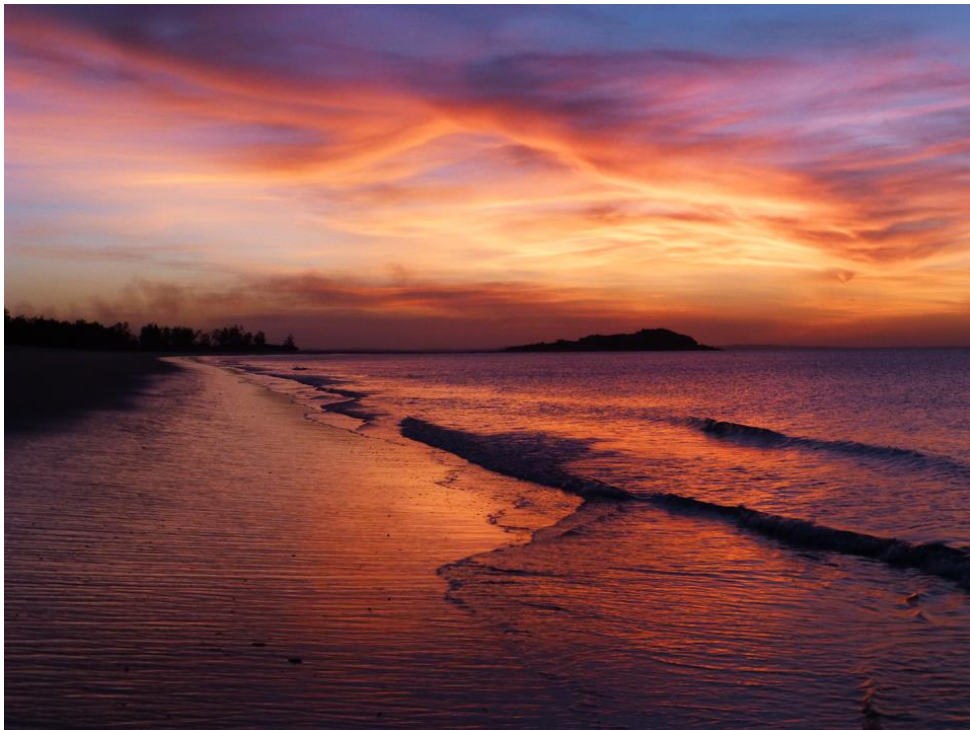




The Social and Cultural Impacts of Seabed Mining in Northern Territory Coastal and Intertidal Waters



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LIMITATIONS

This report has been prepared to inform the Northern Territory Government's review of seabed mining and is based on a briefing by the Department of Environment and Natural Resources and desktop research by the author and is not based on consultation with stakeholders.

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1. Executive summary

The water is saltwater... And in that water lies our sacred Law.

Not just near the foreshore. We sing from the shore to where the clouds rise on the horizon... Everything that exists in the sea has a place in the sacred songs... seaweed, floating anemones, turtle, fish... the songs follow them out from the deep water into the beach.

(Yunupingu and Muller, 2009, p. 158)

About 85 per cent - or 6050 kilometres - of the Northern Territory's coastline and 50 per cent of the Territory's land is freehold Aboriginal land, covered by the *Aboriginal Land Rights Act*. Native Title covers much of the rest. In an arc from the Joseph Bonaparte Gulf in the west to the Arafura and Timor Seas in the north and the Carpentaria Gulf to the east are 5100 kilometres of coastline and another 2100 kilometres of tropical island coast that are home to some of the world's oldest and strongest cultures.

The arc takes in the Port Keats/Wadeye Aboriginal Land Trust, the 'saltwater country' of the Larrakia people, the clans of the Tiwi Islands, the Cobourg Marine Park, the escarpment country and scenic beaches of Arnhem Land and the Yolngu people, to the Anindilyakwa realm of Groote Eylandt, the Sir Edward Pellew Islands off Borroloola and the Limmen Bight Marine Park. This coast is home to many Indigenous Protected Areas, marine parks and intertidal zones with unique marine species such as crocodiles, turtles, dugong, dolphins and gamefish and the mangroves and seagrass that sustains them.

In the centre of the arc is the city of Darwin and its hinterland around Darwin Harbour. To the east of Arnhem Land is the mining town of Nhulunbuy. Mostly, however, the coastal seas of the Northern Territory are uncluttered by people and industry, holding unique and treasured natural values for all Territorians, quite apart from the Aboriginal people who have lived in harmony with its ecological systems for thousands of years.

For commercial fishermen, these seas are integral to a 'clean green' seafood brand; for amateur fishermen, coastal and estuarine fishing is integral to the Territory's fishing lifestyle that beckons legions of southerners; for tourism promotion it is sailing, cruise shipping, eco-escapes and sunsets; for ordinary Territorians the sea is a place to enjoy nature and relax with family and friends, a part of a relaxed Territory lifestyle.

This report was commissioned to provide an insight into the likely social and cultural impacts of seabed mining on this coastal zone. This is necessarily done from the perspective of people and communities to guide both regulatory policy and early decisions by prospective explorers.

It is based on an extensive literature review of best practice social and cultural impact assessment, reviewing impact assessments covering project proposals on Aboriginal land and seas in Northern Australia, and reviewing studies and media coverage of contentious issues surrounding nearshore

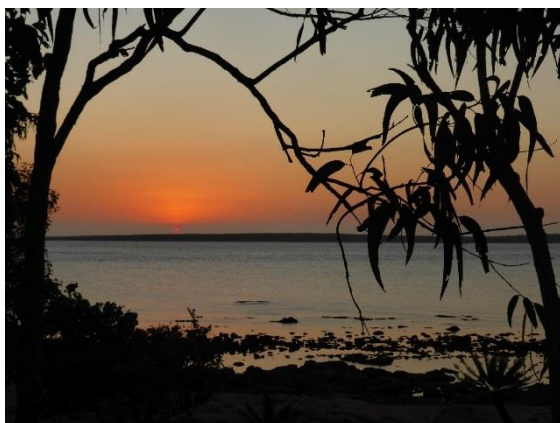
and coastal seabed development and dredging in Northern Australia, Papua New Guinea, New Zealand, Canada, the Pacific and Namibia.

The report covers the social and cultural context of the Northern Territory's coastal areas, explores their social, cultural, economic and natural values, investigates best practice social and cultural impact assessment, and describes potential social and cultural impacts of seabed mining. It makes recommendations on how these issues might best be incorporated into a trusted regulatory approach. In particular, it examines alternative approaches and better ways of working with Aboriginal people before, during and after the formal regulatory process.

It concludes that, quite apart from understanding broader social values, respecting Aboriginal ties to land has become both a moral responsibility and a practical reality of living and working in the Northern Territory.

Key factors in Aboriginal acceptance of mining in general and seabed mining in particular are likely to be:

- whether a project is aligned with community hopes and aspirations for the use of their land and seas;
- to extent to which communities see benefits in the project;
- people's sense of control over what happens, including awareness, understanding and consent;
- a community's vulnerability or resilience to change and the extent to which this threatens or accommodates cultural and spiritual ties to country and kinship systems;
- the level of trust in government and industry, strongly influenced by the 'lived experience' (Vanclay et al., 2015) of previous projects, whether promises were kept or broken and the track record - or legacy - of previous projects;
- the level of anxiety and fear evoked from the moment people hear about a project.



Photos by the author: Gove Peninsula (cover), Groote Eylandt from Dugong Resort and Mindil Beach, Darwin.

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3. Acronyms

ABS	Australian Bureau of Statistics
AAPA	Aboriginal Areas Protection Authority
AIATSIS	Australian Institute for Aboriginal and Torres Strait Islander Studies
ALC	Anindilyakwa Land Council
ALRA	<i>Aboriginal Land Rights (Northern Territory) Act</i>
ASIA	Aboriginal Social Impact Assessment
CIA	Cultural Impact Assessment
DENR	Department of the Environment and Natural Resources (NT)
DHAC	Darwin Harbour Advisory Committee
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999 (C'wealth)</i>
EPA	Environmental Protection Authority
EIS	Environmental Impact Study
IAIA	International Association for Impact Assessment
IAP2	International Association for Public Participation
ILUA	Indigenous Land Use Agreement
IPA	Indigenous Protected Area
MCA	Minerals Council of Australia
NLC	Northern Land Council
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan

4. Definitions

Coastal waters	Northern Territory waters are defined as those below the low water line and extend three nautical miles (5.5 kilometres) seaward. Intertidal zones are those between the low and high water marks.
Community engagement	Also known as public participation, this is the process of giving people input to decisions that impact on their lives, livelihoods and lifestyles. The International Association for Public Participation (IAP2) defines different levels of engagement from informing (telling), consulting (listening to what people have to say) and more participatory levels such as involvement, collaboration and empowerment.
Cultural Impact Assessment	The impact of a project on the culture of a community or peoples, particularly the norms, beliefs and traditional practices of Aboriginal or First Nations peoples.
Indigenous Protected Area	An Indigenous Protected Area is part of Australia's National Reserve System and is defined by the International Union for the Conservation of Nature (IUCN) as an area 'where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value; and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values'.
NT marine environment	The NT marine environment is defined as including intertidal and coastal waters.
Seabed mining	Seabed mining is defined as "the commercial recovery of minerals at the surface of or below the seabed. This includes the exploration and mining of a 'mineral' or 'extractive mineral' as defined in the <i>NT Mineral Titles Act</i> but does not include oil and gas recovery" (NTEPA).
Social impact	The consequences of change that are measurable, felt or perceived by people.
Social impact assessment	The assessment of the impacts of major developments or policies on people and communities, both direct and indirect, intended and unintended, positive and negative.
Social sustainability	The ability of a community to maintain social capital and wellbeing.
Values	Something that has merit or importance or that is cared about (Woodward et al., 2008).

5. Background

5.1 Northern Territory Government review of seabed mining

In March 2012, the Northern Territory Government imposed a moratorium on exploration and mining in coastal waters of the Northern Territory until 2015. This moratorium was extended a further three years to March 2018.

The moratorium is intended to provide for adequate time to investigate the actual and potential impacts of seabed mining and provide advice on their management so the responsible Minister can apply appropriate conditions to mineral titles and authorisations relating to seabed mining.

The aims of the review of seabed mining are to:

- identify standards to address the needs of the community in respect of industry ‘best practice’, protection of the environment, protection of social and cultural values, mitigation strategies and community involvement;
- permit the development of regulations, guidelines, or both, for the assessment of applications.

Key areas where seabed mining can take place (only the first two are covered by this report):

- intertidal zones (highlighted by the Blue Mud Bay case) – covered by mining and environmental legislation, in addition to the *Aboriginal Land Rights (Northern Territory) Act* (ALRA);
- nearshore mining in Northern Territory coastal waters (out to 5.5 kilometres): regulated by the *Northern Territory Environmental Assessment Act* and *Northern Territory Mining Management Act*;
- deep sea bed mining in Australia’s Exclusive Economic Zone (EEZ) – covered by the *Offshore Minerals Act 1994* (Cth);
- International waters – covered by the *United Nations Convention of the Law of the Sea and International Tribunal for the Law of the Sea* (which covers dispute resolution).

5.2 Purpose of this report

The Department of Environment and Natural Resources (DENR) is seeking a report on the cultural and social values of the Northern Territory marine environment and the impact on those values from seabed mining activities, including management of those impacts.

The report is to be based on desktop research that considers existing research, literature and academic reviews. It is to include the actual or potential social and cultural impacts of resource industries and strategies and recommendations to improve the management of impacts from seabed mining. It will be used to inform the Seabed Mining Report that the NT Environment Protection Authority (NTEPA) is preparing on seabed mining.

In general, this report will consider the impact of nearshore seabed mining given that deep sea mining covers depths of more than 500 metres, however, it will apply lessons from the regulation of deep sea mining in other jurisdictions (for example the New Zealand Exclusive Economic Zone).

The activities of seabed mining extend from initial proposals to exploration, mining and remediation or rehabilitation. They include both invasive and non-invasive activities.

5.3 Overview of seabed mining

Exploration and mining of the sea floor is a small and relatively unknown sector driven in part by Australia's growing demand for mineral resources (Boughen, et al., 2010). Internationally, there has been controversy over several proposals for seabed mining. In Australia, the practice to date has mainly covered sand and shell sand extraction (NTEPA, 2012).

5.3.1 New Guinea

The Pacific has been identified as an area where seabed mining could occur. One of the more contentious projects has been the Solawara 1 project near Papua New Guinea (PNG). Canadian company Nautilus proposed to extract gold and copper by deep seabed mining in the Bismarck Sea in PNG's Exclusive Economic Zone, 50 kilometres from Rabaul. Potential ecological risks identified in studies included high turbidity, potentially toxic sediment plumes impacting on downstream benthic communities and the possibility of currents carrying sediment towards the coastline (Hunter & Taylor, 2013).

The proposal attracted criticism from activists of the DSM (deep-sea mining) Campaign (Rosenbaum & Grey, 2015) as well as a range of other NGOs. The DSM Campaign expressed concern at the lack of appropriate regulatory frameworks and decision-making tools to ensure the wellbeing of coastal and island communities and the marine ecosystems they rely on. The Campaign criticised the proponent's environmental studies as failing to account for the social, cultural and economic value of oceans and potential cumulative impacts if several mines were approved. Specific social and cultural issues raised included:

- inadequate consultation and the absence of Free, Prior and Informed Consent of local communities
- risks of seawater pollution and spills and sediment plumes
- the risk of contaminating marine and human food chains, with potential health impacts for coastal communities
- impacts on traditional and commercial fisheries and sea-based tourism
- local food security, cultural practices and livelihood opportunities
- impacts on artisanal or small-scale fisheries providing nutrition for families and income from sale at local markets.

In other Pacific Islands, concerns were expressed at the potential impact on artisanal seabed mining, such as beach and offshore aggregate mining.

