified risks and opportunities arising and the consequence in terms of the potential impact on stakeholders. Participants assessed the risks and opportunities using a scorecard approach according to the following definitions and ratings for likelihood and consequence.

Consequence considers the potential impact on stakeholders of a risk or opportunity if it is realised. This takes into account the duration of the effect, the magnitude (or potential size)

¹³ Note that the final number of risks and opportunities identified is 102, following consideration of relevance of all risks and opportunities, and merging where overlaps were identified following the workshop.

¹⁴ In developing the approach for the SIA Risk and Opportunity Workshop, Banarra referred to formalised risk assessment standards for Australia and New Zealand such as AS/NZS ISO 31000:2009; HB 436:2004; HB 158:2010; HB 203:2012, as well as Rio Tinto's social risk analysis guidance note 2011. The overall process adopted by Banarra was influenced by a combination of these methodologies and tools.

of the impact as felt by people, and the extent (or number) of people affected. Risks and opportunities were assigned a rating based on a four-part scale comprising: extreme, high, medium, and low.

Likelihood relates to the possibility that the risk or opportunity will occur. Risks and opportunities were assigned a rating based on a five-part scale comprising: certain; almost certain; likely; possible; and unlikely.¹⁵

The outcome of the workshop was an overall rating and prioritisation of all identified risks and opportunities for Ranger 3 Deeps to create social impacts (both positive and negative), applying a final rating of final rating for each risk and opportunity of; very high, high, medium or low. This criteria used are shown in Table 2.

Table 2: Criteria used in risk and opportunity assessment

Consequence	Likelihood	Overall rating
Extreme	Almost certain	Very high
	Likely	Very high
	Possible	High
	Unlikely	Low
High	Almost certain	Very high
	Likely	High
	Possible	Medium
	Unlikely	Low
Medium	Almost certain	Medium
	Likely	Medium
	Possible	Low
	Unlikely	Low
Low	Almost certain	Low
	Likely	Low
	Possible	Low
	Unlikely	Low

The results of the risk and opportunity assessment, including ratings are documented in the Impacts Register (See Appendix G) and discussed in the SIA Report.

The workshop also provided a platform to discuss current and future management responses, including policies and procedures, particularly for the highest ranked risks. An overview of ERA's commitments to managing opportunities and mitigating potential risks can be found in the SIMP (see Appendix 15 of the EIS).

3.4 Phase III: Reporting and communications

The reporting and communications phase involved documenting the outcomes and findings of the SIA in the Impacts Register, the SIA Report and SIMP.

¹⁵ Note that unlikely was the lowest possible likelihood rating. This equates to the rating of "rare" in other risk assessment approaches.

A management report comprising additional insights beyond the scope of the SIA report was delivered to ERA and a summary of key findings will also be sent to all stakeholders who participated in the SIA process.

3.4.1 Impacts register

The Impacts Register consolidates and prioritises key information arising from the SIA, including the social factors, consequence and likelihood scoring and management responses. It was developed in the early stages of the SIA process and populated progressively over the course of the project.

The impacts register is designed to clearly prioritise potential social impacts in a way that can be understood and used in decision making by ERA management and staff. It is designed to reflect mine-site risk management tools and be easily incorporated into any existing community relations managements systems.

The impacts register includes the following information for each potential impact:

- Social context:
 - Social aspect category (e.g., indigenous culture and values).
 - Social factor (e.g., access to and protection of natural resources and sacred sites).
- Relevance to the Ranger 3 Deeps SIA:
 - Relevant risk or opportunity.
 - Connection to the proposed development through the relevant project activity (e.g., community relations or closure).
- Potential social impacts of Ranger 3 Deeps:
 - Relationship with impact (e.g., direct or indirect).
 - Impact name (e.g., the quality of life of Aboriginal people in the region).
- SIA Risk and Opportunity Assessment:
 - Likelihood of impact.
 - Consequence of impact.
 - Current management responses.

The Impacts Register can be found in Appendix G.

3.4.2 SIA report and SIMP

The SIA report follows the following structure:

- Chapter 1 provides an introduction to the Ranger 3 Deeps development, the social and historical context of Ranger and a summary of the Ranger 3 Deeps SIA process.

- Chapters 2 - 11 are each named after a social aspect considered by this SIA. These chapters form the body of the report and provide information about the social environment, Ranger's contribution to social change, other activities contributing to social change, and the findings of the SIA including identified risks and opportunities.
- Chapter 12 discusses cumulative impacts and summarises the findings of the SIA.

Whilst the scope of the SIA was limited to the social impacts of Ranger 3 Deeps, significant information on the social and historical context has also been included within the SIA report, in the form of a "social story". The social story is a narrative of the past, present and potential future social changes and impacts associated with Ranger and the region. It reflects the many different voices, views and narratives of key stakeholders. The social story is introduced in the first chapter of the SIA Report and then elaborated in each of the subsequent 10 chapters in order to contextualise the SIA findings.

The SIMP (see Appendix 15 of the EIS) contains ERA's commitments and management responses for mitigating the negative and enhancing the positive social impacts of the Ranger 3 Deeps development, along with associated performance indicators and monitoring activities.

3.4.3 Stakeholder summary of SIA findings

Following the publication of the EIS, a summary of SIA findings will be provided to all stakeholders who participated in the SIA process.

3.5 Peer review

This methodology and the final SIA report draft were peer reviewed, in September 2013 and March 2014 respectively, by Professor Frank Vanclay of the University of Groningen, an internationally recognised expert in SIA methodology. See Appendix H for peer review findings.

APPENDIX C: ALIGNMENT OF THE SIA WITH THE EIS GUIDELINES

This appendix provides a guide as to the location and nature of Banarra's response to the requirements of the *Guidelines for the Preparation of an Environmental Impact Statement, Ranger 3 Deeps Underground Mine, Energy Resources of Australia Ltd.*

Table 1 includes direct quotes and/or summaries of requirements contained within the EIS Guidelines considered relevant to the scope and methodology of the SIA.

Table 2: Alignment of SIA with EIS Guidelines

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
1 Introduction		
<i>General introduction only – not directly considered in this review.</i>		
2 General Advice on EIS		
2.1 General Content	Consideration of appropriate spatial, temporal and analytical scales should be used to clearly communicate the potential impacts on the environment.	The primary focus of the SIA is on potential impacts at a local and regional scale. National and international issues have been considered, but have not been the focus of fieldwork or in-depth data analysis. Refer to Appendix B: SIA Methodology for further detail.
2.1 General Content	Where data are used to support statements, studies and claims in the EIS, reliability of the data and an explanation of the sampling criteria and approach should be provided. All known and unknown variables, limitations or assumptions made in the EIS must be clearly stated and discussed.	A description of SIA data collection and analysis methodologies, limitations and assumptions is included in Appendix B: SIA Methodology.
2.2 Structure, Format and Style	The appendices must include detailed technical information, studies or investigations necessary to support the main text. These will be made publicly available, including... a list of persons and agencies consulted during the EIS.	A summary of all consultation undertaken as part of the SIA is included in Appendix D: SIA Consultation Summary.
2.3 Referencing and Information Sources	The EIS must include information on any consultation about the proposal, including: - Any consultation that has already taken place; - Proposed consultation about relevant impacts of the proposal; - If there has been consultation about the proposed action, any documented response to, or result of, the consultation; and - Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views. The EIS has an important role in informing the public about this proposal. It is essential	A summary of all consultation undertaken as part of the SIA is included in Appendix D: SIA Consultation Summary, for an overview of Stakeholders and affected communities see Section 1.4.3 of the SIA Report.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	that the Proponent demonstrates how any public concerns were identified, and will influence the design and delivery of the proposal. Public involvement and the role of government organisations should be clearly identified. The outcomes of any surveys, public meetings and liaison with interested groups should be discussed including any changes made to the proposal as a result of consultation. Details of any ongoing liaison should also be discussed.	
3 Description of the Proposal		
3.1 General Information	Provide the background and context of the proposal including: - The location of the proposal in the region and its proximity to: - landmark features; - sites of cultural significance; - sites of social significance; - regional community centres; and - sensitive environments, such as major waterways, significant groundwater resources, significant natural features and conservation reserves. - An explanation and outline of the objectives, benefits and justification for the proposal; - National and Northern Territory standards, codes of practice and guidelines relevant to the proposal; - Relevant industry standards and guidelines used; and - The consequences, both positive and negative, of not proceeding with the proposal.	Refer to Chapter 1 of the SIA Report for background and context information considered relevant to the SIA.
3.3 Proposal Components ¹⁶	The EIS should identify all the processes and activities intended for the Ranger 3 Deeps Underground Mine and associated ancillary activities, during the life of the proposal. <i>Refer to EIS Guidelines for more detailed requirements.</i>	Requirements included in Section 3.3 of the EIS Guidelines were considered during development of the <i>Project Definition</i> component of the SIA Scope, see: Appendix B: SIA Methodology. An overview of key processes and activities considered relevant to the SIA are included in Section 1.4 of the SIA Report.
3.4 Alternatives	The EIS should describe any feasible alternatives to carrying out the proposed action,	Requirements included in Section 3.4 have been considered in development of the

¹⁶ Note that section 3.2 covers approvals and conditions which are not relevant to the SIA.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	including how it complies with the principles and objectives of ecologically sustainable development (Attachment 1). <i>Refer to EIS Guidelines for more detailed requirements.</i>	<i>Project Definition</i> component of the SIA Scope. See section 1.4.5 of the SIA Report and Appendix E: Project Definition.
4 Risk Assessment		
4.1 Risk Assessment Approach	The EIS should be undertaken with specific emphasis on the identification, analysis and mitigation of risks through a whole-of-project risk assessment. Through this process, the EIS will: • Identify and discuss the full range of risks presented by the proposal, including those of special concern to the public; • Identify relevant impacts; • Quantify and rank risks so that the reasons for proposed management responses are clear; • Identify levels of any uncertainty about estimates of risk and the effectiveness of risk controls in mitigating risk; • Explicitly identify those members of the community expected to accept residual risks and their consequences, providing better understanding of equity issues; and • Demonstrate that the proposal represent best practicable technology. Sufficient quantitative analysis should be provided to indicate whether risks are likely to be acceptable or tolerable. A comparison can be made with similar ventures in Australia and internationally. Assumptions used in the analyses should be explained. Relevant standards, codes and best practice methodologies that minimise risks should be discussed. The risk assessment should be based on best practice. Processes for risk management are formalised in Standards Australia / Standards New Zealand (e.g., AS/NZS ISO 31000:2009; HB 436:2004; HB 158:2010; HB 203:2012)	The assessment of social risks (and opportunities) was conducted as part of the SIA Risk and Opportunity Workshop with results presented in Chapters 2-12 of the SIA Report and a description of the approach provided in Appendix B: SIA Methodology.
4.2 Cumulative Impacts	Cumulative impacts can arise from compounding activities of a single operation or multiple mining and processing operations, as well as the aggregation and interaction of mining impacts with other past, current and future activities that may not be related to mining. An assessment of cumulative environmental impacts should be undertaken that	The SIA process has been designed to consider the potential social impacts of the Ranger 3 Deeps development in the context of past, present and potential future activities. This approach has enabled consideration of the cumulative effects of these impacts. Refer to Appendix B: SIA Methodology for further detail.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	considers the potential impact of a proposal in the context of existing developments and reasonably foreseeable future developments to ensure that any potential environmental impacts are not considered in isolation. The extent of cumulative impacts to be considered depends upon the nature of the environmental issue. The risk assessment should consider and discuss cumulative assessment where relevant and account for impacts on an appropriate scale, such that: • Landscape change originates not only from single projects and management actions, but also from complex and dynamic interactions of multiple past, present and future management actions; and • Biophysical, social and economic change accumulates through additive or interactive (or synergistic) processes. The aggregate impact of multiple actions on the environment can be complex and may result in impacts that are more significant because of interactive processes; and • Any given action does not operate in isolation. The most significant changes are often not the result of the direct effects of an individual action, but from the combination of multiple minor effects over the accumulation of time.	
4.3 Human Health and Safety	The risk assessment should consider all aspects associated with the construction, operation, maintenance and decommissioning of the proposal that may potentially result in impacts to human health and safety. <i>Refer to EIS Guidelines for more detailed requirements.</i>	Requirements included in Section 4.3 of the EIS Guidelines have been considered in development of the <i>Social Aspects</i> component of the SIA Scope, refer to Appendix B: SIA Methodology for further detail. The social aspect <i>Health and Well-being</i> (Chapter 7 of the SIA Report) includes consideration of potential social impacts related to health and safety arising from the Ranger 3 Deeps development. It is noted that technical health studies have not been undertaken as part of this SIA. All health data reported in the SIA has been provided by ERA or obtained from publicly available secondary data.
4.4 Water	The risk assessment should consider all potential impacts to water resources associated with the construction, operation and closure of the Ranger 3 Deeps Underground Mine that may cause adverse changes to the quantity and quality of surface and/or groundwater, or potentially impact regional hydrology and dependent ecosystems.	Requirements included in Section 4.4 of the EIS Guidelines have been considered in development of the <i>Social Aspects</i> component of the SIA Scope, refer to Appendix B: SIA Methodology for further detail. The social aspect <i>Natural and Cultural Heritage</i> (Chapter 4 of the SIA Report)

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	Note the EIS Guidelines refer to the following guidelines for definition of Environmental Values: The <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australian and New Zealand, 2000. (Extract provided below is from 2.1.3 of those guidelines) <i>Particular values or uses of the environment that are important for a healthy ecosystem or for public benefit, welfare, safety or health and which require protection from the effects of pollution, waste discharges and deposits.</i> <i>The following environmental values are recognised in these guidelines:</i> • <i>aquatic ecosystems,</i> • <i>primary industries (irrigation and general water uses, stock drinking water, aquaculture and human consumption of aquatic foods),</i> • <i>recreation and aesthetics,</i> • <i>drinking water,</i> • <i>industrial water (no water quality environmental value), and</i> • <i>cultural and spiritual values (no water quality guidelines are provided for this environmental value — see box 2.2).</i> <i>Refer to EIS Guidelines for more detailed requirements.</i>	includes consideration of potential social impacts related to the natural and cultural heritage values of Kakadu National Park. The social aspect <i>Environmental Quality and Natural Resources</i> (Chapter 11 of the SIA Report) includes consideration of potential social impacts related to the ability of people to access, manage and enjoy the environment and natural resources, including water quality and availability. The theme of 'Water' was included in the EIS risk assessment process conducted by ERA with input from the EIS team and other relevant parties. Banarra participated in the process and provided relevant insights on stakeholder concerns relating to water. The outcomes of the risk assessment were then used to inform the content and process for the SIA Risk and Opportunity Workshop
4.5 Flora and Fauna	The risk assessment should consider all environmental aspects associated with the construction, operation and closure of Ranger 3 Deeps Underground Mine that may result in adverse impacts to listed flora and fauna in the region of the proposal and includes listed threatened species and communities and listed migratory species that are protected under Part 3 of the EPBC Act and the NT Territory Parks and Wildlife Conservation Act. The EIS must include a description of all of the relevant potential impacts of the proposed action on flora and fauna species. Relevant potential impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed above).	Requirements included in Section 4.5 have been considered in development of the <i>Social Aspects</i> component of the SIA Scope, refer to Appendix B: SIA Methodology for further detail. The social aspect <i>Natural and Cultural Heritage</i> (Chapter 4 of the SIA Report) includes consideration of potential social impacts related to the natural and cultural heritage values of Kakadu National Park. The social aspect <i>Environmental Quality and Natural Resources</i> (Chapter 11 of the SIA Report) includes consideration of potential social impacts related to the ability of people to access, manage and enjoy the environment and natural resources,