5.3.2 New Zealand

New Zealand's Environmental Protection Agency has considered applications for oil and gas and seabed exploration and mining in the country's Exclusive Economic Zone. Two of three seabed mining applications have been refused on the grounds of uncertainty, impacts on

benthic habitats and social and cultural impacts, including on Maori traditional fishing activities.¹

5.3.3 Namibia and South Africa

There has been seabed mining for diamonds off the coasts of Namibia and South Africa for decades. More recently, opposition from environmental groups and the fishing industry led to a moratorium on the proposed seabed mining of phosphates in Namibia. Opponents argued that the proposed dredging technology was more disruptive to the seabed than diamond mining and that the marine phosphate mining grounds overlapped with known fishing and fish breeding areas (Benkenstein, 2014).

5.4 Seabed mining in the Northern Territory

Areas in the Northern Territory identified as prospective for seabed mining include the seas around Groote Eylandt, where seams of manganese run under the sea bed from Groote Eylandt to East Arnhem Land, including Blue Mud Bay. An interim report by the Northern Territory Environment Protection Authority (NTEPA) in 2012 also identified the possibility of diamonds in the Limmen Bight area and mouth of the McArthur River mouth in the Gulf of Carpentaria (Northern Territory Environment Protection Authority, 2012)

The first application for seabed mining was lodged by Groote Resources (later renamed Northern Manganese) to extract manganese from shallow waters in the area between Groote and Bickerton Islands. After talking to traditional owners, the Northern and Anindilyakwa Land Councils in 2012 formed an alliance to oppose seabed mining, with the Chair of the ALC saying traditional owners were strongly opposed to any mining with significant cultural, environmental and social impacts on Aboriginal people in the Gulf of Carpentaria. The then Chair of the NLC, representing traditional owners in the area around Blue Mud Bay, said: “Cultural integrity is paramount to both land councils and protecting the songlines, dreamings and traditional values of our traditional owners will always come before anything else” (Masters, 2012). This led to the Northern Territory Government imposing a moratorium in 2012 and seeking a comprehensive review of seabed mining from the NTEPA.

5.5 The policy context

There is a strong agenda by the Northern Territory and Australian Governments to attract investment in infrastructure and projects that diversify and expand the Northern Territory’s economy, create jobs and increase the Northern Territory’s population. Both the previous Northern Territory Government and the Australian Government have issued white papers on Developing the North. The Northern Territory Government has a North Australia Development Office and the Australian Government has established an Office of North Australia which describes Northern

¹ Chatham Rock Phosphate lodged a marine consent application to mine phosphorate nodules from Chatham Rise in May, 2014, which was refused in February 2015. Trans-Tasman Resources Limited (TTR) lodged an application in October 2013 for an iron sand mining project in South Taranki Bight, which was refused in June, 2014. TTR lodged another application in August, 2016 which was approved in August 2017 and is now the subject of several appeals (see <http://www.epa.govt.nz/EEZ/whats-going-on/current-applications/ttr-2016/Pages/default.aspx>). Two oil and gas applications were granted to Shell Todd Oil Services in 2014 and OMV New Zealand in June 2014. See Case Study 3 on page 52 for more details.

Australia as a “region of rich promise, accessible resources and pristine environments and is Australia's gateway to the markets and opportunities of Asia” (<http://northernaustralia.gov.au/>).

The new Northern Territory Government, elected in August 2016, has released its Economic Framework (Northern Territory Government, 2017b) which acknowledges the need to “engage with Traditional Owners from the beginning of any proposal for development on Aboriginal Land”. It identifies Asia as the driver of future economic growth. Key target areas are:

- **agribusiness:** as people buy Australia’s fresh produce, including proteins
- **tourism:** as people seek space, nature, holidays, luxury and genuine cultural experiences
- **energy and minerals:** as more people move to cities, the Asian middle class keep expanding and countries seek to improve living standards
- **international education and training:** as students seek to study in an English-speaking country.

Energy and minerals contribute 12 per cent of the Territory’s gross state product, \$101 million was spent on exploration in 2015-2016 and accounted for 4800 jobs (Northern Territory Government, 2017). The economic framework notes that world-class minerals projects contribute significantly to the Territory’s economic growth but development “must be managed to minimise environmental impacts and to reflect community attitudes” (p.27).

Northern Land Council Chief Executive Officer Joe Morrison (2017) suggests that the Developing the North agenda contains an inherent assumption that mines, large irrigation projects, dams and port infrastructure will create Aboriginal jobs, whereas Aboriginal land owners often continue to live in poverty. In this environment, “proposals for development will always involve some level of community opposition on the grounds of environmental, social and cultural impact”.

5.6 Methodology

This report was commissioned as a desktop report. It is based on:

- a literature review of the social and cultural impacts of seabed mining in Australia and overseas: there appears to be limited academic literature on the topic and much of the commentary is in ‘grey’ literature or from websites;
- a literature review of cultural connections to sea country in Northern Australia, with a growing body of anthropological literature on this topic;
- a literature review of best practice social and cultural impact assessment: there is extensive literature on social impact assessment and management but less on cultural impact assessment;
- a literature review of regulatory reform in Australia and overseas that addresses human impact assessment (health, culture, social, economic and human rights impacts) and community engagement;
- a literature review of values associated with the coastal marine environment of the Northern Territory, particularly the cultural values of Aboriginal coastal and ‘seawater’ people and community values associated with tourism, fishing and recreational activities;
- a review of relevant Environmental Impact Studies that provide insights into community perceptions of coastal development in the Northern Territory or which showcase good social and cultural impact assessment practice;

- submissions to inquiries, such as the current fracking inquiry and the Northern Territory Government's regulatory reforms;
- case studies that provide insights into community perceptions and the level of acceptance of development;
- a range of documents that set the scene, by providing an outline of the social and cultural context for seabed exploration and mining in the Northern Territory.

The Northern Territory's coastal and marine areas remain some of the world's most intact environments, rich in natural resources, biodiversity and cultural heritage and supporting a range of regional and local economies and livelihoods.

These coastal areas are characterised by their remoteness, clean waters, natural scenery and conservation zones popular with tourism and recreational fishing. The waters, pristine beaches, camping sites and parks are integral to what Territorians feel is a unique lifestyle. Communities along this coastline have limited experience of industrial activities. Many have demonstrated antipathy to large-scale resource extraction.

Most importantly, given that 85 per cent of the coastline is Aboriginal land (Northern Land Council nd), the Northern Territory's coastal waters are characterised by the strong attachments of Aboriginal people to their land and sea country.

As outlined below, this context is important in understanding how the scale of change and conflict of values are likely to be perceived and influence community acceptance, or the social licence to operate, of seabed mining.

The population of Greater Darwin is relatively small, at 136,828 (ABS, 2017). The population of the Top End regions outside Darwin is sparse. In the 2016 Census, this amounted to 29,119 people living across 145,847 kilometres of the Daly-Tiwi-West Arnhem and East Arnhem statistical areas. The Aboriginal proportion of these populations was 68.3 and 68.1 per cent respectively (ABS QuickStats, 2017).

For tens of thousands of years, these coastal areas have been home to Aboriginal clans. In the 1800 and 1900s, Macassans from Sulawesi travelled with the winds to the land they called *Marege* to catch and process trepang, trading with Yolngu people along the coast. Their legacy of 200 years' contact includes groves of tamarind trees, stone fireplaces and wells, canoes and iron tools, shared words, art and ceremonies and kinship ties through the abduction of Yolngu women who were taken back to Sulawesi (Sharp, 2002).

European navigators arrived to map the coast, starting with the Dutch in the 17th Century, who created the Dutch East India Company to guard their trade routes to the north. In 1623, Captain Jan Van Carstensz was the first to sight the northern coast in his yachts *Pera* and *Arnhem*, resulting in the name Arnhem Land. Navigator Pieter Pieterszoon visited the Tiwi Islands in 1636, while Abel Tasman charted the north-west of Melville Island in 1644 and called it Cape van Diemen, thinking it to be part of mainland Australia (Isaacs, 2012).

Matthew Flinders sailed the coast in 1803 and Captain Phillip Parker King in 1818. Meanwhile explorers such as John McDouall Stuart crossed by land from the colony of South Australia, which took control of the Northern Territory in 1863. The explorers' legacy was early settlers, as "blind to the differences" (Donovan, 1981, p.1) between their temperate homelands and the humid tropics as they were to Aboriginal culture. The newcomers made four failed attempts to set up a British colony on the tropical north coast in a "vast, wild land, full of possibilities" (AB Paterson, Bulletin, 21 December 1898, cited in Donovan, 1981, epigraph), first at Fort Dundas on the Tiwi Islands, then on the Cobourg Peninsula. The town of Palmerston was established in Port Darwin, in 1869. Their legacy

was not the envisaged riches of commerce but debt for the South Australian colony. These European settlers operated on the assumption of *terra nullius*, or a land empty of people, a concept accepted in law in Australia until the Mabo decision of 1992. In their wake came thousands of Chinese to build a railway and follow a gold rush. The Chinese became the mainstay of the non-Aboriginal population and many were the city's market gardeners and merchants. Other arrivals include Japanese and Malay pearlers, Greeks, Italians, Vietnamese, Filipinos, Timorese and Indians who survived cyclones, the bombing of World War II and economic vicissitudes to build a modern, multicultural home in Australia's only tropical capital city and only key city on the doorstep of Asia.

The Northern Territory transferred from South Australia to the Commonwealth in 1911, then gained Self-Government in 1978. Its economic growth has been driven largely by mining and cattle. Other than Darwin, key settlements along the coast have been strongly influenced by the Territory's major mines: the bauxite mine at Gove, which led to the establishment of Nhulunbuy; McArthur River Mine near Borroloola; and South32's manganese mine on Groote Eylandt including the mining town of Alyangula.

All other population centres are Aboriginal communities, many of them artificial settlements created as missions or outstations reoccupied as part of a 'return to country' movement since land rights were gained in the late 1970s. The coastline extends from Thamarrur in the west to the country of the Larrakia 'salt water' people, the Tiwi Islands, the Yolngu people of Arnhem Land, the Yanyuwa people of the Sir Edward Pellew Islands off Borroloola, the Anindilyakwa people of the Groote Archipelago and the Limmen Bight Marine Park in the Gulf of Carpentaria.

These Aboriginal communities' statutory rights are represented primarily by the Northern Land Council, set up after the *Native Title Act* was declared in 1976, but also by the Tiwi Land Council and the Anindilyakwa Land Council on Groote Eylandt.

6.1 Land and seas

The coastline of the Northern Territory mainland is 5100 kilometres long, with offshore islands contributing a further 2100 kilometres of coastline. About 85 per cent or 6050 kilometres of this coast is owned by Aboriginal Traditional Owner groups (Northern Land Council, nd).

About 25 per cent of the North is formal conservation reserves, of which about half - 154,000 kilometres - are Indigenous Protected Areas (see Fig 6-1). The Northern Land Council's Caring for Country rangers operate across 200,000 square kilometres of land owned by Aboriginal people in the Land Council's area, with funding from the Northern Territory and Australian Governments and a number of research centres.

In terms of its natural environment, the Arnhem Coast Bioregion extends from the Cobourg Peninsula in the east to north of Rose River in south-east Arnhem Land. This coast contains some of the most remote and intact natural systems of Australia including coastal plains and dunes, mangroves, saline flats, paperbark forests, eucalypt forest, woodlands and vine forests (Taylor, 2016).

The Aboriginal people along the coast and islands are often referred to as 'saltwater people', or people whose ancestors came from the sea. Their livelihoods are still tied to the biodiversity of the sea and many different clan groups are connected by shared songlines, or the paths their ancestor

beings followed as they created and named the natural features of the earth (Isaacs, 1984; Sharp, 2002). “They believe their ancestor spirit beings and heroes of the sea endowed their clans with rights to particular reefs, seabed, sites and waters, also conferring a special responsibility to care for them” (Sharp, 2002, p. xiii).

6.2 Marine Parks and Indigenous Protected Areas

Indigenous Protected Areas (IPAs) were first established in 1997 (Ross, et al., 2009) and have been promoted as providing strong partnerships between the Australian Government and Aboriginal people. They are seen as a way for Aboriginal people to voluntarily manage their natural and cultural assets using both traditional knowledge and Western scientific research. Several have been established on Territory land and seas to protect relatively intact sea areas from external pressures and provide jobs in land and sea management for Aboriginal rangers.

There are two marine parks declared under the *Northern Territory Parks and Wildlife Conservation Act* in the Northern Territory: the Cobourg Marine Park, co-managed with local Aboriginal people (and now part of Garig Gunak Barlu National Park) and the Limmen Bight Marine Park.

Australian Marine Parks (previously known as Commonwealth Marine Reserves) were established in 2012. In July 2017, Parks Australia released five draft plans to manage Australia’s 44 marine parks over the next 10 years. Commonwealth waters in Australia extend from the outer edge of state and territory waters, generally no less than three nautical miles (5.5 kilometres) from shore and extending to the outer boundary of Australia’s exclusive economic zone, 200 nautical miles from shore.

Several other parks and reserves include coastal and marine areas, such as the Tree Point Conservation Area, Casuarina Coastal Reserve and Kakadu National Park.

Many of these parks and conservation areas have prepared management plans, often collaboratively with Aboriginal people, providing useful discussion of the values of these areas. For example, the Cobourg Marine Park Plan of Management (2011) outlines the park’s management values as:

- conservation and scientific (including seagrass beds, dugong, turtles)
- Aboriginal cultural
- historical (marine history of early settlement, eg Port Essington, and shipwrecks)
- tourism and recreational – coastal scenery and opportunities for fishing, tourists seeking an Aboriginal cultural experience, concerns about the safety of visitors
- economic
- educational, including Aboriginal culture, lifestyle and resource use.