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	<i>Refer to EIS Guidelines for more detailed requirements.</i>	including biodiversity, terrestrial and aquatic flora and fauna. The theme of 'flora and fauna' was included in the EIS risk assessment process conducted by the ERA with input from the ERA specialists and other relevant parties. Banarra participated in the process and provided relevant insights on stakeholder concerns relating to flora and fauna. The outcomes of the risk assessment were then used to inform the content and process for the SIA Risk and Opportunity Workshop.
4.6 Rehabilitation and Mine Closure	The proposal states that development, operation and closure of the Ranger 3 Deeps Underground Mine would not alter the current operating or closure and rehabilitation timeline for the Ranger Uranium Mine. Mining and ore processing at the Ranger Uranium Mine would be completed by January 2021 with site rehabilitation activities occurring within the period 2021 to 2026. The risk assessment should consider all potential environmental impacts associated with the closure and rehabilitation of the proposed activity in the context of the closure and rehabilitation of the Ranger Project Area. <i>Refer to EIS Guidelines for more detailed requirements.</i>	Requirements included in Section 4.6 have been considered in development of the <i>Project Definition</i> component of the SIA Scope. Refer to Appendix E: Project Definition for more information. The theme of rehabilitation and mine closure was included in the EIS risk assessment process conducted by the ERA with input from the ERA specialists and other relevant parties. Banarra participated in the process and provided relevant insights on stakeholder concerns relating to rehabilitation and mine closure. The outcomes of the risk assessment were then used to inform the content and process for the SIA Risk and Opportunity Workshop.
4.7 Historic and Cultural Heritage	The risk assessment should consider any risks associated with the construction, operation and closure of the Ranger 3 Deeps Underground Mine that may result in the potential disturbance or damage to areas of historic and/or cultural heritage. <i>Refer to EIS Guidelines for more detailed requirements.</i>	Requirements included in Section 4.7 of the EIS Guidelines have been considered in development of the <i>Social Aspects</i> component of the SIA Scope, refer to Appendix B: SIA Methodology for further detail. The social aspect <i>Aboriginal Cultural Values and Activities</i> (Chapter 2 of the SIA Report) includes consideration of Aboriginal peoples' ability to access, protect, use or practice, and develop Indigenous land, language, sacred sites, cultural values, knowledge, practices and lifestyles. The social aspect <i>Natural and Cultural Heritage</i> (Chapter 4 of the SIA Report) includes consideration of potential social impacts related to the natural and cultural heritage values of Kakadu National Park.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
		The theme of Historic and Cultural Heritage was included in the EIS risk assessment process conducted by the ERA with input from the ERA specialists and other relevant parties. Banarra participated in the process and provided relevant insights on stakeholder concerns relating to rehabilitation and mine closure. The outcomes of the risk assessment were then used to inform the content and process for the SIA Risk and Opportunity Workshop
4.8 Socio-economic		
4.8.1 Key Risks	The proposal has the potential to cause positive and/or negative impacts on the regional, Territory and national economies, and the social well-being of the population.	The SIA scope includes consideration of both positive and negative social impacts.
4.8.2 Objectives	The EIS should include a detailed assessment of the risks to demonstrate that for all stages of the proposal: • The Proponent is fully aware of the economic and social impacts of all aspects of the project; and • The prevention and mitigation of negative risks to economic and social impacts are adequately addressed.	All stages of the Ranger 3 Deeps development have been considered in development of the <i>Project Definition</i> component of the SIA Scope. Refer to Appendix E: Project Definition for more information. The prevention and mitigation of negative social impacts was considered in the SIA Risk and Opportunity Workshop. Refer to Appendix B: SIA Methodology.
4.8.3 Information requirements	The EIS should include a balanced summary of the project's economic value (positive and negative) to the regional, Territory and national economies, in terms of direct and indirect effects on employment, income and production. <i>Refer to EIS Guidelines for more detailed requirements.</i>	Requirements included in Section 4.8.3 of the EIS Guidelines have been considered in development of the <i>Social Aspects</i> component of the SIA Scope. Refer to Appendix B: SIA Methodology for further detail. The social aspect <i>Employment and Industries</i> (Chapter 9 of the SIA Report) includes consideration of social impacts relating to the existence, resilience, and role of particular industries in the community and the economy. The social aspect <i>The Distribution of Benefits and Social Equity</i> (Chapter 10 of the SIA Report) also includes consideration of the distribution of economic benefits from resource extraction and the ability of individuals and communities to control or self-determine their economic development. It is noted that technical economic studies have not been undertaken as part of this SIA. All economic data has been provided by ERA or obtained from publicly available secondary data.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
4.8.3 Information requirements	The EIS should include a balanced summary of the project's social value (positive and negative) on a regional, Territory, national and international scale. A brief description of the current population, demography and social aspects of the region affected by the proposal should be provided in the EIS. This should be done through community consultation, historic research and field survey. No information of a confidential nature, particularly related to anthropological matters relevant to Indigenous people or groups is to be disclosed in the EIS. Existing social aspects, and their components, to be discussed must include: • Key stakeholders; • Regional community structures and vitality (e.g., demography, health, education and social well-being, access to services, housing); • Social amenity; and • The number and capacity of existing human services to support the construction work force: ○ skills audit of affected communities; ○ workforce characteristics; and ○ accommodation type and quantity.	Assessment of the social values of the Ranger 3 Deeps development is central to the SIA process. The scales required under the EIS guidelines are included within the <i>Geographic Scale</i> component of the SIA scope, refer to Appendix B: SIA Methodology. An overview of the social and historical context is included in Chapter 1 of the SIA Report with further context provided in relation to each social aspect in Chapters 2-11. The required social aspects have been considered in development of the <i>Social Aspects</i> component of the SIA Scope. Refer to Appendix B: SIA Methodology. The social aspect <i>Population and Communities</i> (Chapter 6 of the SIA Report) includes consideration of the characteristics and pace of change of populations including diversity and balance of community composition, and rates of influx of non-residents. The social aspect <i>Services and Infrastructure</i> (Chapter 8 of the SIA Report) includes consideration of the quality, availability and accessibility of social services and infrastructure in communities including health and emergency services, utilities, housing and accommodation. The social aspect <i>Employment and Industries</i> (Chapter 9 of the SIA Report) includes consideration of the availability and accessibility of employment and business development opportunities.
4.8.4 Assessment of Risks	An Economic and Social Impact Assessment (ESIA) should be conducted. The ESIA should: • Document the economic and social impacts of the proposed development on the region and more broadly, where relevant; • Encourage development of new and/or expansion of existing businesses in the	The requirements in Section 4.8.4 of the EIS Guidelines have been considered in the development of the entire SIA process. The most significant risks and opportunities for the SIA to contribute to social impacts are summarised in Chapter 12 of the SIA report.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
	locality; • Foster sustainable development and community wellbeing; • Estimates of the quantity and value of production/exports relating to the proposed project, including expected reduction in revenue should the proposal not proceed; • An estimate of the value to the local economy associated with expenditure during the construction phase and the annual expenditure on regional goods and services as it relates to the Ranger 3 Deeps Underground Mine and associated infrastructure; • Benefits to the local community, during and beyond the life of the mine, such as development of new skills and facilities, economic development and opportunities for local and regional business and employment opportunities; and • The risks of the Ranger 3 Deeps Underground Mine, related infrastructure and associated workforce negatively impacting on identified social issues in the region.	As noted above, technical economic studies have not been undertaken as part of this SIA. All economic data has been provided by ERA or obtained from publicly available secondary data.
4.8.5 Mitigation and Monitoring	A Social Impact Management Plan (SIMP) should be prepared to address any identified risks associated with the ESIA. The SIMP should: • Describe how the Proponent proposes to manage any identified economic, social, cultural or tourism risks from the proposal, or its associated workforce; • Describe how potential local and regional business and employment opportunities related to the proposed project will be identified and managed; • Include a mechanism for monitoring and reporting any identified potential socio-economic and cultural impacts; • Include measures to mitigate negative economic and social impacts on the locality and region; • Provide outcome and assessment criteria that will give early warning that management and mitigation measures are not achieving the outcomes and benefits expected and identified by the Proponent; and • Provide a stakeholder communications strategy including identification of, and ongoing consultation and negotiations with, all relevant stakeholders, ensuring the full range of community viewpoints are sought and included in the EIS.	Management responses to potential social impacts were considered as part of the SIA Risk and Opportunity Workshop. Refer to Appendix B: SIA Methodology. Responses agreed to by ERA have been captured in the SIMP (Appendix 15 of the EIS).
4.9 Additional Matters of National	The proposed action has the potential to have a significant impact on the following additional matters of NES that are protected under Part 3 of the EPBC Act:	It is expected that ERA will consolidate the information required to complete this section of the EIS, informed by the SIA findings where relevant.

Section of EIS Guidelines	Requirements	Relevance to SIA Scope & Methodology
Environmental Significance	• World Heritage properties (sections 12 & 15A); • National Heritage places (sections 15B & 15C); • Wetlands of international importance (sections 16 & 17B); • Protection of the environment from nuclear actions (sections 21 and 22A); and • Commonwealth land (sections 26 & 27A). The EIS must include a description of all of the environmental aspects of the proposal where there is potential for an impact on matters of NES. Potential impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed above). <i>Refer to EIS Guidelines for more detailed requirements.</i>	
5 Environmental Management		
<i>Not considered in this review.</i>		

APPENDIX D: SIA CONSULTATION SUMMARY

This appendix details the organisations and individuals Banarra engaged with in the course of conducting the SIA. It supplements Appendix B: SIA Methodology which details Banarra's approach to consultation, including limitations.

Note: Permission was sought from all stakeholders for their names to appear in this report. Persons who wished to remain anonymous are listed in the manner of their choosing.

This Consultation Summary is required pursuant to sections 2.2 and 2.3 of the EIS Guidelines.

1. KEY STAKEHOLDER ORGANISATIONS

Key stakeholder organisations were engaged as follows:

- Gundjeihmi Aboriginal Corporation
 - Briefing and consultation with Board, 12th November 2013¹⁷
 - Meetings with the CEO and other staff
 - Interviews with individual board members
- Kakadu National Park
 - Briefing to Board, 4th September 2013¹⁸
 - Interviews with individual board members
 - Interviews with employees
- Northern Land Council
 - Briefings with Darwin and Jabiru based staff
 - Interviews with employees
 - NLC town meetings with regionally affected Aboriginal people and other community members, attended by NLC and Banarra staff
- West Arnhem Regional Council¹⁹
 - Briefing at the Ordinary Meeting of the Shire Council, 11th September 2013
 - Interviews with individual council members
 - Interviews with council employees

¹⁷ Dr Murray Garde provided interpretive services via telephone at this meeting.

¹⁸ Dr Murray Garde provided interpretive services at this meeting.

¹⁹ Formerly West Arnhem Shire Council.

2. SIA PARTICIPANTS

The individuals Banarra engaged with during the SIA are listed below, separated into three sections:

- Section 2.1 details attendees at the GAC Board briefing
- Section 2.2 details attendees at NLC organised meetings and interviews
- Section 2.3 details all other organisations and individuals who participated in the SIA

2.1. Gundjeihmi Aboriginal Corporation Board

The following GAC Board members and staff were present for Banarra's presentation and consultation on the 12th November 2013.

Table 1: GAC board members and staff present 12th November 2013

Name and position	Name and position
Valerie Balmoore, Vice Chairperson	Nida Mangarnbarr, Board Member
Raelene Djandjul, Board Member	Yvonne Margarula, Treasurer
Sandra Djandjul, Board Member	Steven Mudjandi, Board Member
Kelly Edwards, Executive Assistant	May Nango, Board Member
Melanie Elgregbud, Board Member	Annie Ngalmirama, Chairperson
Ruth Gamarrawu, Board Member	Justin O'Brien, CEO
Murray Garde, Interpreter (via telephone)	Adam Thompson, NLC
Melanie Impey, Environment Officer	David Vadeloo, Acting CEO

2.2. NLC Consultation, Jabiru

The NLC supported the SIA by organising and facilitating community meetings in Gunbalanya (13th November 2013) and Jabiru (14th November 2013), and assisting the SIA team to meet with residents in Gunbalanya, Mudginberri and Cannon Hill outstations as well as in Darwin. Table 2 below lists the individuals interviewed and/or present at meetings.

Table 2: Stakeholders engaged through NLC consultation

Name and organisation or place of residence	Name and organisation or place of residence
Tex Badari, Gunbalanya	Dennis Miller, Patonga Airstrip
Michael Banggalang, Djabulukgu Association	Lyn Miller, Patonga Airstrip
Goldie Blyth, Jabiru	Moses Mirwana, Gunbalanya
Marcia Brennan, Jabiru	Jasmin Nabobob, Manaburduma
Victor Cooper, Kapalga	Jonathan Nadji, Cannon Hill
James Dempsey, Cannon Hill	May Nango, Mudginberri
Marcus Dempsey, Cannon Hill	Alfred Nayingull, Djabulukgu Association Board Member
Simon Dempsey, Cannon Hill	Jacob Nayingull Jnr, Gunbalanya
Tash Dirdi, Gunbalanya	Anita Nayingull, Mikinj Valley
Anderson Durdanga, Gunbalanya	Samuel Nayingull, Gunbalanya

David Ganjime, Mudginberri	Elliot Nayingull, Mikinj Valley
Adrian Gumurdul, Gunbalanya	Martin Nayingull, Mikinj Valley
Andy Garnarradj, Gunbalanya	Mildred Nayingull, Mikinj Valley
Samson Henry, Kapalga	Connie Nayingull, Gunbalanya
Jenny Hunter, Kurrajong Springs	Magdalene Ngalamin, Darwin
Doug Hunter, Kurrajong Springs	Amber Philpott, Patonga Airstrip
Elston Lami Lami, Western Arnhem Land	Patsy Ragler, Buffalo Farm
Justine Lami Lami, Darwin	Margaret Rawlinson, South Alligator
Joseph Maniyinbunan, Kapalga	Johnny Reid
Elizabeth Marabali, Cannon Hill	Anonymous Aboriginal community member
Jimmy Marimowa, Cannon Hill	Anonymous Aboriginal community member
Mick Marimowa, Mudginberri	

2.3. Other Participants

Table 3 below lists the names of individuals who participated in interviews, primarily through face-to-face meetings.²⁰ Following the format of the main SIA report, individuals have been listed by organisation where appropriate. Note that participants who represent multiple organisations have been listed once only, where possible against the organisation with which they are most closely affiliated. It is important to note that many participants provided personal viewpoints not necessarily reflecting the position of the organisation against which they are listed, such as ERA employees who were interviewed in their role as residents of Jabiru.

Table 3: Other stakeholders who participated in the SIA

Organisation/Stakeholder Category	Primary Organisation/Stakeholder	Representatives
Businesses	AAA Charter & Kakadu Scenic Flights	Anthony Shearn Kay Shearn
	Aurora Kakadu Lodge	Peter Wilson
	Bark Hut	Maria Godfrey
	Buffalo Farm	David Lindner
	Jabiru Foodland	Ken Jones
	Westpac	Laura Hutchinson
Civil Society Organisations	Environment Centre NT	Lauren Mellor
	North Australian Aboriginal Justice Agency	Jared Sharp
	Public Health Association of Australia	Michael Fonda Aly Mueck
ERA Suppliers and Contractors	MMS Civil	Mat Muir
	Spotless	Jon Duncan Warren Moffitt Bill Sanders

²⁰ Banarra conducted a small number of interviews via telephone where it was not possible to do so in person.