The vision for Australian marine parks is that they are “healthy, resilient and well-managed to enhance Australia’s wellbeing” (p.6), which means ensuring that:

- their natural, cultural, socio-economic and heritage values are understood, appreciated and conserved
- marine parks support jobs and businesses
- people have opportunities to enjoy marine parks

- visitors and tourists can enjoy world-class nature-based experiences in marine parks
- Indigenous people and marine park users are partners in managing marine parks.

Objectives of the Australian marine parks plan are to provide for:

- a) the protection and conservation of biodiversity and other natural, cultural and heritage values of marine parks in the North Network;
- b) ecologically sustainable use and enjoyment of the natural resources within marine parks in the North Network, where this is consistent with objective (a).

The values of these national marine parks are described as (p.19):

- **Natural** – habitats, species and ecological communities within marine parks, and the processes that support their connectivity, productivity and function.
- **Cultural** – living and cultural heritage recognising Indigenous beliefs, practices and obligations for country, places of cultural significance and cultural heritage sites.
- **Heritage** – non-Indigenous heritage that has aesthetic, historic, scientific or social significance.
- **Socio-economic** – the benefit of the marine parks for people, businesses and the economy.

6.3 Significance of the Blue Mud Bay and Croker Island decisions

6.3.1 Croker Island

While there was reference to sea rights in the 1992 Mabo native title decision, the 1998 Federal Court judgment in the Croker Island Seas case (*The Commonwealth v Yarmirr*; *Yarmirr v Northern Territory*, 2001) was the first entirely sea claim to come before an Australian court (Sharp, 2002). Justice Olney determined that native title existed in relation to the sea and seabed, including water over land to the low water mark but that these rights were non-exclusive. The High Court, in a judgement in 2001 on an appeal to this decision, recognised native title to seas claimed by Croker Islanders but determined, in a split decision, that public rights to the sea should take precedence over other rights.

An anthropological report (by Dr N Peterson and Dr J Devitt) was tendered to the court listing 10 native title rights among the Croker Island clan (p.20). This is worth reproducing, as it provides an insight into what was at stake for the Croker Islanders:

- "1. Right of members of the *yuwurrumu* to be recognised as the traditional owners of the estate (which includes the sea bed, the water and all life within it), to transmit all the inherited rights, interests and duties to subsequent generations and to exclude or restrict others from entering any area of the estate.
2. Right of senior *yuwurrumu* members, to speak for and make decisions about all aspects of the estate.
3. Right of all members of the *yuwurrumu* to free access to the estate and its everyday resources in normal circumstances.
4. Right of the senior members of the *yuwurrumu* to control the use of and access to the subsistence and other resources, including the ritual resources, of the estate by

all people including younger members of the *yuwurrumu* and to engage in the trade and exchange of estate resources.

5. Right of senior members of the *yuwurrumu* to receive a portion of major catches (eg turtle, dugong, crocodile or big hauls of fish) if they are coresident with the person making the catch.

6. Right of the senior *yuwurrumu* member(s) to close off areas of the estate on the death of either *yuwurrumu* members or of individuals in important relationships with *yuwurrumu* members, and to decide when they shall be re-opened to use.

7. Right of senior *yuwurrumu* members to allocate names associated with their estate to their relatives and/or to exchange them with others in order to express, create and consolidate 'company' and other relationships.

8. Right of the senior members of the *yuwurrumu* to speak for and make decisions about the significant places in the estate and to ensure unintended harm is not caused by them, or to them.

9. Right to receive, possess and safeguard the cultural and religious knowledge associated with the estate and the right and duty to pass it on to the younger generation.

10. Right to speak for and make decisions about the estate's resources, and the use of those resources, and the right and duty to safeguard them."

Important elements included the claimed right to exclude or restrict others from entering any area of the 'estate', the claimed right to make decisions about all aspects of the estate, and the claimed right to control the use of and access to (and make decisions about) the subsistence and other resources of the estate (High Court of Australia, 2001), claims which were rejected by the court.

Justice Michael Kirby observed that, while the common law drew a relatively clear distinction between laws applicable to land and sea, the customs of Australia's Indigenous people made no such distinction (Sharp, 2002).

6.3.2 Blue Mud Bay

In 2008, the High Court of Australia (*Northern Territory of Australia v Arnhem Land Aboriginal Land Trust*) found that water lying over Aboriginal land should be treated no differently to the land itself. Essentially, it found that tidal areas were private land, that this overrode the common law right to fish and that outsiders, including recreational fishermen, must seek permission from Aboriginal Land Trusts to enter this land.

What has become known as the 'Blue Mud Bay' case was the impetus for many 'saltwater' people to assert greater control over their traditional land and seas and use their sea rights as a 'stepping stone to long overdue independence' (Sharp, 2002, p. xv).

The first National Indigenous Sea Rights Conference was held in Hobart in September 1999. "Pressure for sea rights is becoming like an underwater volcano surge causing waves to form, but many Australians do not know what is causing the waves," comments anthropologist Noni Sharp (p.124). Sharp (2002) has written a comprehensive account of Indigenous people's connections with the sea, the cognitive 'sea maps' that allowed them to read the sea and navigate its dangerous reefs, saltwater people's perception of the sea as a 'living

being’ and the sequence of court cases in Australia and other nations where First Nations peoples were claiming their sea rights. She cites anthropologist William Stanner’s 1969 writings on Aboriginal people’s spiritual and material bonds to land, where ‘owning’ and ‘belonging to’ land and sea are ‘like two sides of the one coin’ (Sharp, 2002, p.128). This extends back to claims in the landmark 1992 Mabo case to not just land but also to reefs, lagoons and foreshore.

Some Aboriginal groups are also claiming recognition of trading rights (first recognised in the Borroloola case outlined in 6.4.18 below).

We are determined that the traditional owners will be the first decision makers for managing our country – their word is law and must be respected.

(Traditional Owners’ introduction to the Anindilyakwa Indigenous Protected Area Management Plan, Taylor, 2016, p.9)

6.4 Populations of Northern Territory coastal areas

The following section provides a brief description of the sea country around the Northern Territory coast, Aboriginal peoples associated with these coastal areas and the protected areas and marine parks within them. This is a high level summary and does not purport to be a definitive statement of land and sea ownership.

The section starts with a summary based on the 2016 Australian Bureau of Statistics (ABS) Census QuickStats (Australian Bureau of Statistics, 2017). It then provides an overview of some of the key communities (in order from west to east), drawing on available literature to discuss Aboriginal peoples’ strong connections to land and sea.

Statistical area*	Key communities	Population as recorded in the 2016 Census
Thamarrurr IARE	Wadeye, Nganmarriyanga, Peppimenarti	2234 Aboriginal or Torres Strait Islander people, of whom 48.9% were male and 51.1% were female. 70.7% of people spoke Murrinh Patha at home. Median age of 23.
Wadeye ILOC	Wadeye	Aboriginal population of 2036, 48.8% were male, 51.2% female, with a median age of 24.
Tiwi Islands IARE	Milikapiti, Wurrumiyanga, Pirlangimpi, Rangku	2189 Aboriginal and Torres Strait Islander people, of whom 49.2% were male and 50.8% female. Median age of 23. Key language spoken at home was Tiwi (82.5%)
Greater Darwin Area (SA4)	Darwin, Palmerston, Litchfield rural area	136,828, of whom 11,960 (or 8.7%) identified as Aboriginal. Median age of 33.
North-West Arnhem IARE	Waruwi, Minjilang	1970 Aboriginal residents, of whom 48.6% were male and 51.4% were female. The median age was 25. The main language spoken at home was Kunwinjku (62.3%), followed by Maung (15.7%) and Iwaidja (4.4%)
Maningrida and outstations IARE	Maningrida	2366 Aboriginal people, of whom 51.1% were male and 48.9% were female. The median age was 26. The main languages spoken at home were Burarra (38.6%), Kunwinjku (13.5%), Ndjebbana (7.1%), Kune (6.5%) and Mayali (4.2%)
Ramingining-Milingimbi and outstations IARE	Ramingining, Milingimbi	2176 Aboriginal people of whom 50.7% were male and 49.3% were female. The median age was 25.

		The main languages spoken at home were Djambarrpuyngu (68.7%) and Gapapuyngu (5.9%).
Marthakal Homelands – Galiwin'ku IARE	Galinwin'ku	2314 Aboriginal people, of whom 49.9% were male and 50.1% were female. The median age was 22. The main language spoken at home was Djambarrpuyngu (81.9%)
Gapuwiyak and outstations IARE	Gapuwiyak	946 Aboriginal residents of whom 49.2% were male and 50.8% were female. The median age was 23. The main language spoken at home was Djambarrpuyngu (79%)
Nhulunbuy (SA2)	Nhulunbuy township	3088 people, of whom 51.5% were male and 48.5% were female. Median age of 32. 10.6% were Aboriginal or Torres Strait Islander.
Nhulunbuy-Gunyangara IARE	Nhulunbuy, Gunyangara	690 Aboriginal people, of whom 50.4% were Aboriginal and 49.6% were female. The median age was 26. The main language spoken at home was Gumatj (4.6%), Galpu (4.3%) – 24.7% spoke English only at home.
Yirrkala IARE	Yirrkala	674 people, of whom 47.8% were male and 52.2% were female. The median age was 25. The main languages spoken at home were Dhuwaya (39.4%), Djambarrpuyngu (4.8%) and Gumatj (4.7%).
Laynhapuy-Gumatj Homelands IARE	The Gove Peninsula, excluding Nhulunbuy.	449 Aboriginal people, of whom 53.9% were male and 46.1% were female. The median age was 23. The main languages spoken at home were Dhuwaya (11.3%), Dhalwangu (7.3%), Djapu (7.3%), Wangurri (6/7%) and Dhuwal (4.4%)
Anindilyakwa-Groote IARE	Angururu, Umbakumba, Milyakburra	1616 Aboriginal people, of whom 47.5% were male and 52.5% were female. The median age was 25. The main language spoken at home was Anindilyakwa (82.5%)
Alyangula SSC	Alyangula (included separately as it is mainly a non-Aboriginal mining and service town on Groote Eylandt)	873 residents, of whom 56.5% were male and 43.4% were female. Only 8.3% identified as Aboriginal or Torres Strait Islander. The median age was 33. Interestingly, the top languages spoken at home after English (81.9% of households spoke only English) were Afrikaans (1.3%) and Anindilyakwa (1.2%)
Numbulwar and outstations IARE	Numbulwar	The Aboriginal population was 686, of whom 47.8% were male and 52.2% were female. The median age was 26. The main languages spoken at home were Kriol (42%), Nunggubuyu (34.8%), Anindilyakwa (10.4%) and Wagilak (2.6%).
Borrooloola SSC (suburb)	Borrooloola township	871 residents, of whom 51.8% were male and 48.2% were female. Median age of 26. 76.1% were Aboriginal and Torres Strait Islander. The key language spoken at home was Garrawa (4.5%) and Yanyuwa (1.7%)
Gulf	Ngukurr (although inland, it is included as it is on the Roper River and the IARE extends to the Limmen Bight coast)	1088 Aboriginal people, of whom 49.3% were male and 50.7% were female. The median age was 19. The main language spoken at home was Kriol (55%) or Garrawa (6.6%),

Table 6-1 – Demographic data: Source ABS Quick Stats (2017)

*Note: This is a selective account of key communities.

- It includes larger urban areas (Wadeye, Nhulunbuy, Borroloola and Darwin) and Indigenous Areas (IAREs) which comprise an aggregate of several smaller Indigenous Locations (ILOCs).
- It is intended to capture communities on or near the coast, therefore some IAREs have been excluded, such as the Victoria River, Douglas-Daly, Kakadu-Marrakai and Cox-Finnis-Coomalie (which includes Wagait and Litchfield Councils).
- Any proper analysis should include individual communities (for example the Cox Peninsula includes Belyuen and Wagait).
- There will be some duplication with the towns of Wadeye and Nhulunbuy and the larger IAREs.
- The Greater Darwin area includes Darwin, Palmerston and Litchfield municipalities.
- The IARE statistics cover only Aboriginal residents. For an account of Aboriginal and non-Aboriginal populations, analysis would need to go down to the ILOC and more broadly to SA2 and SA3 statistical geographic boundaries.
- Key language spoken at home captures those who nominate speaking a language other than English. Some Aboriginal people are likely to have nominated English as their first language and all the usual cautions should be applied to the accuracy of Census data covering Aboriginal communities.

6.4.1 Thamarrurr region

Thamarrurr includes the town of Wadeye, one of the largest in the Northern Territory, as well as the Daly River-Port Keats Land Trust.

Wadeye, also known as Port Keats, is about 420 kilometres south-west of Darwin and is accessed along the unsealed Daly River Road or by air to a sealed airstrip. The town was founded as a Roman Catholic mission in 1935 and managed by the Australian Mission until the late 1970s, then by the Kardu Numida Council until the Territory's Local Government reforms in 2008 placed Wadeye in the Victoria Daly Regional Council. In 2016 a new West Daly Regional Council was allowed to break away, covering 14,000 square kilometres and the communities of Wadeye, Peppimenarti and Palumpa (West Daly Regional Council, nd).

The Marri-Jabin Indigenous Protected Area, declared in 2010, covers 712 square kilometres including the Moyle and Little Moyle floodplains. The Thamarrurr Rangers, coordinated by the Thamarrurr Development Corporation, patrol this IPA. The 'relatively intact landscapes' of the Thamarrurr region include a 240-kilometre coastline where sea turtles lay their eggs in the dunes.

The region is home to 20 clan groups, with thousands of cultural sites, including ceremony and sacred sites, rock art and stone arrangements. Despite the challenges of accessing the country, due to transport, poor roads, family and social problems, "people's connections with and yearning for Country cannot be overstated" (Thamarrurr Development Corporation, nd).

6.4.2 Larrakia

Larrakia 'saltwater people' are traditional owners of the land and seas of the Greater Darwin Region, including the Cox Peninsula and adjacent islands. Their country stretches to Shoal Bay, the Vernon Islands and the Adelaide River (Larrakia Nation, 2001) and is bounded by Wulna, Kungarankany, Tiwi and Warrai lands.