Organisation/Stakeholder Category	Primary Organisation/Stakeholder	Representatives
	Anonymous supplier	Anonymous supplier
Governance Organisations	Aboriginal Areas Protection Authority	Gareth Lewis
	Djabulukgu Association Incorporated	Liam Maher Michael Banggalang Alfred Nyanggul
	Gagudju Association	Rob Trennery
	Gundjeihmi Aboriginal Corporation	Melanie Impey Justin O'Brien David Vadiveloo Board members as detailed in Section 1.2.1
	Kakadu National Park	Lia Arcioni Sally Ann Atkins Trissie Bell Sandra Jaeschke Sarah Kerin Steve Winderlich
	Northern Land Council	Jo-Ann Christophersen Russell Jennings Ron Levy Adam Thompson
	West Arnhem Regional Council	Ralph Blyth Ian Douglass Brian Hylands Barbara Newland
Service Providers	Centrelink Agency	Representative, Jabiru
	Children's Ground	Jane Vadiveloo
	Demed	Syd Laker
	Frontier Services (Uniting Church)	Louise Parkhill Lindsay Parkhill
	Jabiru Childcare Centre	Lare Stanton
	Jabiru Health Centre	Representative, Jabiru
	Jabiru Playgroup and JUICE (Jabiru United in Community Events)	Ashleigh De Sair
	Jabiru Sports and Social Club Incorporated	Chris Suitor
	Kakadu Cultural Advisory Team	Neville Namarnyilk
	Northern Territory Fire & Rescue Service (Jabiru Fire Station)	Mick Hutton
	Northern Territory Police (Jabiru Police Station)	Steve Constable
	Warnbi Aboriginal Corporation	Rodney Hodge
	West Arnhem College	Phil Maunder Mark Monaghan

Organisation/Stakeholder Category	Primary Organisation/Stakeholder	Representatives
ERA employees and contractors ²¹	ERA	Chris Barton Rykia Blanko Pat Carrick Ryan Gordon Peter Hansen Nicole Jacobsen Matthew Large Ben McTavish David Meador Alan Tietzel Anonymous employee Anonymous employees from the following departments who participated in the online survey: • Production – Plant Operations x6 • Learning and Development x1 • Exploration x2 • Electrical x2 • Supply x1 • Operations x1 • Mining x3 • Technical and Major Studies x1 • Human Resources x1 • Maintenance x2 • Water and Closure Strategy x1 • Plant maintenance Power Station • Fixed Plant Planning x1 • HEWS x1 • IT (site servers) x1 • HSE x3 • Ranger 3 Deeps exploration decline x1 • Darwin office x1 • Major projects x1
Other individuals	Various	Philippa Adams Peter Christophersen Ian Crundall Davina Edwards Anna Egerton Murray Garde Richie Howitt Scott Lashmore Belinda Maunder Mel McTavish Lothar Siebert Anonymous stakeholder (governance) Anonymous stakeholder (Jabiru resident)

²¹ This list does not include ERA employees consulted with the express purpose of understanding ERA's management approach, or aspects of the Ranger 3 Deeps development. All employees listed here were asked to participate for the purposes of understanding the potential impacts of the Ranger 3 Deeps development on themselves, their families, ERA employees and the broader community.

APPENDIX E: PROJECT DEFINITION

This document outlines the project definition (the Definition) and alternative, as understood by Banarra in its assessment of potential social impacts of Ranger 3 Deeps. The Definition was developed by summarising relevant aspects of the Referral (ERA, 2012a) and through the provision of additional information from ERA over the course of the SIA, primarily in late 2013. It should be noted that some information in this document only became available in 2014, particularly expected workforce numbers.²² Where significant additional information has been provided it has been referenced to the source.

This Definition is not a substitute for the Referral or the “Project Description” as presented in Chapter 3 of the EIS. It is Banarra’s understanding that, in all matters material to the SIA, this Definition remains consistent with the current predictions for the design of Ranger 3 Deeps.

The Definition was developed as a tool to ensure Banarra’s understanding of the Ranger 3 Deeps development was sufficiently detailed and clear for the purpose of an SIA. The Definition is presented by the following project activities:

1. Infrastructure
2. Mining and processing operations
3. Environmental management
4. Supply chain
5. Workforce management
6. Community relations
7. Closure

Table 1. Project definition

²² Although an order of magnitude study was completed in 2012, a more detailed and optimised design of the Ranger 3 Deeps underground mine, associated new surface infrastructure and operational framework has been developed through the prefeasibility study across the same timeframe as the SIA process.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
1 – Infrastructure			
1.1	Ventilation system for underground mine	Fixed ventilation system constructed for the Ranger 3 Deeps exploration decline, including a duct system constructed during the first phase (2012) and one shaft located within the Magela Land Application Area (MLAA) during the second phase (2013-2014). The ventilation system will be decommissioned at the conclusion of exploration activities, unless the decline is intended for use in the disposal of plant and infrastructure from the processing plant, in which case the ventilation may be required until these activities have been completed.	The existing ventilation system in place for the exploration decline project will be expanded to provide sufficient ventilation to maintain air quality appropriate for the occupational health of the underground workers. This may require in the order of an additional five ventilation shafts (of 5 m diameter, or more of smaller diameter) and fan assemblies. Shafts will be located on the MLAA, within a defined ventilation corridor, which is already disturbed. A visual amenity study will establish where ventilation shafts will be visible from. Where alternative locations are technically feasible, ERA will consider Traditional Owner preferences and/or other mitigating measures.
1.2	Refrigeration plant	n/a	A refrigeration plant will be constructed to enable cooling of the air entering the ventilation system, as may be required to maintain safe working conditions. The plant will be decommissioned in accordance with the current Ranger Authorisation timeline.
1.3	Backfill plant	Shotcrete is produced in Jabiru by a private operator. This will only be required whilst the exploration decline development continues.	A backfill plant will be constructed on the western side of Pit 3, overlying the underground mine. The plant will dewater tailings, bind and mix tailings with additives. The plant will be decommissioned in accordance with the current Ranger Authorisation timeline.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
1.4	Development and expansion of the exploration decline	A decline has been constructed for exploration, reaching approximately 1,000 m in July 2013. The decline shall reach approximately 3,000 m in length, and approximately 400 m in depth by Q3/Q4 2014. Box-cut excavation also commenced in May 2012. This was to allow the construction of the decline entrance, which consists of a metal arch extended through the soil and weathered rock zone. The box-cut has subsequently been back-filled. The decline will be decommissioned at the conclusion of exploration activities, unless it is intended for use in the disposal of plant and infrastructure from the processing plant, in which case it will be decommissioned in accordance with the current Ranger Authorisation timeline.	The underground mine will be accessed by the existing decline, which at the conclusion of the exploration activity will extend approximately 3 km in length, and to a depth of 400 m. Underground drives and stopes will be developed as soon as practical following ministerial approval, consistent with the detailed construction plan currently being developed. The underground workings will extend over an underground area in the order of 18 ha. The arrangement will be established once the exploration activity is complete. The decline and underground mine decommissioning will be incorporated in the overall plan for whole of site closure and will progress in accordance with the current Ranger Authorisation timeline.
1.5	Processing infrastructure	Site mill and associated infrastructure are in place. Processing infrastructure will be decommissioned consistent with the Ranger closure plan, in accordance with the current Ranger Authorisation timeline.	No change to infrastructure. Processing infrastructure will be decommissioned in accordance with the current Ranger Authorisation timeline.
1.6	Use and expansion of energy infrastructure	The site power plant is diesel generated. It shall be decommissioned in accordance with the current Ranger Authorisation timeline. An additional diesel generator is in place at the entrance to the decline for decline needs. It shall be decommissioned consistent with the Ranger closure plan, in accordance with the current Ranger Authorisation timeline.	An additional 4-6MW power generation will be established at the existing on-site diesel power plant, consisting of additional diesel generator units integrated into the existing power station.
2 - Mining and processing operations			

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
2.1	On-site transport and processing of mineralised material, extraction methods	Open pit mining ceased in November 2012 and there is no active mining on site. Stockpiled ore is and will continue to be processed using existing processing plant and surface infrastructure, whilst it remains economic to do so. Processing will cease in January 2021.	Subject to approvals, mining will commence late 2015 (estimated) with processing of both stockpiled ore, and ore from the underground mine. A detailed construction plan, including schedule, will be developed through the prefeasibility and feasibility studies, with activities commencing as soon as practical following completion of the environmental approvals process. Mining will be conducted via a series of stopes excavated by drilling and blasting. Mined material will be transported from the underground workings on trucks to the surface and processed using the existing processing plant and related surface facilities. Processing will cease in January 2021.
2.2	Exploration on the RPA	Exploration drilling of the 3 Deeps resource commenced in Q2 2013 and is scheduled for completion in Q1 2014.²³ Exploration and resource definition drilling to be completed by Q3 2014. If bulk samples are collected, they will be used for metallurgical testing only, then returned underground, or processed, if approved by stakeholders (via the Minesite Technical Committee).	Exploration activity will continue to support selection of optimal mining areas and scheduling to maximise return in the defined period for production. Exploration elsewhere on the Ranger Project Area may also continue.
3 - Environmental management			

²³ i.e., 1st quarter, 2014.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
3.1	Air quality and radiation monitoring and management	Radiation risk is managed according to the ARPANSA (2005) code of practice through ERA's radiation monitoring system. Dust monitoring is carried out for the duration of the exploration decline project. All closure, rehabilitation and subsequent monitoring will be as required by authorisation.	The existing radiation monitoring system will be amended according to the outcomes of radiation monitoring and project radiation assessment conducted during the EIS. Public and Environment Radiation Risk: As at September 2013 preliminary modelling suggests that the net effect of radiation exposure on the public and environment will be well below the relevant legislative limits and within the natural variability in background exposure. Full results will be published within the EIS. ERA will put all necessary mitigations in place to ensure there is no radiation risk to the public. Emissions of radon and dust to the environment are predicted to decrease, compared to those experienced during open cut mining. All closure, rehabilitation and subsequent monitoring will be as required by authorisation.
3.2	Noise and vibration management	Existing measures not disclosed.	Preliminary noise and vibration studies indicate levels that will be well below prescribed criteria at sensitive receptors. Noise reduction technology may be implemented if necessary, and in consultation with Traditional Owners. Noise increases will be localised to the construction area, for relatively short durations, and likely indistinguishable from current operations as experienced at more distant receptor locations such as airports, accommodation, communities and Jabiru.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
3.3	Tailings management and disposal	From 2015, Pit 3 will be converted to a tailings repository accepting tailings currently stored in the tailings storage facility (TSF) and any new tailings generated from ongoing production. Once Pit 3 is converted to a tailings repository, any water in it becomes designated "process water" rather than "pond water" requiring a higher level of treatment (ultimately via the brine concentrator). Tailings will be transferred over a number of years and will ultimately be encapsulated in the mined out Pits 3 and 1 in the long term. All mill tailings (solely generated from existing stockpiled ore) will be deposited directly in Pit 3.	Tailings management will be as described for the alternative case with the exception that a portion of tailings from the mill will be returned underground as backfill with the balance being deposited directly into Pit 3. Mill tailings will be generated from both Ranger 3 Deeps ore and ore from existing lower grade stockpiles.
3.4	Waste rock	Waste rock is stockpiled, and either placed in Pit 3 or otherwise utilised to construct the final landform across the disturbed operations footprint.	All ore and waste rock generated from the underground activity will be managed in accordance with ERA's Mineral and Non-Mineralised Waste Management Plan. Stockpiled waste will be returned to the underground mine workings as backfill or become part of the surface landform (for non-mineralised waste only).
3.5	Water management	Pond water is used at the mill, for dust suppression, vehicle wash-down and at the power station as cooling water. ERA operates a "closed loop" water management system, with only treated water returning to the environment. A brine concentrator for treating process water commenced commissioning in September 2013.	There will be no change in the water management strategies of the existing Ranger operation, only minor incremental changes to the existing operation's process water and tailings inventories. Water will be managed using water treatment plants, retention ponds, and the brine concentrator. An underground pumping system will be installed to pump groundwater inflows to the surface for storage, treatment and use as part of the underground and other operations.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
		Process water management will change in the coming years as a function of progressive rehabilitation plans for the whole site, consistent with the closure and rehabilitation plan. A water monitoring system is in place including 200 ground water monitoring bores and 13 continuous real-time monitoring stations, upstream and downstream of Ranger within Magela Creek and Gulungul Creek.	The mine will require dewatering, although quantities are anticipated to be small due to the low permeability of surrounding rock at depth.²⁴ A water management plan will be developed during the prefeasibility study. Existing monitoring programs will continue. There will not be any substantive change to rehabilitation or closure activities.
3.6	Flora and fauna management	ERA has active weed and fire management programs and other environmental management plans in place (e.g., water management ensuring the quality of release waters) which indirectly protect flora and fauna. These will continue. The knowledge gained in the threatened species survey as part of the EIS may be used to modify existing management plans.	Less than two hectares of land will be cleared during the construction of ventilation shafts within the designated ventilation corridor (within the already disturbed MLAA). An environmental consultant team will undertake surveys as part of the EIS for threatened species in the vicinity of the proposed project and will recommend any appropriate mitigation measures, such as monitoring or physical barriers.

²⁴ During the prefeasibility study, modelling has predicted a larger requirement for dewatering than initially anticipated, although existing water treatment infrastructure will be adequate, and there is no expectation that this would lead to any material change in process water inventory trajectory toward whole of site closure.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
3.7	Cultural heritage management	The Ranger Project Area contains several significant Aboriginal sites, including registered sacred sites, and additionally a distribution of archaeological sites and archaeological background scatters. Based on the cultural heritage surveys, cultural heritage baseline assessment and the Aboriginal Areas Protection Authority field surveys, the cultural heritage within the Ranger Project Area is documented and managed in accordance with relevant legislation and ERA's cultural heritage management system.	Construction and operational activities will deliberately avoid all known archaeological sites, and there are robust controls such as fencing and a buffer zone, to protect the important cultural site in the near vicinity of the proposed action. The current cultural heritage management system will continue. Active management of cultural heritage will continue throughout all phases of the project.
4 - Supply chain			
4.1	Product and consumables transportation	The primary transport routes are via Arnhem Highway and Kakadu Highway. Dangerous or volatile materials transported include sulphuric acid, diesel, sodium hydroxide, kerosene, alamine, lime, etc.	There will be changes in the quantities of consumables required for the project relative to historic levels and compared to the alternate case. These differences will in some cases be higher (diesel) and in some cases lower, but generally minor, in the order of one or two additional trucks per week for particular consumables.²⁵ A consultant will be engaged to consider the possible impact of changes and to review the current controls in place which mitigate risk to the public and the environment as part of the EIS.
4.2	Shipping of product overseas	Not disclosed	Ports and routes will not change.

²⁵ More detailed consideration of consumables requirements during the feasibility study has established a greater increase in deliveries than initially anticipated, mostly associated with cement requirements for backfill and diesel for additional power generation. The project-related traffic represents less than 2% of projected traffic volumes on the major routes in 2017 (information provided by ERA).

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
4.3	Procurement programs, including local or indigenous sourcing programs	Not disclosed	Current practices will continue.
4.4	Management of chain of custody of ERA product	ERA is subject to federal regulation regarding uranium export. It is exported only to countries and parties with which Australia has a bilateral nuclear cooperation (safeguards) Agreement.	No change to current process or regulation.
5 - Workforce management			
5.1	Workplace health and safety, alcohol and drug testing, radiation risks to health	All employees and contractors are subject to random drug and alcohol testing when reporting to work at the mine, and there are policies in place with respect to drugs and alcohol. Management of the radiation risk is undertaken according to the ARPANSA (2005) code of practice. This code of practice sets out the radioactive dose limits for both workers and members of the public. ERA's Safety Management System is Australian Standard AS4801 OHS Management System compliant. Site Emergency Response personnel are receiving ongoing training in underground emergency scenarios.	Worker radiation dosages are anticipated to increase relative to open pit mining operations, due to some workers being in close proximity to moderate grade ore. A range of engineering and operational controls will ensure all worker dosages are below regulatory limits. Air quality and dust will be managed in accordance with currently approved ERA plans and procedures, such as hygiene controls, and a dedicated underground mine ventilation system will be constructed. Other existing health and safety programs will continue, including underground emergency training for site Emergency Response personnel. Refuge chambers will be installed for temporary life support if workers cannot exit the mine in case of emergency. Workforce health and safety systems will be revised and if required, additional procedures established, as determined through risk analysis processes. These will be consistent with Rio Tinto and appropriate Australian and International standards.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
5.2	Construction workforce size and shift type	See 5.3 below. Figures integrated into long-term forecast.	See 5.3 below. Figures integrated into long-term forecast.
5.3	Workforce management	ERA employees are predicted to range from 430 to 470 FTE between 2015 and 2020, of which approximately 200 would be residentially housed in Jabiru.	The Ranger 3 Deeps incremental workforce is predicted to range from 180 to 280 FTE over the life of the mine, taking the total workforce to between 650 to 750 FTE. All Jabiru employees will be accommodated in existing residential or camp accommodation. More accurate workforce numbers have only recently been available as more detail of infrastructure requirements and operation schedules have been developed through the pre-feasibility study.
6 - Community relations			
6.1	Social contributions and investment	Financial and in kind contributions are managed by the ERA Communities team. Activities include: - Contributions to, and participation on the Kakadu West Arnhem Social Trust; - Support for local services through the ERA Community Partnership Fund; - Support for the West Arnhem College and students through the Education Partnership; and - In-kind support, donations of equipment and resources, and discretionary funding to community organisations Partnerships and contributions are forecast to cease in 2021.	Social partnerships and contributions will continue and opportunities for new programs will be considered as appropriate (including as detailed in the SIMP, see Appendix 15 of the EIS).
6.2	Royalty payments	ERA makes royalty payments of 5.5% of net sales revenue from Ranger mine production. The Commonwealth Government distributes royalty equivalents as follows: 1.25% is disbursed to the NT Government for use as general	The existing royalty regime will be maintained, as per the 2013 Agreement.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
		revenue. 4.25% is disbursed to NT based Aboriginal interests including, - a proportion to the Aboriginal Benefits Account for the benefit of Traditional Owners as well as all Aboriginal people in the NT; and - a proportion for the benefit of Traditional Owners (via the NLC) (ERA 2013; Scambary 2013, p.75). For further details see Chapter 10 of the SIA.	
6.3	ERA's relationship with Traditional Owners and other governance parties	ERA recognises the Mirarr as the landowners of the Ranger mine lease. ERA's relationship with the Mirarr is formalised through the 2013 Agreement and MOU, and maintained through the Relationship Committee and informal channels. Relationships with other governance organisations are maintained through membership of, and participation in a number of formal committees including: - The Minesite Technical Committee; - ARRAC; - ARRTC; and - JTDA.	ERA is seeking approval of the Northern Territory and Commonwealth Governments for development of the Ranger 3 Deeps underground mine. Relationships with other governance organisations, including the GAC, will be maintained through existing channels.
6.4	Direct and indirect economic contributions - local, regional and territorial	ERA's combined gross regional value added in 2011 (both direct and indirect) was: 87% of Jabiru's gross regional value added; 52% of the Alligator region gross regional value added; and 3.6% of the Northern Territory's gross value added.	To be determined.

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
6.5	Provision of local services and infrastructure	ERA supplies power to the Jabiru, Jabiru East and Mudginberri communities. ERA manages and maintains the Jabiru Airport. There is no charge for landing or operating fees to non-ERA airport users who make up 82% of airport traffic (including tourism, charter and freight flights). ERA owns or sub-leases residential and commercial property in Jabiru including: • 273 houses (at January 2014); and • eight commercial buildings including six small retail shops within Jabiru Plaza, the Jabiru Sport and Social Club building and the Supermarket building (at 2012). (ACIL Tasman, 2012; ERA, 2012a, ERA HR Department, March 2014)	ERA will continue its current property management and power supply activities in Jabiru, Jabiru East and Mudginberri. There may some change in the distribution of accommodation requirements to account for changing workforce, but no new accommodation will be constructed.
6.6	Communication methods	Relationships with stakeholders are maintained through membership of a number of formal committees, noted above in 6.3. ERA also participates on local and regional committees including Kakadu West Arnhem Social Trust and the Gunbang Action Group. Informal relationships are maintained through individual relationships managed by the Communities and Leadership teams. Communication is managed by the ERA Communities and External Relations teams and includes Quarterly Business Updates, information days and direct communications with key stakeholders.	ERA will continue its current approach to maintaining relationships and communications.
7 – Closure			

No.	General description of activity	Alternative definition: processing to 2021 with no Ranger 3 Deeps	Ranger 3 Deeps project definition
7.1	Site rehabilitation	ERA is progressively rehabilitating the following Ranger Project areas: • Disused access tracks; • Pit 1; • Pit 3 where the lower portion is being backfilled with waste rock, prior to preparation for tailings transfer from the TSF and the mill; and • Disused land application areas. The MLAA has been subject to rehabilitation trials and more extensive rehabilitation is forecast to proceed in coming years. Full site rehabilitation is forecast to be conducted progressively from now, but predominantly between 2021 and 2026 and will be undertaken in a manner designed to achieve environmental and cultural heritage closure criteria which are currently being developed via a Closure Criteria Working Group of the Ranger Minesite Technical Committee. Additionally, rehabilitation of the previous areas disturbed on the Jabiluka lease area is being undertaken. Rehabilitation will be undertaken in alignment with the Closure Plan for the Ranger Project Area. The GAC are represented on the Closure Criteria Working Group.	Ranger 3 Deeps will not change the closure and rehabilitation strategy or schedule for Pit 3, although there will be some changes in the absolute quantities of tailings and waste rock. Undertaking the Ranger 3 Deeps project will not significantly impede the progressive rehabilitation of the MLAA. Project closure will include: • Removal of infrastructure; and • Backfill of the mine stopes, decline and lateral development and ventilation shafts. These activities will be incorporated in and align with the overall site closure plan and will be designed to achieve closure criteria currently being developed in consultation with the Ranger Minesite Technical Committee.
7.2	Rehabilitation monitoring	To be determined through the Minesite Technical Committee and Closure Criteria Working Group.	To be determined through the Minesite Technical Committee and Closure Criteria Working Group.

APPENDIX F: SOCIAL BASELINE DATA

This appendix includes supplementary data sets that are relevant to the SIA, of which some, but not all are included within the body of the report. It is designed to be read in conjunction with the body of the SIA to provide further context and an up-to-date snapshot of the status of the people and communities in the region.

Please note that this is not intended to be a social baseline study, but rather supplementary data to support findings. No new research or analysis was undertaken; all data is sourced from published sources or from ERA regarding their operations.

Section 1.1 includes Australian Bureau of Statistics (ABS) census data and Section 1.2 provides a summary of other select data sources.

1. ABS CENSUS DATA

The following data is sourced from the ABS 2011 Census, the most recent census for the study area. Data is provided for Jabiru, Gunbalanya, West Arnhem and the NT.²⁶

Table 1: 2011 census data (ABS 2011 Census Community Profiles)

Relevant chapter	Metric	Jabiru	Gunbalanya	West Arnhem	NT	Source detail
6. Population and communities	Total resident population, 2011	1,128	1,171	6,232	211,945	Basic Community Profile, B01a
6. Population and communities	Visitors, 2011	661	92	1,756	32,289	Basic Community Profile, B03a

²⁶ Data relates to the following ABS geographical structures: Jabiru (SLA710154663); Gunbalanya (SSC70075); West Arnhem (LGA74660); and NT (7). These structures were chosen for their alignment with the areas of focus of the SIA (West Arnhem LGA in lieu of published data on the Alligator Rivers Region for instance) and breadth of data (Jabiru SLA features an Aboriginal and Torres Strait Islander Peoples (Indigenous) Profile while Jabiru UC/L and SSC structures do not). Variations in data between geographical structures at the town level are very minor (e.g., Jabiru's resident population is reported as 1,128 and 1,129 in SLA and UC/L data sets respectively).

Relevant chapter	Metric	Jabiru	Gunbalanya	West Arnhem	NT	Source detail
6. Population and communities	Total population present on census night, 2011 ²⁷	1,724	1169	7,540	228,265	Basic Community Profile, B03a
6. Population and communities	Visitors, as percentage of total, 2011	38%	8%	23%	14%	Derived from Basic Community Profile, B01a and B03a
6. Population and communities	Population growth 2001 - 2011 ²⁸	4%	N/A	3%	11%	Derived from Time Series Profile, T01
6. Population and communities	Indigenous resident population, 2011	214	1,040	4,694	56,776	Basic Community Profile, B01a
6. Population and communities	Indigenous population growth 2001-2011	-7%	N/A	18%	12%	Derived from Time Series Profile, T03
6. Population and communities	Resident Indigenous population, as percentage of total, 2011	19%	89%	75%	27%	Basic Community Profile, B01a
6. Population and communities	Male to female ratio, 2011	55:45	50:50	52:48	52:48	Derived from Basic Community Profile, B01a
6. Population and communities	Percentage of residents aged 15 years or under, 2011	22%	30.3%	29%	23%	Basic Community Profile, B01a

²⁷ This figure is based on 'place of enumeration' and does not equal the sum of the total resident population and visitors as it excludes residents not at home on census night.

²⁸ Note that ABS Time Series Profile data is based on place of enumeration, rather than place of residence.

Relevant chapter	Metric	Jabiru	Gunbalanya	West Arnhem	NT	Source detail
6. Population and communities	Median age, 2011	33	23	26	31	Basic Community Profile, B02
6. Population and communities	Percentage of residents born in Australia, 2011	80%	100%	96%	82%	Derived from Basic Community Profile, B01a ²⁹
6. Population and communities	Average household size, 2011	2.6	5.4	4.2	2.9	Derived from Basic Community Profile, B02
6. Population and communities	Percentage of residences that house 'families', 2011	72%	87%	79%	72%	Basic Community Profile, B30
6. Population and communities	Percentage of residents speaking English at home only, 2011	81%	12%	25%	70%	Derived from Basic Community Profile, B01a ³⁰
6. Population and communities	Languages other than English (top 3), 2011	Australian indigenous Languages (6.7%) Filipino (1.1%) Mandarin (1.0%)	Australian indigenous Languages (87%) Indonesian (0.3%) ³¹	Australian indigenous Languages (72%) Mandarin (0.3%) Thai (0.2%)	Australian indigenous Languages (18%) Greek (1.5%) Tagalog (0.9%)	Derived from Basic Community Profile, B13a and B13b ³²

²⁹ Data is calculated based upon the number of respondents rather than total population.

³⁰ Data is calculated based upon the number of respondents rather than total population.

³¹ Only two languages other than English were recorded.

³² Data is calculated based upon the number of respondents rather than total population.

Relevant chapter	Metric	Jabiru	Gunbalanya	West Arnhem	NT	Source detail
6. Population and communities	Residents over 15 years volunteering for an organisation or group, 2011	21%	4%	12%	19%	Derived from Basic Community Profile, B19 ³³
6. Population and communities	Median weekly personal income, 2011 (all residents)	\$1,140	\$253	\$325	\$745	Basic Community Profile, B02
6. Population and communities	Median weekly personal income, 2011 (indigenous persons)	\$483	N/A	\$270	\$269	Aboriginal and Torres Strait Islander Peoples (indigenous) Profile, I04
6. Population and communities	Median weekly personal income, 2011 (non-indigenous persons)	\$1,287	N/A	\$1,149	\$925	Aboriginal and Torres Strait Islander Peoples (indigenous) Profile, I04
6. Population and communities	Median weekly personal income of Indigenous residents, as percentage of median non-indigenous residents' income, 2011	38%	N/A	23%	29%	Derived from Aboriginal and Torres Strait Islander Peoples (indigenous) Profile, I04

³³ Data is calculated based upon the number of respondents rather than total population.

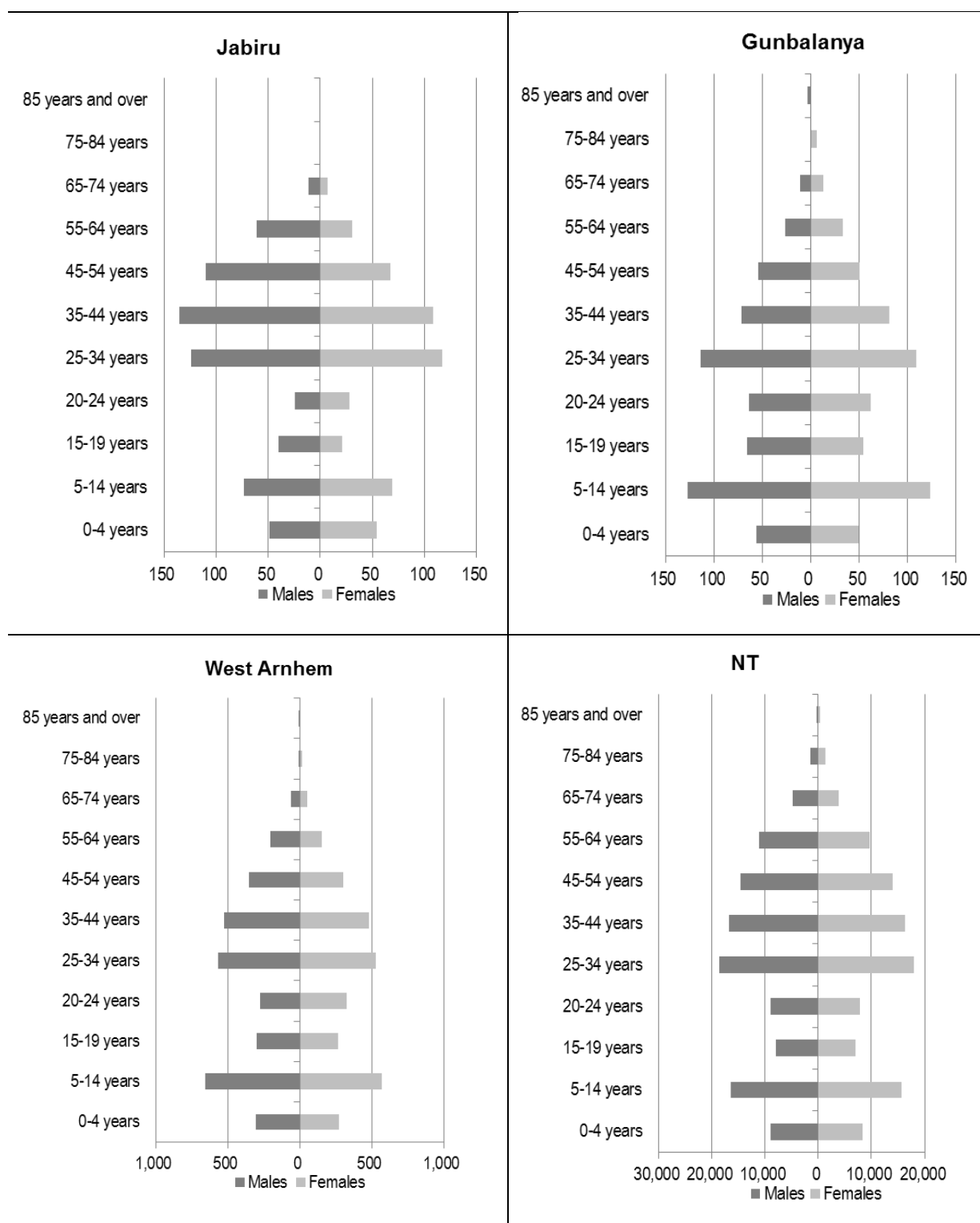
Relevant chapter	Metric	Jabiru	Gunbalanya	West Arnhem	NT	Source detail
8. Services and infrastructure	High school completion (indigenous residents), 2011 ³⁴	17%	N/A	15%	16%	Derived from Aboriginal and Torres Strait Islander Peoples (Indigenous) Profile, I06
8. Services and infrastructure	High school completion (non-indigenous residents), 2011	59%	N/A	58%	56%	Derived from Aboriginal and Torres Strait Islander Peoples (Indigenous) Profile, I06
9. Employment and industries	Unemployment rate, 2011 ³⁵	2%	15%	14%	5%	Derived from Basic Community Profile, B42
9. Employment and industries	Industries of employment (top 3), 2011	Mining (37%) Accommodation and food services (15%) Education and training (8%)	Public administration and safety (31%) Other services (15%) Education and training (14%)	Other services (18%) Public administration and safety (17%) Mining (12%)	Public administration and safety (21%) Health care and social assistance (10%) Education and training (9%)	Derived from Basic Community Profile, B43c ³⁶
10. Distribution of benefits and social equity	Median rent (\$/weekly), 2011	\$37	\$55	\$50	\$225	Basic Community Profile, B02

³⁴ Percentage of persons aged 15 years and over who are no longer attending primary or secondary school and have completed year 12.