Prior to European settlement, the Larrakia people "moved about their country, hunting and fishing in accordance with cultural requirements, seasonal patterns and availability of freshwater" (Jackson, 2003, p. 2-8). Bountiful food resources included mangrove worms, long bums, fish, mud crabs, ducks, magpie geese, wallabies, possums, goanna and turtle eggs.

Many marine animals, such as the saltwater crocodile, turtles and dugong had totemic importance for Larrakia people (Jackson, 2003)

The Larrakia people have a deep knowledge of ecosystems in the Darwin Harbour region and, as part of an Indigenous Working Group to the Darwin Harbour Advisory Committee, sought to have traditional uses of natural resources protected from land clearing, pollution and overfishing (Jackson, 2003).

Displaced by what became the Northern Territory's largest city, Larrakia people were more impacted by settlement than other coastal groups. Many were moved from traditional camping grounds at Lameroo Beach and around town to Kahlin Compound in 1923, where they came under the control of the 1911 Aboriginal Ordinance. Kahlin Compound, and later Retta Dixon Home, also housed mixed race children of the Stolen Generations who had been taken from families all over the Territory.

Aboriginal people were recognised as citizens in 1964 and won the right to vote in 1967 after a national referendum. The Larrakia in 1971 lodged the Kulaluk land claim covering the land between Ludmilla Creek and Nightcliff. They also sought protection for sites of significance on Dundal (Point Emery) and Dariba Nanggalinya (Old Man Rock).

The Kenbi Land Claim, launched in 1979, became the longest-running land claim in Australia. About 52,000 hectares on Cox Peninsula are now covered by the *Aboriginal Land Rights Act 1976*, with another 13,000 hectares granted as Northern Territory freehold land. The claim excludes Wagait Beach and Mandorah, as well as the Belyuen Aboriginal community (previously known as Delissaville) on Cox Peninsula.

In 2006, an estimated 1600 Larrakia people (Bauman, 2006), from eight families, lived in and around Darwin, including the Cox Peninsula and Acacia-Larrakia (part of a reserve established in 1892 so Larrakia people could hunt and access fresh water away from town).

One of the most significant Creation figures for Larrakia people is *Wariny* on the western side of the Cox Peninsula. *Dariba Nanggalinya*, off Casuarina Beach, is said to make his presence known when disturbed or angered and is believed to have been responsible for Cyclone Tracy in 1974 (Larrakia Nation, 2001).

As Bauman (2006, p. xix) outlines, Larrakia people subsisted for thousands of years by hunting, fishing and foraging: "Life itself depended on knowing the country intimately: where to find fresh water, and how to harvest plant, animal and marine life for food, clothing, medicine and ritual". Larrakia people systematically set fire to country to clear away undergrowth, encourage new growth and make it easier to hunt animals.

Ranger groups covering this region include the Larrakia Sea Rangers, run by Larrakia Nation, and Bulgul Caring for Country Land and Sea Rangers based on the Wagait-Delissaville-Larrakia Land Trust, supported by the Northern Land Council (Northern Land Council, nd).

Larrakia Nation and the Larrakia Development Corporation are two key organisations representing the social, cultural and economic aspirations of Larrakia people.

6.4.3 Darwin and Darwin Harbour

Territorians clearly revere their harbour and want to see it well managed for future generations to enjoy.

John Bailey, then chair of the Darwin Harbour Advisory Committee (2003, Foreword)

A 2003 Darwin Harbour Management Plan, outlined the range of environmental, cultural, commercial and recreational values of Darwin's harbour. These included high conservation values because of the diversity, productivity and pristine condition of its biological resources; its cultural significance for Aboriginal people; popularity of recreational fishing; and use of the harbour's 'scenic waterways' for boating, swimming, bird-watching, diving and cycling. Its natural scenery had high aesthetic value (Darwin Harbour Advisory Committee, 2003).

The 2003 plan, which was updated in 2007, covered 3227 square kilometres of land and water including the cities of Darwin and Palmerston and the Cox Peninsula settlements of Belyuen, Mandorah and Wagait Beach. The harbour extends from the Port of Darwin to Shoal Bay, from Charles Point to Gunn Point and includes the estuarine areas, tributaries and catchment areas of Cox Peninsula, Woods Inlet, West Arm, Middle Arm, East Arm and the Howard River (Darwin Harbour Advisory Committee, 2007). Coastal reserves around the harbour include Casuarina, Channel Point and Shoal Bay coastal reserves.

The Harbour was visited by Macassan fishermen between 1700 and 1900. Port Darwin was named to honour scientist and naturalist Charles Darwin by Lieutenant John Lort Stokes in 1839 during an exploratory voyage around the coast of Northern Australia in the *HMS Beagle*. It was settled as Palmerston in 1869. The town became a significant outpost when the Overland Telegraph came onshore in 1872.

The City was bombed during World War II, survived three major cyclones, became the capital of the Northern Territory at Self-Government in 1978 and is now a large, urban area known for its laid-back, tropical lifestyle, fishing charters and sunset cruises.

A survey by the Darwin Harbour Advisory Committee in 2003 suggested that Darwin residents visit the harbour more than once a week, primarily to relax, walk, fish and boat. More than 40 per cent of Darwin's residents fished at least once a year, 45 per cent of all Territory recreational fishing was in Darwin Harbour and six per cent of visitors fished at least once during their stay. The most popular fish caught in the harbour were snapper, catfish, whiting, mud crabs, emperor, barramundi and shark (DHAC, 2003).

The harbour is also important to the Northern Territory's economy, supporting a port, shipping and export industry. Several recent industrial and commercial developments have included substantial dredging of the harbour, including the Cullen Bay marina and residential development, the construction and later expansion of East Arm Port, the ConocoPhillips LNG Plant at Wickham Point, INPEX's LNG plant at Bladin Point, the Darwin City Waterfront redevelopment and construction of a marine supply base at East Arm.

These events (based on the author's personal experience) evoked concern from many Darwin residents based on fears of industrialisation of the harbour, impacts on lifestyle and

recreational values, reduced access to the shoreline, clearing of mangroves and concerns that sedimentation would upset marine biodiversity (including corals, turtles, dugong and seagrass beds) and recreational fishing. Such was the sensitivity to development, that INPEX invested in substantial consultation and community programs, extensive scientific studies, and an expensive dredging program to reduce the amount of dredge spoil returning to the harbour environment. The dredging program was monitored by an independent INPEX Project Dredging Expert Panel (IPDEP) under Barry Carbon AM, a former Chair and Chief Executive of the West Australian Environmental Protection Authority (INPEX, nd)

6.4.4 Tiwi Islands

Our vision is of an independent and resilient Tiwi society built on the orderly and well-managed utilisation of our natural resources.

Tiwi Land Council, statement of vision, 2003, p.52

Bathurst and Melville Islands, home to nearly 2200 Tiwi people, are 60 kilometres north of Darwin, across the Arafura Sea. Together with five smaller islands, the Tiwi land covers 800,000 hectares and a coastline of 1016 kilometres. Wurrumiyanga (previously known as Nguu) is the largest and was set up by the Catholic Mission in 1911. A Catholic Mission was set up in 1940 at Pirlangimpi, or Garden Point, on the Apsley Strait, and became an institution for part-Aboriginal children from other parts of the Territory. The other main communities are Milikapiti, at Snake Bay, which was set up by the Welfare Branch in 1940, and Wurankuwu, set up as an outstation in 1994.

The Tiwi Land Council was established in 1978, when tenure of the Islands was passed to the Tiwi Aboriginal Land Trust. The Tiwi Islands Regional Council provides municipal services.

The Tiwi people, under the guidance of the Tiwi Land Council, have long sought to use their land for economic independence. In 2003, the land council released a regional natural resource management strategy that outlined the potential use of the Tiwi land for forestry, aquaculture and mining “for jobs and income to benefit our new generation of Tiwi” (p.5).

The strategy recognises both the economic potential of the land as well as the importance of place values to the Tiwi people: “the ownership, allocation and expression of land and natural resources provides the definition of who a person is, and where they fit within society” (Tiwi Land Council, 2003, p.6).

The Tiwi people have also encouraged businesses in art, fishing lodges, barging and tourism, and set up Tiwi College and a training board to improve the education and job prospects of its younger generation.

The marine environment is recognised as particularly valuable for food such as turtle, dugong, tern eggs, shellfish, mussels, oysters, periwinkles, mangrove worms and mud crabs. The seas are patrolled the Tiwi Islands Marine Rangers, established in 2001, while land rangers engage in conservation and monitoring of the islands’ land resources.

The Tiwi Islands includes the Vernon Islands, which is a conservation reserve.

6.4.5 Cobourg Peninsula

The Garig Gunak Barlu National Park incorporates the former Gurig National Park and Cobourg Marine Park. It covers the Cobourg Peninsula and several adjacent islands (but not nearby Croker Island) and includes the luxury Seven Spirit Bay Wilderness Resort.

A Cobourg Marine Park Plan of Management (2011) covers nearly 230,000 hectares about 220 kilometres north-east of Darwin. It was the first marine park declared under the *Territory Parks and Wildlife Conservation Act* and is jointly managed with its traditional owners.

As outlined in Section 6.2, the park's values are listed as conservation and scientific, Aboriginal cultural, historical, tourism and recreation, economic and educational. It protects rare species such as dugong and six species of marine turtles, which feed on its seagrass beds.

Cobourg Aboriginal people care for their sea country by maintaining sacred and cultural sites through ceremony and passing on their knowledge of marine resources to younger generations. Managing the park for Aboriginal values "includes regulation of outside interests, such as marine debris, by-catch, pearling and the impact of recreational and commercial fishing" (Cobourg Peninsula Sanctuary and Marine Park Board, 2011, p.14).

Visitors are encouraged to camp, fish and experience wildlife and birdwatching, to see the historic ruins of Port Essington, bushwalking and scenic lookouts. Numbers are restricted and permits required. It is also a popular place for sailors to moor their boats in sheltered waters just a day's sailing from Darwin.

According to a fact sheet on the park (Parks and Wildlife Commission of the Northern Territory, 2017): "pristine white sandy beaches, colourful cliff-lines and sparkling blue waters teeming with life, are just some of the drawcards of this magnificent park".

A Cultural Centre at the Black Point ranger station displays the rich history of the Cobourg Peninsula, which has been influenced by Aboriginal people, Macassan traders and European pioneers.

Commercial fishing in the park is closely managed to ensure sustainability, while pearling leases operate outside its boundaries.

6.4.6 Croker Island/Minjilang

Croker Island is the largest of a group of islands in the Arafura Sea, 250 kilometres north-east of Darwin in north-west Arnhem Land. The main community is Minjilang.

In 1998, Justice Olney of the Federal Court delivered a landmark decision determining that native title existed over 2000 square kilometres of sea and seabed adjoining Croker Island, most of it within the three-nautical mile limit of Territory coastal waters.

In *Mary Yarmirr & Ors v The Northern Territory of Australia & Ors*, the Court considered the relationship between native title and statutory fishing interests (outlined in more detail in 6.3.1 above).

The court found that native title can exist in offshore areas but that this title was non-exclusive. While clans could exclude other clans under traditional laws and customs from entering their sea-estate, this did not extend to non-Aboriginal use. Such exclusion would be inconsistent with the internationally recognised right of innocent passage and common law public rights to navigate and fish in areas of sea.

The court also found that native title did not include rights to minerals as there was no evidence of any traditional law or custom regarding the use of or trading in minerals which may exist in the seabed.

In hearings for the case, claimant estate groups gave evidence of their spiritual association to their sea estates. Evidence was given to explain that sites of significance and dreaming tracks extend into the sea and are part of a system of traditional laws and customs that connect people to their sea country as well as fishing providing sustenance for traditional owners (Levy, 1999).

The Garngi Land and Sea Management ranger group works across land and sea country at Croker Island and nearby mainland areas.

A Jarbu Lodge has operated on Croker Island for many years, advertising its exclusive access to fishing grounds around Croker Island. It burnt down in suspicious circumstances in 2017.

6.4.7 Warrawi/Goulburn Island

Warruwi on South Goulburn Island is about 300 kilometres east of Darwin on the eastern base of Cobourg Peninsula. A mission settlement was established on the island in 1916 which became home to many members of the Stolen Generation.

Goulburn Island is described as “a stunning mix of natural landscapes including pristine beaches, rocky outcrops and sweeping marshlands harbouring an abundance of wildlife such as crocodiles, fish, dugongs, turtles, oysters, crayfish, mud crabs and stingrays” (West Arnhem Regional Council, nd).

The Mardbalk Land and Sea Management ranger group covers land and sea country on the Goulburn Islands and adjacent mainland.

6.4.8 Milingimbi/Crocodile Island Group

The Crocodile Islands are an archipelago off the coast of north-east Arnhem Land, home to the Yan-nhaŋu and other peoples of the wider Yolŋu nation. The main island is Yurruwi, where the community of Milingimbi is located. Other notable islands in the group include Rapuma, Murrunga, Gurriba and Lajarra (Howard Island).

The Yolŋu of the Crocodile Islands have led sea-focused livelihoods for millennia. Using *djimbililka* (bark canoes) and *lipalipa* (dugout canoes) they travelled with the winds from island to island, catching with spears and fish traps the seafood that each season brought (Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), nd).

Before Europeans came to Australia, Macassans came to Yurruwi to collect trepang (sea cucumber) every year. They paid Yolŋu for the right to access their sea country and traded

for other resources like pearl and turtle shell. Many Yolŋu also worked for them collecting trepang in return for pay.

The islands were settled by missionaries in the 1920s and bombed by the Japanese in World War II. In the 1960s, Yolŋu people had an active fishing and crabbing fleet. They shared their catch or sold it to a fishing cooperative for commercial sale. The business collapsed when a cyclone destroyed the fishing fleet in 1975 (AIATSIS).