³⁵ The unemployment rate measures the number of people actively looking for a job as a percentage of the labour force.

³⁶ Data is calculated based upon the number of respondents rather than total population.

The following age charts (Figures 1-4) demonstrate the varied population compositions across the relevant geographical areas at the time of the 2011 Census.



Figures 1 –4: Age charts (ABS Census 2011, BCP B01)

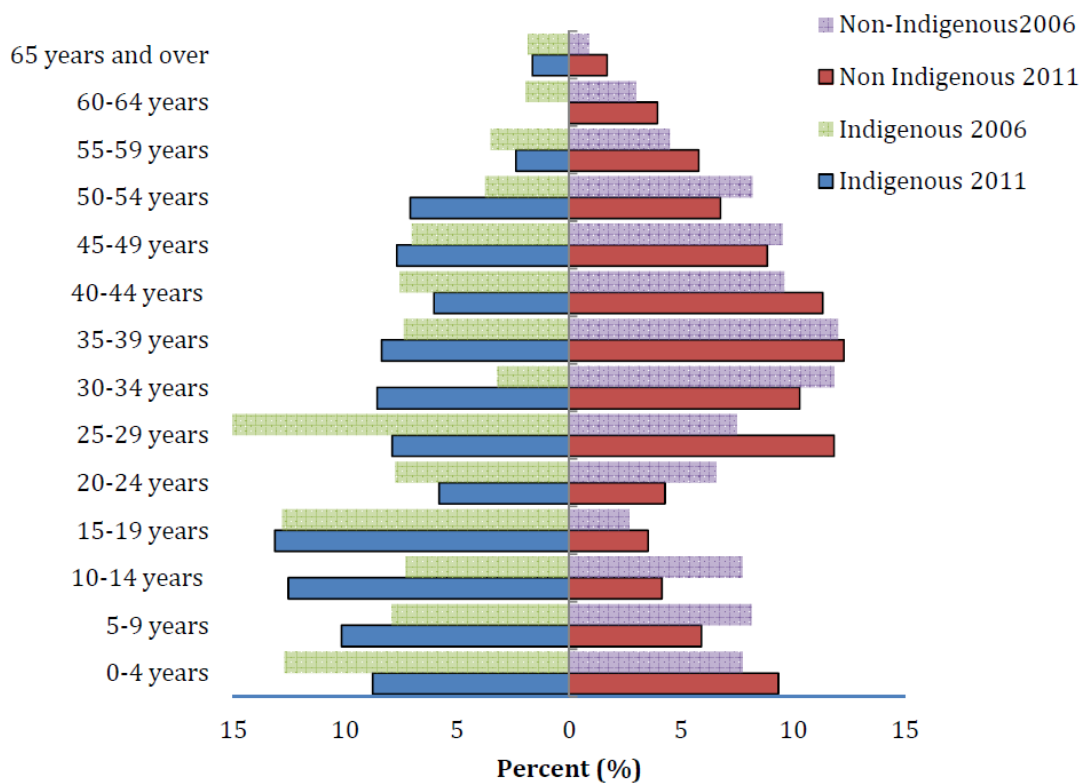


Figure 5: Jabiru demographic variation 2006 – 2011 (Northern Institute 2014a, p.5)

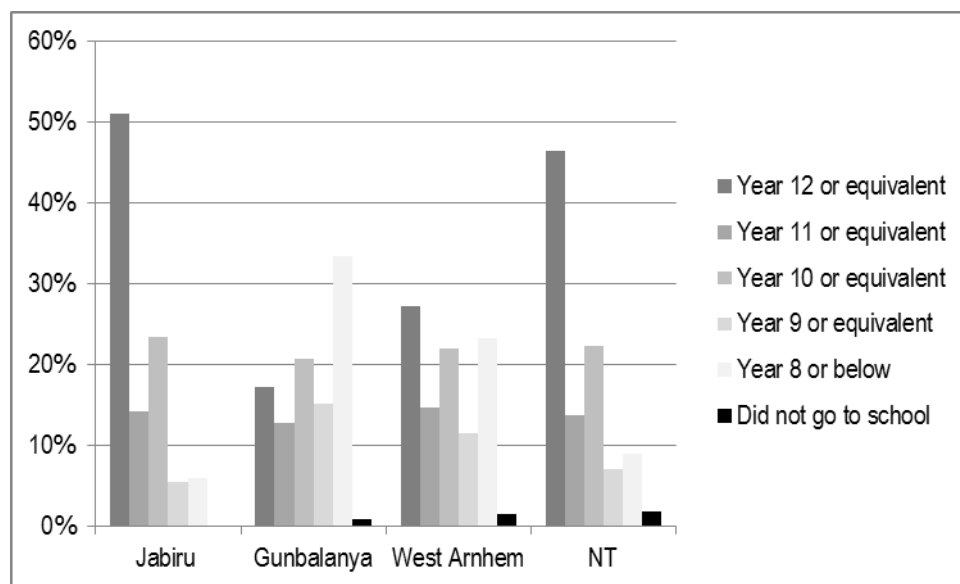


Figure 6: School completion rates (Derived from ABS Census 2011, BCP B16)³⁷

³⁷ Highest level of schooling completed by persons aged 15 years and over who are no longer attending primary or secondary school. Data are reported as percentages of total respondents for each locality.

2. OTHER SUPPORTING DATA

The following data is sourced from a range of publications, as noted.

Table 2: Other supporting data (various sources)

Relevant chapter	Metric and data	Source
6. Population and communities	Population turnover in Jabiru, 2006-2011: 95%. ³⁸	Northern Institute 2014, 1
7. Health and wellbeing	ERA all injury frequency rate ³⁹ for 2013: 0.91	ERA 2013 Annual report, p. 23
7. Health and wellbeing	ERA lost time injuries, 2013: 4	ERA 2013 Annual report, p. 23
8. Services and infrastructure	Jabiru Area School enrolment: Approximately 300 students.	ACIL Tasman 2013, p. 14
8. Services and infrastructure	Proportion of West Arnhem College students who identify as being of Aboriginal or Torres Strait Islander descent: Over 60%.	West Arnhem College 2014 ⁴⁰
8. Services and infrastructure	Percentage of the 105 students at Jabiru Area School with parents working at Ranger in 2012 by year group: • 20% in pre-school/transition • 44% in primary school (i.e., Year 1 to Year 6) • 36% in secondary school (i.e., Year 7 to Year 12)	ACIL Tasman 2013, p. 15
8. Services and infrastructure	Jabiru houses managed by ERA: 273 Percentage of total Jabiru housing stock: 66%	ACIL Tasman 2013, p. 12 and further information provided by ERA
9. Employment and industries	Visitors to KNP: • 2012: 198,321 • 2013: 187,453⁴¹	Pers. comm. Kakadu National Park Tourism and Visitor Services Manager
9. Employment and industries	Businesses in Jabiru (approximately): • “10 tourist-related businesses • 27 businesses providing non-tourist goods and/or services • three government agencies • six social and sporting clubs • five Aboriginal agencies • eight other service providers.”	ACIL Tasman, 2013, 10
9. Employment and industries	Number of jobseekers in the West Arnhem Region NT ⁴² (RJCP region 37) at the end of June 2013. Total: 643	Job Services Australia, 2013, p.41
9. Employment	Number of jobseekers in the West Arnhem Region NT (RJCP region	Job Services Australia, 2013,

³⁸ Measured as the absolute sum of intra-Territory, interstate and overseas migration as a proportion of the 2011 resident population.

³⁹ Defined as all reportable injuries including lost time injuries, restricted work injuries and medical treatment cases per 200,000 hours worked.

⁴⁰ See <http://www.westarnhemcollege.nt.edu.au/jabiru/about-jabiru-area-school>.

⁴¹ Figures are indicative, based upon calibration surveys and road counters situated at the North and South park entrances.

⁴² Note that the West Arnhem Region for RJCP purposes is not consistent with the geographical boundary of the West Arnhem LGA as defined by the ABS.

Relevant chapter	Metric and data	Source																																																
and industries	37) at the end of June 2013 by community: <table><thead><tr><th>Community or Town</th><th>RJCP job seekers</th></tr></thead><tbody><tr><td>Araru Point</td><td><20</td></tr><tr><td>Buffalo Farm</td><td><20</td></tr><tr><td>Cannon Hill</td><td><20</td></tr><tr><td>Cobourg</td><td><20</td></tr><tr><td>Djirrbiyak</td><td><20</td></tr><tr><td>Gamargawan</td><td><20</td></tr><tr><td>Gumarrirnbang</td><td><20</td></tr><tr><td>Gunbalanya</td><td>314</td></tr><tr><td>Jabiru</td><td>29</td></tr><tr><td>Kabulwarnamyo</td><td><20</td></tr><tr><td>Kapalga</td><td><20</td></tr><tr><td>Malgawa</td><td><20</td></tr><tr><td>Mamadawerre</td><td><20</td></tr><tr><td>Mamukala</td><td><20</td></tr><tr><td>Manabadurma</td><td>21</td></tr><tr><td>Manmoyi</td><td><20</td></tr><tr><td>Minjilang</td><td>82</td></tr><tr><td>Mudginberri</td><td><20</td></tr><tr><td>Paradise Farm</td><td><20</td></tr><tr><td>Patonga</td><td><20</td></tr><tr><td>Patonga Homestead</td><td><20</td></tr><tr><td>Warruwi</td><td>106</td></tr><tr><td>Wilgi</td><td><20</td></tr></tbody></table>	Community or Town	RJCP job seekers	Araru Point	<20	Buffalo Farm	<20	Cannon Hill	<20	Cobourg	<20	Djirrbiyak	<20	Gamargawan	<20	Gumarrirnbang	<20	Gunbalanya	314	Jabiru	29	Kabulwarnamyo	<20	Kapalga	<20	Malgawa	<20	Mamadawerre	<20	Mamukala	<20	Manabadurma	21	Manmoyi	<20	Minjilang	82	Mudginberri	<20	Paradise Farm	<20	Patonga	<20	Patonga Homestead	<20	Warruwi	106	Wilgi	<20	p.41
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APPENDIX G: IMPACTS REGISTER

See separate attached document.

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
2) Aboriginal cultural values and activities	O-2.1	Control over land use and management	Improved participation of Traditional Owners and other affected Aboriginal peoples in relation to land and environmental management associated with Ranger 3 Deeps	Opportunity	Mining operations; Environmental management; Community relations	The ability of Aboriginal people to manage and use land and waters	The sense of trust that Aboriginal people have in the management of land and waters by others; The ability of Aboriginal people to maintain and develop culture	Medium	Possible	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Joint closure projects; Heritage surveys; Cultural heritage management system; Environmental impact management procedures; Relationship committee; 2013 Ranger Mining Agreement
2) Aboriginal cultural values and activities	O-2.2	Confidence in ERA's management of Ranger and the RPA	ERA's environmental management practices are sufficient for Traditional Owners and other affected Aboriginal people to have confidence and trust in Ranger 3 Deeps	Opportunity	Mining operations; Environmental management; Community relations	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters; The ability of Aboriginal people to maintain and develop culture	High	Possible	Medium	Relationship committee; Joint water monitoring initiative; Heritage surveys; Cultural heritage management system; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC
2) Aboriginal cultural values and activities	O-2.3	Confidence in ERA's management of Ranger and the RPA	Effective information sharing, participation and engagement regarding environmental management between ERA, Traditional Owners and other affected Aboriginal people builds stronger relationships	Opportunity	Environmental management; Community relations	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters; The ability of Aboriginal people to maintain and develop culture	High	Possible	Medium	Relationship committee; Joint water monitoring initiative; Relationship committee; Participation on ARRTC; Participation on ARRAC; Minesite Technical Committee
2) Aboriginal cultural values and activities	O-2.4	Strength and/or endurance of Aboriginal culture	Initiatives funded by Ranger 3 Deeps royalties support the strengthening or revitalisation of Aboriginal cultural knowledge, beliefs and practices	Opportunity	Community relations	The ability of Aboriginal people to maintain and develop culture	The ability of Aboriginal people to manage and use land and waters; The sense of trust that Aboriginal people have in the management of land and waters by others	Medium	Possible	Low	2013 Ranger Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust
3) Human rights	O-3.1	Protection and enjoyment of Aboriginal land rights	Ranger 3 Deeps enables ERA to continue to support currently recognised rights of Traditional Owners and other affected Aboriginal peoples	Opportunity	Community relations	The enjoyment and protection of peoples' rights	-	Medium	Likely	Medium	SIA/EIS/SIMP; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC
3) Human rights	O-3.2	Protection of and respect for other human rights	Ranger 3 Deeps activities contribute to increased enjoyment of economic, social, cultural, civil or political human rights in the regional community	Opportunity	Mining operations; Environmental management; Supply chain management; Workforce management; Community relations; Closure	The enjoyment and protection of peoples' rights	-	Medium	Unlikely	Low	2013 Ranger Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; In-kind support and discretionary spending

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
3) Human rights	O-3.3	Protection of and respect for other human rights	Ranger 3 Deeps activities contribute to increased enjoyment of labour rights amongst the ERA and contracting workforce	Opportunity	Construction and operation of surface and in-ground infrastructure; Mining operations; Environmental management; Workforce management; Closure	The enjoyment and protection of peoples' rights	-	Medium	Unlikely	Low	OHS and HR procedures
4) Natural and cultural heritage	O-4.1	Protection of natural and cultural heritage sites and values	Continued and improved environmental initiatives and management contribute to a sustaining of the natural values of KNP	Opportunity	Construction and operation of surface and in-ground infrastructure; Mining operations; Environmental management; Community relations; Closure	-	The enjoyment and protection of nationally and globally significant natural and cultural heritage	High	Possible	Medium	Environmental management procedures; Environmental regulations; Participation on ARRTC; Participation on ARRAC; 2013 Ranger Mining Agreement and MOU with GAC
4) Natural and cultural heritage	O-4.2	Protection of natural and cultural heritage sites and values	Continued and improved cultural heritage management results in improved enjoyment of sacred sites or areas of natural significance, including the values of KNP	Opportunity	Construction and operation of surface and in-ground infrastructure; Mining operations; Environmental management; Community relations; Closure	-	The enjoyment and protection of nationally and globally significant natural and cultural heritage	High	Possible	Medium	Relationship committee Operational procedures Cultural heritage management system 2013 Ranger Mining Agreement and MOU with GAC
4) Natural and cultural heritage	O-4.3	Rehabilitation of the RPA and incorporation into KNP	Ranger 3 Deeps enables improved capacity within ERA to plan and manage rehabilitation over the life of the mine, resulting in an improved ability for the RPA to be successfully incorporated into KNP	Opportunity	Environmental management; Workforce management; Community relations; Closure	-	The enjoyment and protection of nationally and globally significant natural and cultural heritage	High	Likely	High	Environmental management procedures; Environmental requirements; Participation on ARRTC; Participation on ARRAC; Closure plan

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
5) Political representation, governance and administration	O-5.1	The future of Jabiru	Ranger 3 Deeps enhances the opportunity for key organisations (including those with governance roles) to plan for the future of Jabiru	Opportunity	Mining operations; Community relations; Closure	The effectiveness of representative organisations	The appropriate and effective involvement of individuals in decision-making by representative organisations	Extreme	Likely	Very high	2013 Ranger Mining Agreement and MOU with GAC; JTDA; Joint dialogue with GAC, NLC and NT government (re town future); Support for ALRA scheduling of Jabiru; Review cost sharing agreement (CSA) with NT government; Quarterly engagement with small businesses; Participation in NT Chamber of Commerce; West Arnhem Regional Council engagement; Environmental requirements; Relationship committee
5) Political representation, governance and administration	O-5.2	The future of Jabiru	Over time Ranger 3 Deeps allows for ERA to contribute to improved communication between key governance organisations and with Jabiru and regional residents regarding roles of governance organisations	Opportunity	Community relations	The effectiveness of representative organisations; The appropriate and effective involvement of individuals in decision-making by representative organisations	-	Medium	Possible	Low	SIA/EIS/SIMP; Relationship committee; Communications plan; Community relations team; Quarterly engagement with small businesses; Joint dialogue with GAC, NLC and NT government (re town future); West Arnhem Regional Council engagement
5) Political representation, governance and administration	O-5.3	Aboriginal governance, representation and decision-making	Traditional Owners and other affected Aboriginal people feel appropriately involved in ongoing Ranger 3 Deeps decision-making and planning processes resulting in increased trust	Opportunity	Mining operations; Environmental management; Community relations; Closure	The appropriate and effective involvement of individuals in decision-making by representative organisations	The effectiveness of representative organisations	Medium	Possible	Low	SIA/EIS/SIMP; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC
5) Political representation, governance and administration	O-5.4	Aboriginal governance, representation and decision-making	Appropriate involvement of Traditional Owners and other affected Aboriginal people in decision-making in relation to Ranger 3 Deeps contributes to reductions in conflict or strengthening of indigenous governance and decision-making processes	Opportunity	Mining operations; Environmental management; Community relations; Closure	The effectiveness of representative organisations; The appropriate and effective involvement of individuals in decision-making by representative organisations	-	Medium	Possible	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Mine site Technical Committee; 2013 Ranger Mining Agreement and MOU with GAC
6) Population and communities	O-6.1	Attraction and retention of residents and visitors	Increased certainty over the future of Jabiru leads to retention of Jabiru residents and increased use of the town by orbiting Aboriginal people and casual visitors, e.g. tourists	Opportunity	Community relations	The stability of the population	The quality of the social environment	High	Likely	High	Communications plan; HR practices; In-kind support and discretionary spending

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
6) Population and communities	O-6.2	Attraction and retention of residents and visitors	Ranger 3 Deeps enables investment in cultural heritage maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional Aboriginal population	Opportunity	Environmental management; Community relations	The stability of the population	The quality of the social environment	High	Likely	High	Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; In-kind support and discretionary spending
6) Population and communities	O-6.3	Attraction and retention of residents and visitors	Ranger 3 Deeps enables the continued funding of Jabiru services and infrastructure maintenance, directly by ERA, and indirectly through royalties, encouraging the retention of the regional population	Opportunity	Community relations	The stability of the population	The quality of the social environment	high	Likely	High	Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; Electricity generation for Jabiru; Maintenance and operation of the Jabiru airport; Maintenance of Jabiru residential and town centre infrastructure
6) Population and communities	O-6.4	Attraction and retention of residents and visitors	Potential/possible use of tourist accommodation to house the Ranger 3 Deeps workforce increases the viability of accommodation businesses, encouraging continued attraction of visitors to the region (including tourists and/or others visiting Jabiru)	Opportunity	Mining operations; Workforce management; Community relations	The stability of the population	The quality of the social environment	Low	Unlikely	Low	Housing procedures
6) Population and communities	O-6.5	Quality of social participation	Ranger 3 Deeps approval reduces uncertainty over the future of Jabiru for residents, resulting in individuals, businesses and other organisations to being willing to invest in social activities / improve the civic environment	Opportunity	Mining operations; Community relations	The quality of the social environment	The stability of the population	Medium	Likely	Medium	Communications plan; Education partnership; Community partnership fund; In-kind support and discretionary spending
6) Population and communities	O-6.6	Quality of social participation	Ranger 3 Deeps revenue and increased certainty over the future of Jabiru enables investment in additional or improved services by ERA and/or the government, improving the social environment in Jabiru	Opportunity	Mining operations; Community relations	The quality of the social environment	The stability of the population	High	Possible	Medium	Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; In-kind support and discretionary spending; West Arnhem Regional Council engagement
7) Health and well-being	O-7.1	The quality of water resources	Improved and/or ongoing communication regarding Ranger 3 Deeps water and broader environmental management and quality reduces concern amongst local and regional communities about possible, or perceived contamination of water and food resources and the health implications of consuming them	Opportunity	Environmental management; Community relations; Closure	The perception of health, well-being and personal safety by individuals and communities	The health and well-being of individuals and communities	Medium	Possible	Low	Participation on ARRTC; Participation on ARRAC; Relationship committee; Minesite Technical Committee; Environmental monitoring; Bush tucker monitoring; OSS oversight of environmental monitoring; Weekly reports – water quality; EIS/SIA/SIMP; Communications plan; Implementation of recommendations from ISWG

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
7) Health and well-being	O-7.2	Substance abuse and related health issues	Ranger 3 Deeps supports certainty over the future of Jabiru and enables investment in, or an improved approach to, alcohol and drug awareness and education, leading to reduced consumption and improved health of indigenous and non-indigenous persons	Opportunity	Mining operations; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	High	Unlikely	Low	Participation in Gunbang Action Group; Funding of the West Arnhem Social Trust; Education Partnership; Community partnership fund; In-kind support and discretionary spending
7) Health and well-being	O-7.3	Substance abuse and related health issues	Ranger 3 Deeps revenue and increased certainty over the future of Jabiru enables investment in changed or renewed approach to health management related to chronic illnesses (including specific indigenous programmes)	Opportunity	Mining operations; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Unlikely	Low	Funding of the Kakadu West Arnhem Social Trust; Community partnership fund; In-kind support and discretionary spending
7) Health and well-being	O-7.4	Substance abuse and related health issues	Ranger 3 Deeps enables continued promotion of positive occupational health and safety behaviours by ERA and its employees, including alcohol use and well-being	Opportunity	Workforce management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Unlikely	Low	Induction; Code of conduct; OHS procedures
7) Health and well-being	O-7.5	Health service capacity and viability	Ranger 3 Deeps revenue enables investment in financial or in-kind support by ERA in health services	Opportunity	Mining operations; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Possible	Low	Community partnership fund; In-kind support and discretionary spending
8) Services and infrastructure	O-8.1	Service demand and viability	Ranger 3 Deeps enables the ongoing funding of the Kakadu West Arnhem Social Trust and associated initiatives either directly by ERA or indirectly through royalties	Opportunity	Mining operations; Community relations	The quality and viability of services	The quality and viability of infrastructure	High	Almost certain	Very high	2013 Ranger Mining Agreement and MOU with GAC; Funding of Kakadu West Arnhem Social Trust
8) Services and infrastructure	O-8.2	Service demand and viability	The extension of revenue and royalties from Ranger 3 Deeps provides for continuation of, or development of new, partnerships or initiatives to deliver social services	Opportunity	Mining operations; Community relations	The quality and viability of services	The quality and viability of infrastructure	High	Likely	High	Education partnership; Community partnership fund; In-kind support and discretionary spending
8) Services and infrastructure	O-8.3	Service demand and viability	Improved communication from ERA regarding Ranger 3 Deeps activities and workforce assists service providers to plan effectively	Opportunity	Workforce management; Community relations	The quality and viability of services	The quality and viability of infrastructure	Low	Unlikely	Low	Communications plan; Relationship committee; Communities office; Quarterly business updates
8) Services and infrastructure	O-8.4	Infrastructure provision and maintenance	Ranger 3 Deeps revenue enables ERA to invest in long-term infrastructure needs	Opportunity	Mining operations; Community relations; Closure	The quality and viability of infrastructure	The quality and viability of services	High	Possible	Medium	2013 Ranger Mining Agreement; Asset management; Participation on JTDA; Joint dialogue with GAC, NLC and NT government
8) Services and infrastructure	O-8.5	Infrastructure provision and maintenance	Ranger 3 Deeps revenue or royalties enables investment in outstation housing and facilities, either directly by ERA, or indirectly through royalties	Opportunity	Mining operations; Community relations	The quality and viability of infrastructure	The quality and viability of services	Medium	Possible	Low	2013 Ranger Mining Agreement; Funding of the Kakadu West Arnhem Social Trust; Community partnership fund; In-kind support and discretionary spending

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
8) Services and infrastructure	O-8.6	Infrastructure provision and maintenance	Ranger 3 Deeps allows ERA to contribute to, or participate in, long-term planning for the future of Jabiru infrastructure	Opportunity	Mining operations; Community relations; Closure	The quality and viability of infrastructure	The quality and viability of services	Low	Likely	Low	2013 Ranger Mining Agreement; JTDA; Working relationship with the NT Government; Environmental requirements
8) Services and infrastructure	O-8.7	Infrastructure provision and maintenance	Ranger 3 Deeps allows ERA to contribute to the development of new or improved Jabiru infrastructure	Opportunity	Mining operations; Community relations	The quality and viability of infrastructure	The quality and viability of services	Low	Unlikely	Low	2013 Ranger Mining Agreement; Asset management; Participation on JTDA; Joint dialogue with GAC, NLC and NT government (re town future)
9) Employment and industries	O-9.1	Employment and industry in Jabiru and the region	Ranger 3 Deeps enables ERA to support indirect employment linked to Ranger sustaining the level of employment in the Region	Opportunity	Workforce management; Supply chain management; Community relations	Access to employment and the capacity of the region's workforce; Diversity and resilience of businesses and industries in the region	-	High	Likely	High	Pre-employment programmes; Education partnership; Supplier contract – service procurement contract; 2013 Ranger Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust
9) Employment and industries	O-9.2	Employment and industry in Jabiru and the region	Ranger 3 Deeps enables ERA to maintain high levels of direct employment at Ranger, sustaining or increasing the level of employment in the region	Opportunity	Workforce management; Supply chain management; Community relations	Access to employment and the capacity of the region's workforce	Diversity and resilience of businesses and industries in the region	High	Almost certain	Very high	Pre-employment programmes; Employment policies; Recruitment selection policy; Education partnership; Diversity policy; Employment policies (local preference); 2013 Ranger Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Labour hire programmes
9) Employment and industries	O-9.3	Employment and industry in Jabiru and the region	Ranger 3 Deeps reduces uncertainty over Ranger's future by providing more stability in the local economy and enhancing the potential for increased investment by government and commercial operators	Opportunity	Mining operations; Community relations	Diversity and resilience of businesses and industries in the region	Access to employment and the capacity of the region's workforce	High	Likely	High	Employment policies; Procurement policy; Local contracts; Communications plan
9) Employment and industries	O-9.4	Employment and industry in Jabiru and the region	Ranger 3 Deeps leads to ERA employees and their families continuing to reside in Jabiru, thus increasing the availability of skilled workers for other regional businesses	Opportunity	Workforce management; Community relations	Access to employment and the capacity of the region's workforce	Diversity and resilience of businesses and industries in the region	Medium	Likely	Medium	Employment policies; Housing procedures
9) Employment and industries	O-9.5	Employment and industry in Jabiru and the region	Ranger 3 Deeps leads to a continuation of ERA employees and their families residing in Jabiru using local businesses, services and supporting service-sector employment	Opportunity	Workforce management; Community relations	Diversity and resilience of businesses and industries in the region	Access to employment and the capacity of the region's workforce	Medium	Likely	Medium	Employment policies; Housing procedures

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
9) Employment and industries	O-9.6	Aboriginal employment and enterprise development	Ranger 3 Deeps enables continuation of ERA's education partnership, training and apprenticeship programmes, thus supporting regional skills development	Opportunity	Workforce management; Community relations	Access to employment and the capacity of the region's workforce	Diversity and resilience of businesses and industries in the region	High	Likely	High	Education partnership; Indigenous employment programs; Vocational Education Training; School based apprenticeship; Indigenous traineeships; Pre-vocational traineeship; Vocational work experience; Traineeships
9) Employment and industries	O-9.7	Aboriginal employment and enterprise development	Ranger 3 Deeps enables ERA to indirectly support Aboriginal employment in other industries, businesses and service providers (incl. GAC)	Opportunity	Community relations	Access to employment and the capacity of the region's workforce; Diversity and resilience of businesses and industries in the region	-	High	Likely	High	Contractor management policies and contracts; Pre-employment program; Diversity approach (i.e. encouragement of suppliers / contractors to employ indigenous staff); Local/regional procurement commitment; 2013 Ranger Mining Agreement and MOU with GAC
9) Employment and industries	O-9.8	Aboriginal employment and enterprise development	Ranger 3 Deeps enables ERA to continue its high levels of Aboriginal employment at Ranger	Opportunity	Workforce management; Community relations	Access to employment and the capacity of the region's workforce	Diversity and resilience of businesses and industries in the region	High	Likely	High	Indigenous employment programmes; Diversity policy; Pre-employment programmes; Recruitment selection policy; Education partnership
9) Employment and industries	O-9.9	Aboriginal employment and enterprise development	Ranger 3 Deeps reduces uncertainty amongst Aboriginal corporations/organisations over Ranger's future, thus contributing to greater certainty about the future of the local economy and leading to possible increased investment by such organisations	Opportunity	Community relations; Closure	Diversity and resilience of businesses and industries in the region	Access to employment and the capacity of the region's workforce	Medium	Unlikely	Low	SIA/EIS/SIMP; Communications plan; Relationship committee
10) The distribution of benefits and social equity	O-10.1	Access to socio-economic benefits of Ranger	Continuation of royalties due to Ranger 3 Deeps results in improved socio-economic circumstances for Traditional Owners and other affected Aboriginal people	Opportunity	Mining operations; Community relations	The quality of life of Aboriginal people in the region; Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	-	Medium	Possible	Low	2013 Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Community partnership fund; In-kind support and discretionary spending
10) The distribution of benefits and social equity	O-10.2	Access to socio-economic benefits of Ranger	Through continued revenue, royalties and presence in Jabiru, Ranger 3 Deeps enables ERA to leverage relationships and networks to reduce socio-economic inequity across the region	Opportunity	Mining operations; Community relations	The quality of life of Aboriginal people in the region; Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	-	High	Likely	High	Relationship committee; SIA/EIS/SIMP; Communications plan