The islands are Aboriginal land, with a sea closure covering the area within two kilometres of the islands. The Yolŋu people on the islands have an uneasy relationship with commercial fishing, which they see as depleting fish in the seas, but support a tourist fishing lodge on the mainland (AIATSIS).

People live off the land, taking only what they need and using the seasons as a cue to the species available. Rules to ensure their catch is sustainable include never taking female crabs.

The Crocodile Marine Rangers were established in 2002 and patrol 40,000 hectares of land, 200 kilometres of coastline and 6000 square kilometres of sea in the Castlereagh Bay area, an area recognised as of international conservation significance for migratory shorebirds, large seabird colonies and turtle nesting beaches. The rangers were set up by Traditional Owners and are governed by a Traditional Owner Executive Committee. They helped set up a turtle sanctuary on Gurriba Island, where hunting is now banned. The Rangers won Landcare awards for their work in 2015 and 2016 (Crocodile Island Rangers, nd).

6.4.9 Maningrida

Maningrida is one of the largest remote towns in the Northern Territory after Wadeye. It is about 500 kilometres east of Darwin at the mouth of the Liverpool River, in West Arnhem Regional Council. The town was set up as a trading post in the 1940s and converted into a mission in the 1950s.

According to the Northern Territory Place Names Committee, Maningrida is an Anglicised version of the Kunibidji name Manayingkarirra, from the phrase *mane djang karrira*, meaning ‘the place where the Dreaming changed shape’ (West Arnhem Regional Council, nd).

The town services more than 30 outstations and some small-scale tourism ventures such as cultural tours and fishing ventures.

The Djelk Indigenous Protected Area covers 673 hectares of land and sea from Central Arnhem Land to the Arafura sea, covering 102 clans and 12 language groups. Marine turtles breed on the coastline and islands, seasonal floodplains are home to file snakes and saltwater crocodiles, while the mangroves support species such as the water mouse and mangrove monitor (Department of the Environment, nd).

The Djelk Rangers, operating out of Maningrida, were established in 1991 and provide a range of services in this IPA coordinated by the Bawinanga Aboriginal Corporation.

6.4.10 Galiwin'ku/Wessel Island Group

Galiwin'ku is the largest community on Elcho Island, which is part of the Wessel Island Group. It was established in the 1940s as a Methodist mission and is part of East Arnhem Regional Council. Other key service organisations include the Arnhem Land Progress Association, which provides services across Arnhem Land, and the Marthakal Homeland Services.

The Gumurr Marthakal Land and Sea Management ranger group was established in 2004. It patrols 20,000 square kilometres of land and seas, including Gali'winku on Elcho Island and the nearby Wessel Islands. The group's work includes coastal surveillance, beach patrols, the removal of ghost nets and encouraging responsible traditional hunting of sea turtles and dugong.

6.4.11 Nhulunbuy/Dhimurru

Our relationship with the sea and its resources is fundamental to our religious, social and economic life and well-being. Ancestral Spirit Beings of the Dhuwa and Yirritja moieties created us and the known world – the celestial bodies, land, sea, living plants and animals.

The journeys of these ancestral creators crisscrossed the sea and the land creating the land and seascape and breathing life into the living things that inhabit it. The origins of these ancestral beings, their behaviour as they cross the landscape, their meetings with other ancestral beings and their resting places have marked our sea and landscape with sites of great significance to us.

From these ancestral journeys and the network of important sites created across the land and sea, we gain our names, our identity and our way of life.

Djawa Yunupingu, Dhimurru Director (Dhimurru Aboriginal Corporation website)

The mining town of Nhulunbuy was established in 1965 to support the Gove bauxite mine and alumina processing plant. This happened against the wishes of the local Gumatj and Rirratjingu traditional owners. In 1963, leaders living in Yirrkala signed the Bark Petition, which failed to stop the mine. Nabalco started exporting alumina in 1972. Alcan purchased the project in 2001 and had expanded production by 2007, the year it was taken over by Rio Tinto. In 2013, Rio Tinto Alcan announced it was suspending alumina production to focus on bauxite operations, with a consequent drop in the non-Aboriginal population from 2014. The township is administered by the Nhulunbuy Corporation.

The Dhimurru Rangers were established in 1992 by traditional owners of land and sea estates in the Gove Peninsula region and are coordinated by the Dhimurru Aboriginal Corporation. In response to settlement of the mining town, Dhimurru manages an access permit system that lets residents and tourists visit designated areas for recreation.

The Dhimurru Indigenous Protected Area was set up in 2000 and covers more than 920 kilometres of coastline, islands and hinterland on Yolngu country in the Gulf of Carpentaria

around Nhulunbuy. The area is a popular turtle breeding habitat and significant for seabird breeding, feeding and roosting (Centre for Aboriginal Economic Policy Research, 2010).

A sea country plan launched in 2006 sets out a Yolŋu vision (p.5) for the management of their sea country based on Yolŋu values that view the landscape and seascape as:

- the physical elements that unite people with the ancestral past and with the present spiritual and natural world
- the source of social connectedness and responsibility
- the source of much sustenance and shelter.

Yolŋu clans from Blue Mud Bay initiated a native title case in the Federal Court to have their sea rights recognised in Australia law. The first hearings took place at Yirrkala and Yilpara, a homeland on Blue Mud Bay. Saltwater paintings, regarded as the equivalent of 'legal title deeds', were presented as part of the hearing. The court found that native title did exist but was not exclusive. An appeal resulted in the High Court of Australia finding that traditional owners did have exclusive title and the right to control access to their coastal waters between the low and high tide marks along the Territory's coastline (Dhimurru Aboriginal Corporation, nd)

6.4.12 Laynhapuy Indigenous Protected Area (IPA)

The Yirralka Rangers are coordinated by the Laynhapuy Homelands Aboriginal Corporation. The land and sea management program began in 2003 in response to traditional owners wanting to better manage their country and deal with threats to cultural and environmental values. The IPA covers vine forests and river systems that form high value coastal floodplains.

6.4.13 Yirrkala

Yirrkala is an Aboriginal community south of Nhulunbuy that has become synonymous with Aboriginal art and culture, particularly through the Buku-Larrnggay Mulka Art Centre and Garma Festival, as well as land rights.

The town was run by the Methodist Overseas Mission from 1935 until 1975, when the Yirrkala Dhanbuy Community Association was formed.

Yirrkala is ancestral land belonging to the Rirratjingu and Gumatj clans. In 1935, when the Australian Government was considering a punitive expedition against the Yolŋu, Mawalan Marika invited missionary Wilbur Chaseling to establish a mission at Yirrkala.

Yirrkala people have long used their art to resist dispossession by governments, mining, missionaries and a potential Japanese invasion and to assert their connection to land. This includes the Yirrkala Church Panels and 1963 Bark Petition. To demonstrate their rights and responsibilities over parts of the coast and sea, in 1997 landowners gathered a collection of 80 bark paintings by 47 Yolŋu artists, known as the Saltwater Collection of Yirrkala Bark Paintings of Sea Country. The collection formed part of the Yolŋu case for recognition of their land and sea rights and is now held at the Australian National Maritime Museum in Sydney (Buku-Larrnggay Mulka, nd).

6.4.14 Anindilyakwa, Groote Archipelago

The Anindilyakwa Archipelago, including Groote Eylandt, is home to 14 clans. The main communities are Angurugu and Umbakumba on Groote Eylandt and Milyakburra on Bickerton Island, together with the mining town of Alyangula near South32's manganese mine.

Macassan fishermen visited the Archipelago for 200 years until the early 1900s and are believed to have influenced several aspects of Anindilyakwa culture. In 1921, the Emerald River Mission was established, moving to Angurugu in 1943. The mission administered services until 1979, with many people integrating Christian teachings and traditions into their traditional belief systems. In 1938 Qantas set up a refuelling base for commercial flying boats in the north-east of Groote Eylandt. The Air Force set up a temporary air base in World War II. The community of Umbakumba was established in 1942.

In 1962, BHP began exploring for manganese on the island. In 1964, after being granted a special mining lease in return for royalty payments, BHP began open-cut mining on the west of the island. The leases passed to Gemco (a joint venture between BHP Billiton and Anglo American), which is now South32. The company has mining leases over 50 square kilometres on the east coast and 44 square kilometres in an area known as the Eastern Leases, with room for further exploration and mining. As well as jobs, royalties are distributed to Anindilyakwa families each year and reinvested in education, social and cultural services and business enterprise development.

Prawn fisheries are now the most significant commercial fishery in the archipelago.

Groote Eylandt was part of the Arnhem Land Aboriginal Reserve from 1931 until the proclamation of the *Aboriginal Land Rights Act* in 1976, when freehold title was delivered to the Groote Eylandt Aboriginal Land Trust. The Northern Land Council was initially the statutory body representing traditional owners' interests, until the Anindilyakwa Land Council (ALC) was set up in 1991 (Taylor, 2016).

According to Anindilyakwa tradition, ancestral creatures travelled across the land and sea along songlines. They sang the country's features into being, including plants, animals, hills and rivers, and brought the Anindilyakwa people to the region. The ALC's website tells the story of its logo which features Yumaduwaya (stingray), Mangwarra (Hammer Head Shark) and Yugwurrirringangwa (Sawfish) who began their journey from the eastern coast of Arnhem Land in Creation times. They stopped at Bickerton Island to transform themselves from human beings to sea creatures.

They then journeyed on to Groote Eylandt. On the way they agreed to go on to the centre of the island and decided to enter from the north, but Sawfish said "I'll take a short cut". After the Stingray had left him, Sawfish set off with a crowd of many different stingrays, all travelling together, following on after him. Sawfish led the way, probably because he was the biggest.

Meanwhile Lirreba, the Tide, was growing big. Sawfish reached Groote Eylandt, came out of the sea, and started to cut his way through the land, using his teeth and nose as he went. So he made the Angurugu River, cutting out the land and throwing the earth aside, opening a way for himself, and travelled towards Centre Lake. As the water came in, the dirt was stirred up, and Lirreba, the Tide, grew bigger and bigger, following close behind Sawfish. Then came all the stingrays, still following behind Sawfish as he led the way. Then he went to the centre of the island where he created Central Hill (Yandarrnga).

(Anindilyakwa Land Council, nd)

The main economic activity on Groote Eylandt is manganese mining, although Anindilyakwa people have invested some of their royalties to ensure future economic diversification. This includes the Dugong Resort to attract tourists and investments in activities such as aquaculture and art.

In 2006, the Anindilyakwa Indigenous Protected Area (IPA) was declared over Groote Eylandt, Bickerton Island and surrounding islands in the archipelago. This was extended in 2016 to cover 7000 square kilometres of the local marine environment and now covers about 10,000 square kilometres.

For traditional owners, the IPA is a chance to strike a balance between protecting the land for conservation purposes while allowing for sustainable economic development and resource use. The land and sea within the IPA has significant conservation value and features various sacred places, songlines and traditional resources that are valued by traditional owners. Both customary and contemporary practices are thus essential in the successful management of the IPA.

To help explain the importance of their songlines, Anindilyakwa people worked with the land council's anthropologist to create a map, which can be found on the land council's website (Anindilyakwa Land Council, nd b).

The Anindilyakwa Rangers look after the management of the land and sea. An Advisory Committee of representatives from industry, research and land management groups provides direction to the Land and Sea Management unit. The ALC has prepared a detailed management plan for the IPA with useful background on the Anyindilyakwa people, their strong connections to land and sea, their plans for managing it and potential economic uses (Taylor, 2016).

As this plan makes very clear, traditional owners remain strongly opposed to any seabed mining and are determined to manage their own country sustainably.

This plan is about the future of our country. We, the traditional owners of the lands and seas in the Groote Archipelago, are determined to manage our country and to pass it on to our children and grandchildren in good condition so that it supports their lives and their spirits into the future.

(Anindilyakwa Land Council, nd)

The plan lists the three key threats to country as being seabed mining, weeds and feral animals.

6.4.15 Limmen Bight and Maria Island

The 884-square kilometre Limmen Bight Marine Park, declared in 2012, is about 100 kilometres north-east of Borroloola in the Gulf of Carpentaria and is an important feeding area for dugong and several turtle species. It extends along the coast from the Roper River bordering the Arnhem Land Aboriginal Land Trust, along the Marra Aboriginal Land Trust to the Bight River, around Maria Island and Beatrice Island (Ymunguni). It includes an associated Site of Conservation Significance on Maria Island, which is part of the Limmen National Park, floodplains to the north and the coastal floodplains of the Roper, Towns and Limmen Bight Rivers, tidal flats and coastal habitats between the Roper and Limmen River mouths.

The marine and coastal areas of Limmen Bight are rated as of conservation significance. Biodiversity values include extensive seagrass beds. These are important foraging areas for dugong and marine turtles, part of the largest dugong population in the NT, and large populations of fish, migratory birds and diverse habitats (Delaney, 2012).

The Marra, Yanyuwa, Alawa and Wandarang peoples have strong cultural affiliation with this salt water country, with many living in Ngukurr, Borroloola and nearby outstations (Northern Territory Government, nd).

The Limmen Bight supports the Northern Prawn Fishery, Barramundi, mud crab, Spanish Mackerel, tourism and recreational fishing, with an estimated 15,000 people visiting the neighbouring Limmen Park each year. The Roper and Limmen Bight Rivers “are considered paradise for the fishing enthusiast who enjoys remote areas”, with several commercial and semi-permanent fishing camps on the Roper and Limmen Bight Rivers (Delaney, 2012, p.13).

The area includes a seabed mining application subject to the current moratorium.

6.4.16 Ngukurr

Ngukurr is a remote Aboriginal community on the banks of the Roper River in southern Arnhem Land, about 3.5 hours from Katherine by the Roper Highway. The community is in the Roper Gulf Regional Council based in Katherine, with the Yugal Mangi Ward based in Ngukurr.