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
10) The distribution of benefits and social equity	O-10.3	Access to socio-economic benefits of Ranger	Ranger 3 Deeps enables the continuation of social initiatives funded/administered by the GAC from royalties	Opportunity	Community relations	The quality of life of Aboriginal people in the region	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	High	Likely	High	2013 Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust
10) The distribution of benefits and social equity	O-10.4	Access to socio-economic benefits of Ranger	Ranger 3 Deeps creates opportunities to contribute to improvements in access to social services, including education, through changes in policy, increased investment or support	Opportunity	Community relations	The quality of life of Aboriginal people in the region; Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	-	Medium	Likely	Medium	2013 Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; In-kind support and discretionary spending
10) The distribution of benefits and social equity	O-10.5	Social and political participation	Ranger 3 Deeps results in continuation of the role and resources of GAC (as the royalty receiving organisation) enabling the strengthening of its financial position and governance capacity	Opportunity	Mining operations; Community relations	-	The quality of life of Aboriginal people in the region; Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	Medium	Likely	Medium	2013 Ranger Mining Agreement and MOU with GAC
10) The distribution of benefits and social equity	O-10.6	Social and political participation	Improved communication regarding Ranger 3 Deeps royalty distribution improves relationships between ERA and other stakeholders	Opportunity	Mining operations; Community relations	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	The quality of life of Aboriginal people in the region	High	Unlikely	Low	2013 Mining Agreement and MOU with GAC Relationship Committee
10) The distribution of benefits and social equity	O-10.7	Social and political participation	Participation of Traditional Owners and other affected Aboriginal people in decision-making related to Ranger 3 Deeps increases their sense of empowerment and engagement	Opportunity	Community relations	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	The quality of life of Aboriginal people in the region	High	Unlikely	Low	2013 Ranger Mining Agreement and MOU with GAC; Relationship committee; Minesite Technical Committee; NLC engagement

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
11) Environmental quality and natural resources	O-11.1	The quality of the natural environment	Closure and rehabilitation activities enabled by Ranger 3 Deeps enhance the quality of the natural environment	Opportunity	Environmental management; Community relations; Closure	The quality, integrity and liveability of the natural environment	-	High	Likely	High	Environmental monitoring and management plans; Participation on ARRTC; Participation on ARRAC; Draft closure model; Integrated tailings water and closure prefeasibility study; Joint closure projects (e.g. ERISS research); Independent surface water working group; Cultural heritage management system; Minesite Technical Committee; Informal KNP/ERA land management practices; Traditional burning programmes with GAC; Integrated talings, water and closure study and tailings and brine management project
11) Environmental quality and natural resources	O-11.2	The quality of the natural environment	Jabiru and regional community members are engaged and satisfied with environmental management processes and information related to Ranger 3 Deeps, which leads to improved well-being	Opportunity	Environmental management; Community relations; Closure	The quality, integrity and liveability of the natural environment	-	Medium	Possible	Low	Environmental monitoring and management plans; Minesite Technical Committee; Quarterly business updates; Communications plan; Information days; Relationship committee; ERISS engagement
11) Environmental quality and natural resources	O-11.3	The quality of the natural environment	Territory, national and international community members and organisations are engaged and satisfied with environmental management processes, and information related to Ranger 3 Deeps	Opportunity	Environmental management; Community relations; Closure	-	The quality, integrity and liveability of the natural environment	Low	Possible	Low	Environmental monitoring and management plans; Participation on ARRTC; Participation on ARRAC
2) Aboriginal cultural values and activities	R-2.1	Control over land use and management	Mirarr feel excluded from ongoing Ranger 3 Deeps decision-making and planning processes relating to environmental management, resulting in loss of trust and relationship between ERA, Traditional Owners and other affected Aboriginal peoples	Risk	Mining operations; Community relations	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters; The ability of Aboriginal people to maintain and develop culture	Medium	Unlikely	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Participation on ARRTC; Participation on ARRAC; Mine site Technical Committee; 2013 Ranger Mining Agreement and MOU with GAC
2) Aboriginal cultural values and activities	R-2.2	Control over land use and management	Stakeholders perceive that environmental management decisions regarding Ranger 3 Deeps are knowingly made against the wishes of Traditional Owners and other affected Aboriginal peoples resulting in stress and concern	Risk	Mining operations; Environmental management; Community relations	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters; The ability of Aboriginal people to maintain and develop culture	Medium	Unlikely	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Mine site Technical Committee; 2013 Ranger Mining Agreement and MOU with GAC

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
2) Aboriginal cultural values and activities	R-2.3	Control over land use and management	Decisions regarding Ranger 3 Deeps are made unknowingly against Mirarr wishes in relation to land management, resulting in stresses in ERA/Mirarr relationship	Risk	Mining operations; Environmental management; Community relations; Closure	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters;The ability of Aboriginal people to maintain and develop culture	Medium	Unlikely	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Mine site Technical Committee; 2013 Ranger Mining Agreement and MOU with GAC
2) Aboriginal cultural values and activities	R-2.4	Confidence in ERA's management of Ranger and the RPA	Ranger 3 Deeps operational activities result in unintended changes to the environment (including damage to cultural sites) that are not acceptable to Mirarr and other affected Aboriginal people and result in stress and concern	Risk	Mining operations; Environmental management; Community relations;	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to manage and use land and waters; The ability of Aboriginal people to maintain and develop culture	High	Unlikely	Low	Operational SOPs; Cultural heritage management system; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC; Inductions
2) Aboriginal cultural values and activities	R-2.5	Confidence in ERA's management of Ranger and the RPA	Significant health and safety incidents or fatalities during Ranger 3 Deeps operations cause concern for Traditional Owners and other affected Aboriginal people	Risk	Mining operations; Workforce management; Community relations	The sense of trust that Aboriginal people have in the management of land and waters by others	The ability of Aboriginal people to maintain and develop culture; The ability of Aboriginal people to manage and use land and waters	Medium	Possible	Low	Operational procedures; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC; OHS procedures
2) Aboriginal cultural values and activities	R-2.6	Access to and protection of natural resources and sacred sites by Aboriginal peoples	The future environment of the lease area/mine site is not suitable for cultural activities	Risk	Environmental; management Closure	The ability of Aboriginal people to manage and use land and waters	The sense of trust that Aboriginal people have in the management of land and waters by others; The ability of Aboriginal people to maintain and develop culture	High	Unlikely	Low	Closure plan; Environmental regulations; Joint water monitoring initiative; Cultural heritage management system; 2013 Ranger Mining Agreement and MOU with GAC
2) Aboriginal cultural values and activities	R-2.7	Access to and protection of natural resources and sacred sites by Aboriginal peoples	Traditional Owners and other affected Aboriginal people are discouraged from using and maintaining natural resources and sacred sites due to concerns and/or breakdown in trust regarding changes to the physical characteristics of the environment resulting from Ranger 3 Deeps	Risk	Environmental management; Community relations Closure	The ability of Aboriginal people to manage and use land and waters	The sense of trust that Aboriginal people have in the management of land and waters by others; The ability of Aboriginal people to maintain and develop culture	High	Unlikely	Low	SIA/EIS/SIMP; Relationship committee; Joint water monitoring initiative; Participation on ARRTC; Participation on ARRAC; Minesite Technical Committee
2) Aboriginal cultural values and activities	R-2.8	Strength and/or endurance of Aboriginal culture	Ranger 3 Deeps royalties and environmental management impact negatively on the strength and endurance of Aboriginal culture	Risk	Environmental management; Community relations Closure	The ability of Aboriginal people to maintain and develop culture	The ability of Aboriginal people to manage and use land and waters; The sense of trust that Aboriginal people have in the management of land and waters by others	Low	Unlikely	Low	SIA/EIS/SIMP; 2013 Ranger Mining Agreement and MOU with GAC; Funding of Kakadu West Arnhem Social Trust
3) Human rights	R-3.1	Protection and enjoyment of Aboriginal land rights	Traditional Owners and other affected Aboriginal peoples are aggrieved as FPIC is not required for Ranger 3 Deeps approval under conditions of the Ranger Authority	Risk	Community relations	The enjoyment and protection of peoples' rights	-	High	Likely	High	SIA/EIS/SIMP; Relationship committee; 2013 Ranger Mining Agreement and MOU with GAC

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
3) Human rights	R-3.2	Protection of and respect for other human rights	Failure to comply with Commonwealth or NT laws and regulations causes incidents which result in direct infringement on human rights	Risk	Environmental management; Workforce management; Community relations	The enjoyment and protection of peoples' rights	-	Medium	Unlikely	Low	OHS and HR procedures; Environmental monitoring and management plans/procedures; Environmental regulations; 2013 Ranger Mining Agreement and MOU with GAC
3) Human rights	R-3.3	Protection of and respect for other human rights	Ranger 3 Deeps activities contribute to decreased enjoyment of economic, social, cultural, civil or political human rights in the regional community	Risk	Mining operations; Environmental management; Supply chain management; Workforce management; Community relations; Closure	The enjoyment and protection of peoples' rights	-	Medium	Unlikely	Low	2013 Ranger Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Education partnership; Community partnership fund; In-kind support and discretionary spending
3) Human rights	R-3.4	Protection of and respect for other human rights	Ranger 3 Deeps activities contribute to decreased enjoyment of labour rights amongst the ERA and contracting workforce	Risk	Construction and operation of surface and in-ground infrastructure; Mining operations; Environmental management; Workforce management; Closure	The enjoyment and protection of peoples' rights	-	Medium	Unlikely	Low	OHS and HR procedures
4) Natural and cultural heritage	R-4.1	Protection of natural and cultural heritage sites and values	Ranger 3 Deeps operations have unintended consequences that result in damage to sacred sites, cause environmental harm or compromise the values of KNP	Risk	Construction and operation of surface and in-ground infrastructure; Mining operations; Environmental management	The enjoyment and protection of nationally and globally significant natural and cultural heritage	-	High	Unlikely	Low	Joint water monitoring initiative; Environmental management procedures; Environmental regulations; Participation on ARRTC; Participation on ARRAC; Cultural heritage management system; Inductions; 2013 Ranger Mining Agreement and MOU with GAC
4) Natural and cultural heritage	R-4.2	Protection of natural and cultural heritage sites and values	Significant incidences associated with Ranger 3 Deeps operational activities result in damage to sacred sites, cause environmental harm, or compromise the values of KNP	Risk	Mining operations; Environmental management	The enjoyment and protection of nationally and globally significant natural and cultural heritage	-	High	Unlikely	Low	Joint water monitoring initiative; Environmental management procedures; Environmental regulations; Participation on ARRTC; Participation on ARRAC; Cultural heritage management system; Inductions; 2013 Ranger Mining Agreement and MOU with GAC

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
4) Natural and cultural heritage	R-4.3	Rehabilitation of the RPA and incorporation into KNP	Further mining on the RPA undermines the perceived integrity of KNP	Risk	Environmental management; Community relations; Closure	#REF!	The enjoyment and protection of nationally and globally significant natural and cultural heritage	Medium	Possible	Low	Communications plan; Relationship committee; Minesite Technical Committee; Participation on ARRTC; Participation on ARRAC
4) Natural and cultural heritage	R-4.4	Rehabilitation of the RPA and incorporation into KNP	The presence of Ranger 3 Deeps increases stakeholder concerns that the rehabilitation of the RPA will not meet the timelines or requirements of the Ranger environmental regulations, including rehabilitation into KNP	Risk	Environmental management; Community relations	#REF!	The enjoyment and protection of nationally and globally significant natural and cultural heritage	Medium	Unlikely	Low	Environmental management procedures; Environmental regulations; Participation on ARRTC; Participation on ARRAC; Closure plan; 2013 Ranger Mining Agreement and MOU with GAC
4) Natural and cultural heritage	R-4.5	Rehabilitation of the RPA and incorporation into KNP	Ranger 3 Deeps results in changes to the nature of the site's environment and uses post-mining that impact on the ability of the RPA to be successfully incorporated into KNP	Risk	Environmental management; Community relations; Closure	The enjoyment and protection of nationally and globally significant natural and cultural heritage	-	High	Unlikely	Low	Environmental management procedures; Environmental regulations; Participation on ARRTC; Participation on ARRAC; 2013 Ranger Mining Agreement and MOU with GAC
5) Political representation, governance and administration	R-5.1	The future of Jabiru	Increased longer term dependence of Jabiru governance organisations, businesses and services on Ranger	Risk	Community relations; Closure	The effectiveness of representative organisations	-	Medium	Almost certain	Medium	SIA/EIS/SIMP; Relationship committee; Communications plan; Community relations team; Quarterly engagement with small businesses; Joint dialogue with GAC, NLC and NT government; West Arnhem Regional Council engagement; Education partnership - West Arnhem College
5) Political representation, governance and administration	R-5.2	The future of Jabiru	Ranger 3 Deeps enables a business as usual approach in the governance of Jabiru and inadequate future planning is undertaken	Risk	Community relations; Closure	The effectiveness of representative organisations	-	High	Likely	High	SIA/EIS/SIMP; Relationship committee; Communications plan; Community relations team; Quarterly engagement with small businesses; Joint dialogue with GAC, NLC and NT government
5) Political representation, governance and administration	R-5.3	Aboriginal governance, representation and decision-making	Consultation associated with Ranger 3 Deeps operations contributes to consultation fatigue amongst key stakeholders, impacting on effective participation and decision-making	Risk	Community relations	The appropriate and effective involvement of individuals in decision-making by representative organisations	The effectiveness of representative organisations	Low	Possible	Low	SIA/EIS/SIMP; Relationship committee; Communications plan; Community relations team; Minesite Technical Committee; Quarterly engagement with small businesses; Joint dialogue with GAC, NLC and NT government; West Arnhem Regional Council engagement