The Yugal Mangi Land and Sea Management Corporation, established in 2008, is based in Ngukurr and works on behalf of the traditional owners in the Roper-Gulf region of South-East Arnhem Land. Rangers cover 20,000 square kilometres including the Roper Basin and sea country between Wuyagiba to Limmen Bight in the southern Gulf of Carpentaria. The group

monitors sawfish, dugong and seagrass beds along the coastline and patrols river, beach and sea areas.

Several of the people involved in the Yugul Mangi Land and Sea Management Corporation are saltwater people. One of their primary aims is to “keep saltwater culture strong and saltwater country and its resources healthy” (Centre for Aboriginal Economic Policy Research, 2010b, p. 5).

6.4.17 Numbulwar

Numbulwar is a small Aboriginal community that also services nine permanent nearby outstations. It is in the Roper Gulf Regional Council. Access is along the Roper Highway, through Ngukurr, which generally takes 10 to 12 hours, or from Nhulunbuy, which takes four to six hours. The Numbulwar Land and Sea Management Ranger group manages land and sea country on this coast, including beach and debris patrols.

6.4.18 Borroloola

Borroloola is on the McArthur River, about 50 kilometres upstream from the Gulf of Carpentaria. It is accessed via the Carpentaria Highway, about seven hours’ drive east of Katherine.

About 76 per cent of the town’s population is Aboriginal. It is the base for government and municipal services to nearby pastoral properties and Aboriginal outstations. Key service providers are the Northern Territory Government, Roper Gulf Regional Council and Mabunji Aboriginal Resource Association. Tourists travel through to fishing spots such as King Ash Bay. The town hosts an annual show, rodeo, camp draft and fishing competition (Roper Gulf Regional Council, nd).

In 2016, the native title rights of the Rrumburriya Borroloola people were recognised over 15,000 square metres of vacant Crown land in the township. An interesting aspect of this land claim was the recognition of the Rrumburriya’s trading rights. Justice Mansfield found the Rrumburriya people had traded with the Macassans, allowing their land and waters to be fished for trepang in exchange for material objects such as spears, canoes, fishing lines, nets, harpoons, yam stick and baskets that constituted a “distinct sphere of activity of economic participation and endeavour” (Findings of the *Rrumburriya Claim Group v Northern Territory of Australia [2016]*, FCA 776, p, 307, cited in AIATSIS, 2016, p.2).

6.4.19 Yanyuwa people of the Sir Edward Pellew Islands, near Borroloola

Yanyuwa people of the islands in the Gulf of Carpentaria describe themselves as ‘those people whose spiritual and cultural heritage comes from the sea’. They are ‘saltwater’ people, as opposed to the ‘fresh-water people’ living inland from Yanyuwa country, known as Garrwa and Gudanji (Sharp, 2002, p.34).

The Yanyuwa Indigenous Protected Area extends from the McArthur River to the Sir Edward Pellew Islands, 60 kilometres from the inland town of Borroloola. The islands comprise an archipelago that spans north and north-east across the mouths of the McArthur River, Wearyan River and Carrington Channel. The islands range from the 264-square kilometre

Vanderlin Island down to small isolated rocks and reefs. The country of the Garrawa people is to the south.

A sea country plan produced in 2007 (Bradley) summarises the Yanyuwa cultural, environmental and economic values of their sea country, as well as concerns about the habitat degradation associated with mining, tourism, commercial and recreational fishing and crabbing along the coast.

Tidal areas support 26 species of mangroves and are home to 132 species of fish, including the sawfish, a large dugong population, whales and dolphins, marine turtles, saltwater crocodiles, wetlands, sea and shorebirds.

The Yanyuwa IPA and li-Anthawirriuarra Sea Rangers are coordinated by the Mabunji Aboriginal Resource Association.

6.4.20 Australian Marine Parks in the Northern Territory

The North Network of the Australian Marine Parks (Parks Australia, 2017) includes eight marine parks off the coast of the Northern Territory, Queensland and Western Australia, covering 157,480 square kilometres:

- Joseph Bonaparte Gulf (Multiple Use and Special Purpose Zone off Wadeye)
- Oceanic Shoals (includes national park zone and habitat protection zone north-west of the Tiwi Islands)
- Arafura (Special Purpose Zone and SPZ Trawl)
- Arnhem (Special Purpose Zone north of Maningrida)
- Wessell (off Nhulunbuy with a habitat protection zone and trawl zone)
- Limmen (habitat protection zone north of Borroloola and Sir Edward Pellew Group)
- Gulf of Carpentaria (north of Wellesley Islands)
- Cape York.

The plan provides for different levels of protection, from special purpose zones to national parks. Commercial fishing, tourism, moorings and pipelines are allowed in all zones with authorisation. Recreational fishing is allowed in all zones except national parks. Mining and exploration is allowed in special and multiple purpose zones with approval. Mining, exploration and disposal of dredge spoil is prohibited in habitat protection and national park zones.

The plan does not affect areas where seabed mining might be proposed, such as Groote Archipelago, Sir Edward Pellew Islands or Limmen Bight, although the first two are covered by an Indigenous Protected Areas and the latter by a marine park.

6.5 Northern Territory economic sectors

Mining and manufacturing (including petroleum) is the fourth largest industrial sector of the Northern Territory and the fifth largest employer, contributing \$3760 million (or 14.3%) in GSP to the economy in 2015-16 and employing 9800 (or 7.4%) people (see Table 6-1). The value of mineral production is expected to increase in 2016-17 after a drop of 5.7% in 2015-16, largely due to

expanded manganese production on Groote Eylandt. Manganese was the biggest commodity produced in 2015-16, followed by gold, zinc/lead concentrate, bauxite and uranium oxide respectively. However, exploration activity was at its lowest level in 10 years. Mining and manufacturing industries contribute to trade, private investment and jobs and have a significant impact on the Territory's construction industry. Fly-in, fly-out workers are not included in the Territory's official employment figures and were estimated at between 6000 and 7000 in 2015-16 (NT Treasury and Finance, 2017).

Agriculture, forestry and fishing (which includes cattle and horticulture) is a much smaller industry sector by economic contribution and jobs, contributing 2% of GSP and 0.7% of jobs, however it is regarded as important by the Northern Territory Government because of its contribution to regional areas and links to other sectors of the economy, including retail and wholesale trade, manufacturing and transport.

The fishing sector covers aquaculture near Darwin and north of the Cobourg Peninsula off Nhulunbuy and commercial and recreational fishing across the Top End coast. Fish production comprises largely Snapper, Barramundi and Mackerel. The commercial fishing industry has more than 230 commercial fishing licences, 192 registered fishing vessels and harvests about 6000 tonnes of fish and marine life each year, with 15 wild harvest fisheries. The estimated value of wild caught fish in 2015-16 was \$38.4 million (excluding prawns), with aquaculture contributing another \$24.5 million (NT Treasury and Finance, 2017).

Fisheries production was predicted to grow strongly in 2016-17, driven by aquaculture, prawns and the proposed Project Sea Dragon, a \$US1.45 billion aquaculture project near the West Australian border (NT Treasury and Finance, 2017).

The Northern Prawn Fisheries operates across Northern Australia between Cape York in Queensland and Cape Londonderry in Western Australia, including an area north of the Groote Archipelago, producing white banana prawns, tiger prawns, eastern king prawns and endeavour prawns. There was a 112.4 per cent increase in the catch of tiger prawns in 2015-16 due to the best season in about 20 years (NT Treasury and Finance, 2017).

Sectors	Gross State Product (a)		Employment	
	Value \$M	Change % (b)	Number (c)	Change %
Mining and manufacturing	3 760	0.8	9 800	12.1
Construction	4 186	0.8	15 540	3.5
Agriculture, forestry and fishing	582	-3.0	910	-41.1
Retail and wholesale trade	977	-0.8	13 050	8.0
Government and community services	4731	5.2	50 410	1.7
Service industries	5 995	4.4	43 410	-2.7
Total (d)	23 648	2.7	133 110	1.2

Table 6-2: Industry sectors - Source: Northern Territory Budget Paper 4, 2017 (information from ABS, Australian National Accounts: State Accounts, Cat. No. 5220.0, Labour Force Australia, Cat. No 6291.0.55.003. Excludes defence and tourism, which are not measured as part of GSP).

Notes: (a) inflation adjusted; (b) compared with 2014-15; (c) annual average; (d) total includes taxes less subsidies, ownership of dwellings and statistical discrepancy.

Aquaculture includes pearl oyster culture, sea cucumber (trepang), giant clams and freshwater plants. Sea cucumber 'ranching' occurs on Goulburn Island and Groote Eylandt, with hatchery-produced juveniles used to restock suitable areas at sea. The pearling industry has operated in the Northern Territory for a century and its cultured pearls, including Paspaley Pearls, are recognised as the best in the world. Pearl farms at Bynoe Harbour, Cobourg Peninsula and English Company Islands depend on clean, unpolluted waters.

Wild harvest fisheries are managed under the Northern Territory *Fisheries Act* and Fisheries Regulations and management plans. The prawn industry is regulated by the Australian Fisheries Management Authority (Sources of information: Department of Primary Industry and Fisheries, Northern Territory Seafood Council and Northern Prawn Fishery websites, Anindilyakwa IPA Management Plan, 2016).

6.6 Recreational fishing

Recreational fishing is included in the above figures. In addition, a submission to the Australian Productivity Commission in March, 2016 contends that recreational fishing is an important social and cultural component of the Northern Territory lifestyle and a significant contributor to the economy: "Recreational fishing surveys and fishing tour operator data indicates that more than 35,000 Territory residents and 54,000 visitors participated in recreational fishing in the Northern Territory in 2010. And it is estimated that the current figures for 2015 far exceed those with 43,000 tourists from 62 different countries registered for the recent NT Tourism 'Million Dollar Barra' promotion. Recreational fishing was estimated to contribute to at least \$100 million directly to the Northern Territory economy during 2014" (Amateur Fishermen's Association of the NT, 2016).

Recreational fishing is a way of life for Top End residents, from Darwin to Nhulunbuy and Groote Eylandt, also attracting high end fishing charters to remote lodges along the coast and fishing camps in areas such as the Roper and King Ash Bay near Borroloola.

6.7 Tourism

Tourism is important to the Territory's economy, with its contribution to GSP captured across a range of sectors such as cafes, restaurants, retail trade, accommodation and transport. Estimates of tourism are published by Tourism Research Australia. In 2016, visitors to the Territory were estimated as contributing \$2.6 billion to the local economy with an estimated 1.8 million domestic and international visitors in 2016 including about 840,000 holiday visitors. The industry was estimated to have directly contributed 4.2 per cent (of \$976 million) to GSP and 6.4 per cent (about 8500 people) to employment (NT Treasury and Finance, 2017).

The Northern Territory Government sees tourism as an important economic driver and significant industry in regional areas (NT Treasury and Finance, 2017). Growth is reflected in visitors to the Top End, from fishing charters to luxury lodges such as Seven Spirit Bay in the Garig Gunak Barlu National Park on the Cobourg Peninsula, Outback Spirit's luxury wilderness lodges in Arnhemland, fishing lodges on Groote Eylandt and the Tiwi Islands. A Regional Profile (Department of Tourism and Culture, 2017b) estimates an average annual 222,000 visitors to the Kakadu and Arnhem Land

Region over the past three years. Although most went to the Alligator Region (including Kakadu National Park), numbers for other regions are:

• East Arnhem	30,000
• West Arnhem	23,000
• Anindilyawka (Groote Eylandt)	16,000
• Nhulunbuy	7,000
• Tiwi Islands	6,000

Many of these are high end, niche tourism experiences given the distances involved, cost of access and limited infrastructure. For example, Outback Spirit purchased Seven Spirit Bay in 2016 and has spent \$3.5 million refurbishing what was already considered a luxury retreat costing nearly \$800 a night per person (not including boat or air transfers). The eco-friendly Banubanu retreat on Bremer Island north of Nhulunbuy costs \$3580 for a four-night fishing trip.

Promotion for these venues makes the promise of corporate retreats, ‘idyllic locations’, world-class fishing in ‘virtually unfished waters’, ‘pristine beaches and beautiful sunsets’, ‘being close to nature’, ‘immerse yourself in the world’s oldest surviving culture’ and an ‘escape from the modern world’ (sourced from various websites).

A growing market is the cruise sector, which injected \$31 million into the Territory economy in 2015-16. The NT Government sees Darwin’s geographic location and proximity to Asia as making it an ideal gateway port for visiting international cruise ships, with 45 ships carrying 65,240 passengers in 2015-16. This includes visits to remote and regional locations such as the Tiwi Islands, Elcho Island and Yirrkala, which created economic opportunities for these local communities (NT Treasury and Finance, 2017).

Recent market research by the Department of Tourism and Culture suggests the experience of another culture is a key reason for Australians to travel: “Culture makes a destination authentic – it represents the unspoiled nature of the destination and its personality”. Of Australians open to visiting the Northern Territory, 85 per cent believed that the Northern Territory was the best place to experience Aboriginal culture, 67 per cent want to visit sacred rock art sites, 64 per cent want to learn about Aboriginal beliefs and connection to land and 60 per cent want to hear stories about the Dreamtime (Department of Tourism and Culture, 2017).

6.6 Development on Aboriginal land and seas

A strategic decision has been made by Aboriginal people in the NT to drive their own plan for economic development. The goal is for the Aboriginal estate to return both cultural and commercial benefits to Aboriginal people, and to contribute to the overall economic productivity of the NT.

The Aboriginal Estate: Driving Economic Development, Northern and Central Land Councils (2017, p.3)

The Northern and Central Land Councils (2017) released an economic development strategy outlining their vision for development of the Aboriginal estate. They are setting up an Aboriginal Land and Seas Economic Development Agency (ALSEDA) and have engaged Aboriginal-owned Centrefarm to determine areas of Aboriginal land suitable for horticultural development. As

Northern Land Council Chief Executive Officer Joe Morrison outlined in a keynote speech to a Develop Northern Australian conference in Cairns (June, 2017), this needs to be supported by structural reform that includes the informed consent of Aboriginal traditional owners, capital infrastructure investment funds, and regional and local agreement-making that has cultural, geographic and societal integrity and validity. Aboriginal people aspire to use their land and seas to gain economic independence from government welfare and “plot the course of their own development” (Morrison, 2017).

Plans for Aboriginal land include carbon projects, native fruits and sustainable horticulture (Morrison, 2017). There has been a substantial growth in the northern conservation economy, with 650 Indigenous rangers, some of whom work on 33 Indigenous Protected Areas and 79 savanna burning projects, earning millions of dollars a year. NT Fisheries and the Australian Fisheries Management Authority (AFMA) are working with several coastal groups to support small-scale commercial fishing and aquaculture projects in nearshore areas.

One example is a Maningrida commercial fishery run by Traditional Owners, with support from the Bawinanga Aboriginal Corporation. It became one of 20 businesses registered with the Aboriginal Coastal Licence Program, which includes training and mentoring. The program draws on traditional knowledge of fishing to provide fresh fish for local consumption as well as selling fresh fish into the Darwin market (Northern Territory Government, 2017).

While relatively small scale, these sorts of projects are more likely to align with Aboriginal people’s cultural values and aspirations to live on their own country, with natural resources providing both sustenance and commercial opportunities “where orthodox economies don’t exist” (Morrison speech, 2017).

Large-scale projects are seen as driven by outsiders’ agendas, with economic benefits likely to leak to external developers, financiers, governments and FIFO workforces, while the local community is left with any negative legacies and “with little or no return for those who have and will always live here” (Morrison, speech, 2017).

While development offers opportunities for jobs and regional economic development, studies have shown these benefits are difficult to realise (Scambary, 2013; Altman & Martin, 2009). NLC Chief Executive Officer Joe Morrison commented at a 2015 Developing North Australia Conference in Townsville that “promises over decades of riches to be derived from developing the north have been about as ephemeral and elusive as Bob Hawke’s promise of a treaty. Ever since the north was settled... there has been a cascade of reports which have purported to map various El Dorados, just waiting to be discovered and developed by men of vision”.

6.7 Governance

Under the *Aboriginal Land Rights (Northern Territory) Act 1976*, land councils were established as the statutory authorities to claim land, manage negotiations over native title compensation for development on Native Title land and to manage formal Aboriginal reserves that became inalienable freehold Aboriginal Land under the Act.

Three land councils cover the area under study: the Northern Land Council, Tiwi land Council and Anindilyakwa Land Council (covering the Groote Archipelago).

Incorporated areas are covered by Regional Councils, which subsumed many former community government councils in the Northern Territory Local Government reforms of 2008. These are the Victoria Daly, East and West Arnhem and Roper Gulf Regional Councils. In 2016, West Daly became a smaller breakaway council covering the Thamarrurr region. In addition, the municipalities of Darwin and Palmerston have areas of land adjoining Darwin Harbour. Unincorporated areas include Belyuen and Wagait Councils on the Cox Peninsula.

Several Aboriginal Corporations in the region look after the commercial interests of Aboriginal clans.

NAILSMA (North Australian Indigenous Land and Sea Management Alliance) plays a key role in land and sea management across the Top End Coast.

7. Social impact assessment

Social impact assessment is essentially a western tool which, if it is to be effective in the cross-cultural context, needs to deal with alternative value sets explicitly.

Lane, 2000 (Coronation Hill study, p.85)

7.1 Definition

A social impact is a change that has consequences that are measurable, felt or perceived. Social impact assessment is generally seen as the analysis and prediction of the impacts of major developments on the lives, lifestyles and livelihoods of people and affected communities, both direct and indirect, intended or intended and immediate and long-term (Vanclay, 2003; Vanclay et al., 2015; Esteves et al., 2012). It is anticipatory research that considers the effects of 'what we are doing to folks where they live' (Wolf, 1982, p.9), or the consequences of actions 'that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society' (Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, 2003, p.231).

'Social' or 'human' impacts cover social, economic, health and, increasingly, human rights. These may be covered in one study or individual studies, depending on the scale and complexity of a project. Cultural impact assessment is covered in Section 8.

Vanclay (2003, p.8) conceptualises social impacts as based on changes to:

- **people's way of life** – how they live, work, play and interact with one another on a day-to-day basis;
- **their culture** – their shared beliefs, customs, values and language or dialect;
- **their community** – its cohesion, stability, character, services and facilities;
- **political systems** – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation, and the resources provided;
- **environment** – the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources;
- **health and wellbeing** – health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity;
- **personal and property rights** – particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties;
- **fears and aspirations** – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

Lane (1990) describes the key variables covered by social impact assessment as:

- lifestyle (how people behave)
- attitudes, beliefs and values (the way people think)
- social organisation (how they meet these needs)

- populations (the way people are distributed)
- land use and tenure (the way people use the land)
- economic and employment profile.

Some of the key characteristics of contemporary best practice social impact assessment include the importance of a whole-of-life-cycle approach to impact assessment and management. As Vanclay et al. (2015) comment, social impacts may start with rumours that start or amplify fears and anxieties and extend to false expectations, inequalities due to inflation or higher wages paid to workers.

There is an increasing focus on issues-based studies, with technical surveys and model predictions considered “no substitute for the lived experience of local people” (Vanclay & Esteves, 2011, p.10) and participatory approaches that incorporate their perceptions, fears and aspirations (Vanclay et al., 2015), rather than techno-scientific, quantitative approaches (Kemp, et al., 2016).

There is growing pressure for recognition of impact and risk to be considered from the perspectives of complex, heterogeneous communities, particularly Aboriginal people whose history of dispossession and marginalisation (O’Faircheallaigh, 2009; Vanclay et al., 2015) is compounded by potential damage to the social and cultural fabric of their societies and integrity of their land and seas:

For SIA to contribute to sustainable social development, Aboriginal people need to be able to define, control and manage the scope and purpose of SIA, to ensure that its focus, the methodologies employed, and the breadth of recommendations it generates, maximise Indigenous participation in SIA and ensure that it addresses not only the immediate impacts of proposed developments, but also the underlying social realities in which these would occur.”

(O’Faircheallaigh, 2011, p. 151)

Other key themes of contemporary practice include the role social impact assessment can play in considering distributive justice (an equitable distribution of the benefits and costs of projects), taking account of a project’s community acceptance (or social licence to operate) and a greater focus on social sustainability, rather than just the biophysical impacts of projects.

7.2 Purpose of social impact assessment

The objectives of social impact assessment include protection of vulnerable people, contributing to sustainable development and community wellbeing, informing good decisions and ensuring people have input to decisions that impact on their lives.

Social impact assessment is predicated on the notion that decision makers should understand the consequences of their decisions before they act and that the people affected will not only be apprised of the effects, but have the opportunity to participate in designing their future.

(Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, 2003, p. 248)

7.3 Reforms and best practice

The International Association for Impact Assessment (IAIA) is the peak membership body for the many professional disciplines working in the impact assessment space. While there is no universally accepted methodology for the practice of social impact assessment, the IAIA has produced Principles (2003) and Guidelines for Social Impact Assessment (2015) to guide practitioners.

Other recent reforms to impact assessment are:

- the Canadian Government's review of Federal environmental assessment including an expert panel's *Building Common Ground* report released in April 2017, that outlined five pillars to sustainability (environmental, economic, social, cultural and health) and called for better engagement with First Nations people; followed up by a Canadian Government discussion paper in June 2017;
- the New South Wales Government released a discussion paper on social impact assessment in late 2016 and a series of discussion papers on proposed impact assessment reform in June 2017, with a major focus on better community engagement;
- in April, 2017 the World Bank released its Environmental and Social Framework.

Other relatively recent reforms include:

- the New Zealand Government reformed its environmental approvals process and established an Environment Protection Authority in 2009 which assesses applications for projects covered by the national *Resource Management Act*, including seabed mining in its Exclusive Economic Zone (which is 20 times bigger than the New Zealand land mass) - www.epa.govt.nz/EEZ/Pages/default.aspx (see case study 3);
- in Australia, much of the lead in reform came from the West Australian Government (which had a dedicated Social Impact Unit from 1989 to 1993) and the Queensland Government which in September 2008 introduced the *Sustainable Resource Communities (SRC) Policy: social impact assessment in the mining and petroleum industries* (Queensland Government, 2008). This strengthened the Government's capacity to assess social impacts. The Government published *Social Impact Assessment and Social Impact Management Plan Guidelines* in 2010. Although these have been amended by successive governments, the Queensland approach was influential in the Northern Territory EPA's *Guidelines for Economic and Social Impact Assessments* produced in 2013;
- Queensland institutions such as Centre for Social Responsibility in Mining have produced several best practice guidelines for social impact assessment and cumulative impact assessment of the mining industry;
- In Canada, substantial reform of impact assessment on First Nations land has seen the establishment of First Nations-controlled impact assessment review boards, a focus on early engagement with First Nations peoples and guidelines on incorporating cultural impact assessment and traditional knowledge into studies (see Mackenzie Valley Environmental Impact Review Board in particular).

Some key elements of recent reform agendas relevant to seabed mining are:

- a strong push for ‘early and meaningful engagement’ to start well before the formal impact assessment process (see in particular the Canadian model in Section 13);
- greater attention to enshrining human rights approaches that respect Aboriginal rights and connections to their land (O’Faircheallaigh, 2009);
- the concept of ‘human impact assessment’, with the five equal pillars of social, cultural, economic, health and environmental assessment (Government of Canada, *Building Common Ground*, 2016);
- a qualitative approach to social impact assessment driven by scoping of issues and community perceptions rather than the traditional ISO-defined ‘risk assessment’ approach that considers risk from the proponent’s perspective (see Kemp et al., 2006);
- tailored approaches to considering impacts on Aboriginal people and cultures, including First Nations controlled impact assessment review boards in Canada’s Northern Territories, a Maori advisory committee in New Zealand, Aboriginal Social Impact Assessments in Australia (see case study 1) and funding for Aboriginal or First Nations people to commission independent expert reports;
- a greater focus on managing, rather than just identifying, impacts for the life cycle of projects, including community partnerships to provide adaptive management to monitoring and managing the change processes of projects;
- better use of social impact assessment as a planning tool (eg regional land use planning and regulatory policies) rather than impact assessment being just a reactive, regulatory tool with a focus on compliance and mitigation;
- a greater focus on distributive justice, or a “morally proper apportionment of benefits and burdens” (Cotton, 2017, p. 188), rather than communities accruing few benefits from mining but bearing the environmental and social burdens (Brereton & Pattenden, 2007);
- the use of strategic or regional assessments to consider likely cumulative impacts of development and normative policy rather than ad hoc project-based assessments - with community input influencing the type, scale and pace of development in regions (Council for Scientific and Industrial Research, 2016: Noble & Harriman, 2016; Noble & Gunn, 2016);
- suggestions that social impact practitioners have appropriate professional qualifications and that their studies are peer reviewed (NSW Department of Planning and Environment, 2017);
- New Zealand has legislation covering assessment of seabed mining proposals in its Exclusive Economic Zone with an approach that incorporates detailed social and cultural impact reports, an independent decision-making committee reporting to the EPA Board, public hearings, peer reviews and a transparent account of the process on the EPA website.

A paradox is that some of the best examples of qualitative social science approaches to social and cultural impact assessment of proposed developments on Aboriginal land were done in the 1970s, 80s and 90s. This includes Justice Fox’s Inquiry into the Ranger Uranium Mine (Fox et al., 1977), extensive social, economic and cultural studies commissioned by the Resource Assessment Commission for the Kakadu Conservation Zone Inquiry led by Justice Stewart (Stewart, 1991) the Australian Institute of Aboriginal Studies review of the impacts of uranium mining in Kakadu (1984) and the Kakadu Social Impact Study (Supervising Scientist, 1997). A key case study remains Justice Berger’s Inquiry into the proposed Mackenzie Valley Pipeline in Canada (Berger, 1977), which set the benchmark for its consultation with First Nations people and in-depth analysis of potential social and cultural impacts. These are highlighted as case studies below.

Case study 1: Kimberley LNG Precinct

Kimberley LNG Precinct Strategic Assessment: Aboriginal Social Impact Assessment, 2009

Commissioned by: Kimberley Land Council

Paid for by: WA Government as part of a strategic assessment of James Price Point for proposed LNG facilities.

One of the more comprehensive socioeconomic impact assessments in Australia was the strategic assessment commissioned by the Western Australian Government for the Browse LNG Precinct proposed near Broome, in the Kimberley Region. This included separate economic, tourism and infrastructure analysis reports.

An Aboriginal Social Impact Assessment (ASIA) was commissioned by the Kimberley Land Council and included 75 recommendations to address both existing disadvantage as well as the impacts of the proposed precinct development.

The Strategic Assessment SIA considered the impact of industrial development on Broome's reputation as an iconic tourist destination. Stakeholders were particularly concerned at the potential change to the unique 'Broome feel', seen as a combination of natural and social factors and the town's multicultural history. The proposal had generated socio-psychological impacts due to conflict over the project, a strong sense of helplessness by many stakeholders and delayed decisions on a potential site. There was concern about the impacts of the precinct on Aboriginal culture and land. The SIA also considers the concept of 'futures foregone', where a set of decisions may change the future development options of an area (see Volume 2 of the SIA).

The impacts of temporary and permanent workforces were a significant concern for stakeholders, including changes to the town's social mix and a conflict of values. A key suggested management strategy was to locate any large-scale construction workforce well away from the town. The town's service industry was assessed as already under pressure and vulnerable to any increase in population.

A key aspiration of stakeholders was to maximise and retain benefits for local people, both Aboriginal and non-Aboriginal. Suggestions for management included a local purchasing strategy, communication about the temporary nature of construction opportunities to manage expectations, maximising local employment and, where relevant, developing emerging Aboriginal businesses.