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
5) Political representation, governance and administration	R-5.4	Aboriginal governance, representation and decision-making	Poor processes (including timeframes) for involving Traditional Owners and other affected Aboriginal people in decision-making in relation to Ranger 3 Deeps contributes to confusion, disengagement or impacts negatively on indigenous governance and decision-making processes	Risk	Community relations	The effectiveness of representative organisations; The appropriate and effective involvement of individuals in decision-making by representative organisations	-	Medium	Possible	Low	SIA/EIS/SIMP; Relationship committee; Minesite Technical Committee; 2013 Ranger Mining Agreement and MOU with GAC
5) Political representation, governance and administration	R-5.5	Aboriginal governance, representation and decision-making	Continued royalty payments to GAC contribute to a possible culture of business as usual in governance and initiatives which impede innovation and capacity development	Risk	Mining operations; Community relations	The effectiveness of representative organisations; The appropriate and effective involvement of individuals in decision-making by representative organisations	-	Medium	Possible	Low	2013 Ranger Mining Agreement and MOU with GAC
5) Political representation, governance and administration	R-5.6	Aboriginal governance, representation and decision-making	Decision-making relating to R3D results in conflict or disagreement between different Aboriginal groups or representative bodies reducing the effectiveness of their involvement	Risk	Community relations	The effectiveness of representative organisations	The appropriate and effective involvement of individuals in decision-making by representative organisations	Low	Unlikely	Low	Communications plan; Minesite Technical Committee; Relationship committee
6) Population and communities	R-6.1	Attraction and retention of residents and visitors	Potential/possible use of tourist accommodation to house the Ranger 3 Deeps workforce reduces the availability of accommodation for tourists, deterring visitors (including tourists and/or others visiting Jabiru)	Risk	Mining operations; Workforce management; Community relations	The stability of the population	The quality of the social environment	Low	Unlikely	Low	Housing procedures
6) Population and communities	R-6.2	Quality of social participation	Short term and sporadic influxes of contractors at times of operational change contributes to social issues such as drinking and anti-social behaviour	Risk	Mining operations; Workforce management; Supply chain management; Community relations	The quality of the social environment	The stability of the population	Low	Possible	Low	Contracting conditions; Contractor induction; Code of Conduct
6) Population and communities	R-6.3	Quality of social participation	Increased ratio of FIFO to residential employees contributes to social cohesion challenges or perceptions of reduction in social participation	Risk	Workforce management; Community relations	The quality of the social environment	The stability of the population	Low	Almost certain	Low	SIA/EIS/SIMP; Relationship committee; Communications plan; Community relations team; Quarterly engagement with small businesses; Joint dialogue with GAC, NLC and NT government; Community partnership fund; In-kind support and discretionary spending; Code of conduct

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
6) Population and communities	R-6.4	Quality of social participation	Ranger 3 Deeps workforce management practices further embed DIDO/FIFO culture, sustaining social issues such as lack of participation in sport, civic culture and other social activities	Risk	Mining operations; Workforce management; Supply chain management; Community relations	The quality of the social environment	The stability of the population	Medium	Unlikely	Low	HR and housing policies; Rostering; Community partnership fund; In-kind support and discretionary spending
7) Health and well-being	R-7.1	The quality of water resources	Ranger 3 Deeps contributes to continued or increased concern amongst local and regional communities about possible, or perceived, contamination of water and food resources, and the health implications of consuming them	Risk	Environmental management; Community relations	The perception of health, well-being and personal safety by individuals and communities	The health and well-being of individuals and communities	High	Likely	High	Participation on ARRTC; Participation on ARRAC; Relationship committee; Minesite Technical Committee; Environmental monitoring; Bush tucker monitoring; Weekly reports – water quality; EIS/SIA/SIMP; Communications plan; Implementation of recommendations from ISWG
7) Health and well-being	R-7.2	Safety and hazard exposure	Uranium mined at Ranger 3 Deeps is, or is perceived to be implicated in health related nuclear energy or waste disposal incident/s	Risk	Mining operations; Community relations	The health and well-being of individuals and communities; The perception of health, well-being and personal safety by individuals and communities	-	High	Unlikely	Low	SIA/EIS/SIMP; 2013 Ranger Mining Agreement and MOU with GAC
7) Health and well-being	R-7.3	Safety and hazard exposure	Workplace incidents (including radiation exposure) compromise the health and well-being of Ranger 3 Deeps employees	Risk	Mining operations; Workforce management; Supply chain management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	High	Unlikely	Low	OHS procedures; Induction and training
7) Health and well-being	R-7.4	Safety and hazard exposure	Ranger 3 Deeps contributes to increased potential for road accidents between ERA vehicles, ERA freight and other road users	Risk	Workforce management; Supply chain management; Community relations	The health and well-being of individuals and communities; The perception of health, well-being and personal safety by individuals and communities	-	Medium	Unlikely	Low	Induction; Code of conduct; OHS procedures
7) Health and well-being	R-7.5	Substance abuse and related health issues	Ranger 3 Deeps contributes to sustained or increased alcohol use in the non-indigenous community through continued or increased employment	Risk	Workforce management; Supply chain management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Unlikely	Low	Participation in Gunbang Action Group; Induction; HR procedures; Code of Conduct; Healthy lifestyle coordinators; Dry camp

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
7) Health and well-being	R-7.6	Substance abuse and related health issues	Ranger 3 Deeps contributes to sustaining or an increase in access to and use of legal and illegal drugs through maintenance of Jabiru population, transport links, and transient population	Risk	Workforce management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Possible	Low	Participation in Gunbang Action Group; Code of Conduct; Dry camp
7) Health and well-being	R-7.7	Substance abuse and related health issues	Ranger 3 Deeps contributes to sustained or increased alcohol use in the regional Aboriginal community from continued royalties	Risk	Community relations	The health and well-being of individuals and communities	-	Medium	Likely	Medium	Participation in Gunbang Action Group
7) Health and well-being	R-7.8	Health service capacity and viability	The changed nature of Ranger operations due to Ranger 3 Deeps creates pressure on health and emergency services, requiring specialised training or service development	Risk	Workforce management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Possible	Low	Communications plan; Relationship with Jabiru Health Centre; OHS procedures
7) Health and well-being	R-7.9	Health service capacity and viability	Ranger 3 Deeps workforce/contractors contribute to continued or increased pressure on health services	Risk	Supply chain management; Workforce management; Community relations	The health and well-being of individuals and communities	The perception of health, well-being and personal safety by individuals and communities	Medium	Likely	Medium	Communications plan; Communities office; Relationship with Jabiru Health Centre
8) Services and infrastructure	R-8.1	Service demand and viability	Ranger 3 Deeps contributes to a sustained lack of housing, affecting the ability of service providers to find staff, resulting in reduced viability or quality of services	Risk	Mining operations; Supply chain management; Workforce management; Community relations	The quality and viability of services	The quality and viability of infrastructure	Medium	Unlikely	Low	HR and housing policies
8) Services and infrastructure	R-8.2	Service demand and viability	Poor communication from ERA regarding Ranger 3 Deeps workforce management or other operational activities affecting demographics impacts the ability of service providers to effectively plan	Risk	Mining operations; Workforce management; Community relations	The quality and viability of services	The quality and viability of infrastructure	Medium	Possible	Low	Communications plan; Participation on JTDA; Relationship committee; Communities office
8) Services and infrastructure	R-8.3	Service demand and viability	Ranger 3 Deeps workforce management decisions reduce the family/child population base, reducing demand for services and affecting their viability	Risk	Workforce management; Community relations	The quality and viability of services	The quality and viability of infrastructure	Medium	Unlikely	Low	HR procedures; Rostering
8) Services and infrastructure	R-8.4	Service demand and viability	Ranger 3 Deeps workforce/contractors contribute to continued or increased pressure on services	Risk	Workforce management; Community relations	The quality and viability of services	The quality and viability of infrastructure	Low	Possible	Low	HR procedures; Communications plan; Communities office; Quarterly business updates
8) Services and infrastructure	R-8.5	Infrastructure provision and maintenance	Ranger 3 Deeps workforce/contractors contribute to continued or increased physical pressure on infrastructure, reducing its quality	Risk	Workforce management; Community relations	The quality and viability of infrastructure	The quality and viability of services	Medium	Possible	Low	HR procedures; Asset management

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
9) Employment and industries	R-9.1	Employment and industry in Jabiru and the region	Ranger 3 Deeps contributes to the continued dependence on direct and indirect employment from Ranger therefore contributing to a socio-economic reliance on mining and a delay to a post-mining economy	Risk	Mining operations; Workforce management; Community relations	Diversity and resilience of businesses and industries in the region; Access to employment and the capacity of the region's workforce	-	Medium	Likely	Medium	Employment policies; Pre-employment programmes; Recruitment selection policy; Education partnership - West Arnhem College Diversity policy Supplier contract Procurement contract Employment policies – employ locally first, as oppose to FIFO 2013 Ranger Mining Agreement and MOU with GAC
9) Employment and industries	R-9.2	Aboriginal employment and enterprise development	Ranger 3 Deeps contributes to continued dependence by Aboriginal organisations on royalties contributing to a socio-economic reliance on mining and a delay to a post-mining economy	Risk	Community relations	Diversity and resilience of businesses and industries in the region	Access to employment and the capacity of the region's workforce	High	Likely	High	2013 Mining Agreement and MOU with GAC; Relationship Committee; Funding of the Kakadu West Arnhem Social Trust; Pre-employment program; Diversity approach (i.e. encouragement of suppliers / contractors to employ indigenous staff); Local/regional procurement commitment
10) The distribution of benefits and social equity	R-10.1	Access to socio-economic benefits of Ranger	The distribution of royalties from Ranger 3 Deeps exacerbates tensions and conflicts between Traditional Owners and other affected people regarding equity in the distribution of benefits from Ranger	Risk	Mining operations; Community relations	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	The quality of life of Aboriginal people in the region	High	Likely	High	2013 Mining Agreement and MOU with GAC; Participation on JTDA; Relationship Committee; Funding of the Kakadu West Arnhem Social Trust; NLC oversight
10) The distribution of benefits and social equity	R-10.2	Access to socio-economic benefits of Ranger	Royalties associated with Ranger 3 Deeps contribute to a decline in the socio-economic well-being of Mirarr and other affected Aboriginal people	Risk	Mining operations; Community relations	The quality of life of Aboriginal people in the region	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	Medium	Likely	Medium	2013 Mining Agreement and MOU with GAC; Funding of the Kakadu West Arnhem Social Trust; Community partnership fund; In-kind support and discretionary spending
10) The distribution of benefits and social equity	R-10.3	Access to socio-economic benefits of Ranger	Continuation of royalties as a result of Ranger 3 Deeps contributes to continued social cohesion challenges, including alcohol use, violence and other forms of antisocial behaviour	Risk	Community relations	The quality of life of Aboriginal people in the region	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	High	Likely	High	2013 Mining Agreement and MOU with GAC; Relationship committee; Communications plan; Funding of the Kakadu West Arnhem Social Trust; Participation in Gunbang Action Group

Aspect	Reference	Social Factor	Risks/Opportunities	Type	Primary Project Activity	Impacts (direct relationships)	Impacts (indirect relationships)	Consequence	Likelihood	Rating	Current management response
10) The distribution of benefits and social equity	R-10.4	Social and political participation	Ineffective communication regarding Ranger 3 Deeps royalty distribution leads to conflict or distrust between ERA and other stakeholders	Risk	Community relations	Traditional Owners and other Aboriginal peoples' sense of equity regarding the distribution of benefits from Ranger	The quality of life of Aboriginal people in the region	High	Unlikely	Low	2013 Mining Agreement and MOU with GAC; Relationship committee; Communications plan; Funding of the Kakadu West Arnhem Social Trust; NLC oversight
11) Environmental quality and natural resources	R-11.1	The quality of the natural environment	The quality and integrity of the natural environment may be compromised by Ranger 3 Deeps due to new infrastructure and/or any incidents that may occur	Risk	Construction and operation of surface and in-ground infrastructure; Environmental management	The quality, integrity and liveability of the natural environment	-	Medium	Possible	Low	Environmental monitoring and management plans; Participation on ARRTC; Participation on ARRAC; Operational procedures; OHS procedures
11) Environmental quality and natural resources	R-11.2	The quality of the natural environment	Australian and international community members and organisations are not satisfied or are disengaged with environmental management and information related to Ranger 3 Deeps, leading to criticism or backlash	Risk	Environmental management; Community relations	-	The quality, integrity and liveability of the natural environment	Medium	Unlikely	Low	Environmental monitoring and management plans; Mine site technical committee; Quarterly business updates; Communications plan; Information days; Relationship committee; ERISS engagement; Participation on ARRTC; Participation on ARRAC
11) Environmental quality and natural resources	R-11.3	The quality of the natural environment	Concerns regarding the quality of surface and/or groundwater resources affect cultural practices and enjoyment of KNP and the RPA by Traditional Owners and other affected Aboriginal people	Risk	Mining operations; Environmental management; Community relations	The quality, integrity and liveability of the natural environment	-	Medium	Unlikely	Low	2013 Ranger Mining Agreement and MOU with GAC; Environmental monitoring and management plans; Mining agreement – defined access by Traditional Owners; ERISS engagement
11) Environmental quality and natural resources	R-11.4	Infrastructure provision and maintenance	Ranger 3 Deeps contributes to a reduction in local and regional communities' ability to undertake or enjoy regular daily activities due to changes or disruptions to the physical or natural environments e.g. road closures, noise, vibration, water flow	Risk	Environmental management; Community relations	The quality, integrity and liveability of the natural environment	-	Medium	Unlikely	Low	Operational procedures
11) Environmental quality and natural resources	R-11.5	Access to natural resources	Ranger 3 Deeps contributes to a reduction in the use of the environment and natural resources for the purposes of daily living, health and well-being, economic activity or leisure and recreation due to perceptions regarding environmental quality	Risk	Environmental management; Community relations	The quality, integrity and liveability of the natural environment	-	Low	Unlikely	Low	Environmental monitoring and management plans; Mine site technical committee; Quarterly business updates; Communications plan; Information days; Relationship committee; ERISS engagement

APPENDIX H: PEER REVIEW

See separate attached document.



29 March 2014

Peer Reviewer comment on Banarra's final report for the Ranger 3 Deeps Underground Mine Social Impact Assessment

At the request of Banarra, I have examined the ***Ranger 3 Deeps Underground Mine Social Impact Assessment*** (including all appendices) to consider the extent to which it meets international best practice in social impact assessment (SIA). I have previously commented on the methodology report. A fee was paid to the University of Groningen for my services.

As a leading academic in the SIA field and especially as the author of the "International Principles for Social Impact Assessment" and numerous other publications on SIA, I am appropriately qualified to undertake such a review. I am an expatriate Australian and have been to Ranger/Jabiru several times. However I have no detailed specific knowledge of the Ranger situation and my review is strictly limited to the observations and comments of an interested person comparing this report against typical SIA reports for other projects, and against what an informed person would consider reasonable.

My overall assessment is that the report meets or exceeds international expectations of appropriate practice in SIA reporting. In some places I was particularly impressed, while in other places I was less impressed. Overall I am satisfied that a competent and professionally-sound report has been produced. However I take no responsibility for the accuracy of any of the statements made in the Banarra report. I have no reason to doubt the appropriateness of what is being stated, but I note that the exact wording chosen to describe each issue would vary between different commentators. Arguably, the appropriate stakeholders to comment on the adequacy of the report are the various affected peoples themselves.

It is important to highlight that the assessment of impacts being considered in this report is of a situation where there had already been an open pit mine with considerable social impacts. The assessment of the risks and benefits of the Ranger 3 Deeps project relates to the additional risks and benefits that may be created by the new underground mine, not the impacts of the original mine. Nevertheless, Banarra competently describe the impact history experienced by the various affected groups of people.

I provided detailed feedback on a draft version of the report to Banarra, and their final version (with this letter included) has been adjusted in response to my earlier comments, the gist of which were that:

- I challenged Banarra about some aspects of the Impacts Register particularly relating to how some risks were rated and about the low number of highly rated risks;
- I was concerned about the use of certain terminology and requested clarification or change in some places;
- I suggested various changes in certain places in the report either to increase or decrease the emphasis on the impact in question;
- While I felt Banarra had adequately considered the social impacts of normal operations, I felt that they did not give sufficient attention to contingency planning in the event of an accident or abnormal event. Given that extreme weather conditions are challenging and there are various plausible scenarios (e.g. accidents with the transport of processed ore), perhaps these and other possibilities should have been considered more than they were;
- The connection to the academic literature on social impact assessment generally, and particularly in relation to mining in the Northern Territory could have been stronger.

Notwithstanding these comments, my general assessment is that the ***Ranger 3 Deeps Social Impact Assessment*** is a competent report that meets or exceeds expected international practice in SIA reporting.

Prof Frank Vanclay

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