Tourism is one of the largest sector employers in the region, therefore a Tourism Impact Assessment was commissioned. This identified risks such as:

- increased demand for short-term accommodation
- a conflict between the tourism attributes of Broome and the needs of the construction
- damage to the tourism image of the region
- increased use of Broome's airport and marine infrastructure.

The ASIA provides a detailed description of existing economic, social and cultural conditions among the affected Aboriginal groups, quantitative and qualitative baseline data, and discussion of likely impacts based on both consultation and a literature review of the impacts of large-scale resource developments on Aboriginal people.

The report notes different conceptions of 'country' between Aboriginal and non-Aboriginal people. In Western thought, country is described by reference to its geology, topography, climate and various categories of plants and animals found there. For Aboriginal people, "country is inhabited by a multitude of supernatural beings with whom they interact in the context of their everyday lives, and relationships of reciprocity existing between Indigenous people and country" (p.47).

Some of the issues raised by the ASIA include:

- the importance of addressing current factors of socioeconomic disadvantage;
- the potential loss of economic resources, such as access to land and water or adverse impacts on wildlife from pollution or changed wildlife behaviour;
- the need for sustained action to realise opportunities for Aboriginal employment and address negative factors such as racism, a lack of skills and work experience, alienation and loneliness arising from the unfamiliarity of industrial environments and distance from home communities, a reluctance to forgo land-based activities such as hunting and fishing for industrial jobs, a lack of suitable accommodation and insufficient attention to the needs of female employees;
- the loss of land and sea country can have profound social, cultural and spiritual ramifications, causing anguish and fear;
- an influx of outsiders who may have little empathy with Aboriginal culture, causing anxiety and stress, sexual exploitation of women and potential envy and resentment if local Aboriginal people do not share the benefits;
- social tensions from inequitable income distribution and inequality;
- impacts on social structures, for example cash incomes reducing access to land, diminishing the importance of knowledge about traditional economic uses and, in turn, the authority of elders;
- conflict over pressures to redefine interests in land;
- community divisions over the desirability of projects, loss of control and self-esteem;
- positive impacts if Aboriginal people do have control over their traditional lands and the capacity to deal with large-scale resource development;
- the potential contribution if development leads to enhanced social services;
- frustrations with the level of information available, short timeframes and perceptions by Aboriginal people that their voices were not being heard.

The ASIA discusses deep divisions over the project in both Aboriginal and non-Aboriginal communities in Broome, with Traditional Owners reporting distress over conflict within families, graffiti and hate mail to the Kimberley Land Council and anti-gas posters and slogans around Broome. This was a social impact that caused stress to individuals, undermined Broome's historical identity as a multi-racial and tolerant community and reduced community cohesion and the town's capacity to deal with the negative impacts of gas development.

In relation to environmental issues, Aboriginal people were particularly concerned about potential damage to land, sea and coastline; impacts on marine life from the precinct's operations; dispersal of

sediments from blasting and dredging; and impacts on culturally significant food sources from spills, leaks and the disposal of ballast. They feared the influx of outsiders would result in more recreational fishing and a depletion of fish stocks.

(O'Faircheallaigh, 2010); (Government of Western Australia, 2010); for discussion of the tensions between Aboriginal groups and protests against the project see Muir (2012).

Case study 2: Berger Inquiry, Canada

Berger Inquiry, Canada, 1977

Done by: Justice Thomas Berger

Commissioned by: Canadian Government

The Berger Inquiry into the social, environmental and economic impacts of the proposed Mackenzie Valley Pipeline is still regarded as ground-breaking for the depth of the social and cultural studies, and for Justice Berger's comprehensive engagement of the 35 First Nations communities along the Mackenzie River Valley.

In his covering letter to the first report, released in 1977, Justice Berger said the social, cultural and political tensions in the North of Canada were closely linked to industrial advance. "The intrusion of large-scale frontier development among native people has aggravated the cluster of pathologies that have become so familiar in the North: welfare, crime, violence, disease, alcoholism, and social and person disarray (covering letter, 1977, p.3)."

Some his findings:

- poverty is not necessarily alleviated by jobs, with First Nations people not inclined to resource jobs and many lacking the skills;
- the devastating consequence of settlement on patterns of collective and cooperative self-reliance makes First Nations people particularly vulnerable to large-scale industrial development;
- company reports overlook the persistence of traditional economies;
- pipeline construction would attract new populations to First Nations lands;
- the gas was likely to bypass communities, who should get cheaper gas as compensation to ensure they share the benefits of the pipeline;
- the need for one regulatory agency and an impact assessment group with broad representation to advise the agency.

Justice Berger commented that the social, economic and environmental considerations should be addressed in the early stages of projects and throughout their development "with the same intensity and concern as technical and engineering questions" (covering letter, p. 27).

He said there was a tendency in examining the impact of a large-scale industrial project, to accept the prospect of negative social impacts and make recommendations for remedial measures that could or should be taken: "All that can safely be said is that the social costs will be borne by the local population and that the financial costs will be borne by industry and the government. There is a strong tendency to underestimate and to understate social impact and social costs, and there is a tendency to believe that, whatever the problems may be, they can be overcome. The approach here is curative rather than preventative (p. 143)."

Justice Berger disagreed with claims by pipeline companies that First Nations people would receive economic benefits, saying "native people have not taken part in the industrial economy and have paid a high price in terms of social impact from the industrial economy.... They are people whose values and patterns of social organization are in many ways quite different from those that underlie

the modern industrial world. Solutions based on the industrial system may easily become problems when they are applied to native people” (p.148).

He commented on the loss of self-esteem and despair that has overwhelmed whole families and villages as they were displaced from traditional lands and found that social consequences would occur regardless of controls and the efforts of companies and governments to minimise them: “It is all too easy to be overconfident of our ability to act as social engineers” (p. 149).

In relation to the Inquiry’s ground-breaking engagement approach, Justice Berger commented that the voices of First Nations people had not been heard before. For this inquiry, therefore, “native people controlled the timing, setting, procedures and conduct of hearings... The inquiry did not seek to impose any preconceived notion of how the hearings should be conducted. Its proceedings were not based upon a model or an agenda with which we, as white people, would feel comfortable. All members of each community were invited to speak. All were free to question the representatives of the pipeline companies. And the Inquiry stayed in a community until everyone there who wished to say something had been heard. The native people had an opportunity to express themselves in their own languages and in their own way” (p. 97).

The inquiry cost C\$5.3 million, produced more than 40,000 pages of text and evidence and recommended that no pipeline be built through the northern Yukon, on environmental grounds, and that a pipeline through the Mackenzie Valley be delayed for 10 years to allow for resolution of treaty issues and set aside conservation areas.

(Berger, 1977)

8. Cultural impact assessment

In the world today, men discuss whether our ancestors came to Australia by land across a land bridge that has now gone, or by boat, across the sea from Asia. Scientists who study faces say we look like some of the southern Indian people and like some of the hill people of the Celebes. Well let them continue to try to find the answer.

The truth, of course, is that my own people, the Riratjingu, are descended from the great Djankawu who came from the island of Baralku far across the sea. Our spirits return to Baralku when we die. Djankawu came in his canoe with his two sisters, following the morning star which guided them to the shores of Yelangbara on the western coast of Arnhem Land. They walked far across the country, following the rain clouds. When they wanted water they plunged their digging stick into the ground and fresh water flowed. From them we learnt the names of all the creatures on the land and they taught us all our Law.

Wandjuk Marika OBE (Isaacs, 1984, Foreword)

Cultural impact assessment is generally subsumed into social assessments or considered in ‘cultural heritage’ reports that focus on archaeological studies, resulting in significant gaps relating to intangible elements (Page, 2017). There are few examples of dedicated cultural assessments either in the Northern Territory or internationally and limited literature devoted to the topic. Yet cultural impact assessment is not just about ‘bones and stones’, or physical heritage resources (Mackenzie Valley Environment Impact Review Board, 2008, p.47) but requires information on the cultural fabric of communities.

Good planning and governance “requires decision-makers to have a clear grasp of the cultural and biophysical landscapes... not responding only to the marks left on the landscape by their own culture and what science tells them” (Howitt & Jackson, 2000, p.269). Howitt and Jackson propose that a more multicultural definition of ‘environment’ means “an approach which recognises that different cultural groups define, use, value and construct meaning in the same cultural space in different ways” (p. 269) while Page (2017) suggests that, for Aboriginal people, environmental impacts are cultural.

A submission by NAILSMA (North Australian Indigenous Land and Sea Management Alliance) to the recent Northern Territory regulatory review called for better engagement of Aboriginal people during impact assessment and proper consideration of customary and legal sea interests. The alliance suggests developers be obliged to identify matters of significance to Indigenous landowners and specify how Indigenous knowledge could be applied to protect and manage their interests.

We know of no case in which protection of natural values important to Aboriginal people (has) been given priority in terms of reference for an environmental impact assessment. (NAILSMA, 2017).

A discussion paper by the Mackenzie Valley Environment Impact Review Board (2009) defines culture as “a way of life, a system of knowledge, beliefs, values and behaviours passed down to each generation” (2009). A UNESCO definition is “that complex whole which includes knowledge, beliefs, arts, morals, laws, customs, and any other capabilities and habits acquired by [a human] as a member of society” (website, nd). Of course, culture is not static but evolves and accommodates change.

For the purposes of the current report, ‘cultural impact’ is considered as impacts on Aboriginal culture, which includes traditional knowledge, commonly held values such as respect for elders, oral history, spiritual practices, language, physical heritage resources, traditional dances and songs, place names, spiritual sites and cultural landscapes, traditional land use, values associated with the land and inter-generational relationship patterns (Mackenzie Valley Environment Impact Review Board, 2009).

Cultural impacts cover tangible cultural heritage, such as natural features and landscapes, and intangible heritage such as practices, representations, expressions, knowledge and skills (World Bank, 2017) cultural worldviews (including explanatory logics, knowledge systems, ways of knowing, cosmology of the human-natural world, social obligations and norms), symbols (including language, dance, rituals and stories), assets (place names for important sites) and institutions (including forms of governance) (Satterfield, et al., 2013).

The review board’s discussion paper suggests warning signs that a project may be in an area where it can cause adverse impacts include how close it is to an Aboriginal community, traditional lands or travel routes, wildlife prevalence and harvesting activities, the importance of place in oral histories, the presence of a unique or otherwise valued landscape, level of public concern and sensitivity of communities to change.

The discussion paper provides examples of potential impacts from industrial developments:

- physical damage to sites or harm to the spiritual and cultural powers of culturally important places and spaces;
- visual impacts on cultural landscapes and spiritual places, which may redefine the way a place is seen or cause loss of value and meaning regarding what places on the land can teach about life;
- a sense of disconnection from traditional lands, less time doing traditional practices, a decline in health status and reduced harvesting species;
- cultural values may be eroded by working conditions, leading to alienation (such as not being able to attend funerals) or in-migration changing cultural norms and values;
- changed social structures, leading to cultural loss, such as a decline of inter-generational culture transmission;
- contribution to a loss of Aboriginal languages (from speaking English in the workplace);

- reduced sense of self or loss of a sense of control over one's fate;
- health impacts such as unhealthy coping and strategies like alcohol abuse and dietary change.

Cultural impacts may be homogenised leading to an imposition of ideas based on majority norms or other hegemonic values, resulting in inappropriate assumptions of cause-effect relationships (Partal & Dunphy, 2016)

One example of a comprehensive assessment is the studies commissioned by the Resource Assessment Commission for the Kakadu Conservation Zone Inquiry (Stewart, 1991), commissioned by the Australian Government to resolve contested claims over the proposed Coronation Hill Mine and proposed extension of Kakadu National Park (case study 4). In this case, both scientific and indigenous epistemologies provided valuable input to decision-making (Lane et al., 2003, p.89), resulting in the first ever refusal of an Australian mining project on cultural grounds.

Lane et al. (2003) outline the methodology used. Their analysis of the potential social and cultural impacts of mining on the Jawoyn people was based on a model developed in Canada by Blishen and Lockhart (1979), for cross-cultural contexts. Three broad indicators provide a framework for understanding community resilience or susceptibility to adverse change (Lane et al., 2003, pp. 94-95).

Social vitality: the degree to which individuals can respond effectively to imposed problems. The ability of a community to adjust depends largely on the degree of integration or cohesiveness within the community. Adjustment to a mine is more likely with strong support networks, local role models and social interdependences, including integration with mainstream society. In a community where customary authority structures are important, change that undermines this authority is likely to limit a community's ability to adjust constructively.

Economic viability: the degree to which communities and individuals are able to earn income from external sources, either public or private. Communities dependent on one or two large, externally controlled sources of economic survival (referring to both mining and welfare dependency) tend to lose the ability to generate internal alternatives.

Political efficacy: the level of participation in political processes.

Page (2017) points to the key challenges of cultural impact assessment as being the intangible nature of impacts; their interdependency and multi-causality; the difficulty of integrating cultural impact assessment into the wide environmental assessment; and the use of a common methodology in impact assessment to address multiple human and non-human components.

Case study 3: New Zealand and seabed mining

New Zealand's Exclusive Economic Zone Act, seabed mining case studies

The New Zealand Environmental Protection Authority, established in 2008, has considered three proposals for seabed resource extraction in the country's Exclusive Economic Zone.

A Trans-Tasman Resources proposal in 2014 to mine iron sands from the South Taranaki Seabed was rejected due to uncertainty regarding environmental effects, impacts on the fishing industry and local *iwi* tribal interests and fears of further coastal development. The proposal covered about 65 square kilometres between 22 and 36 kilometres offshore. The proponent had spent \$60 million on exploration.

The project's social impact assessment considered the potential social impacts on eight coastal communities, using a social wellbeing framework that included the quality of the physical environment, quality of working life, leisure and recreation and participation in community and society. Residents raised concerns about the visual impact of large vessels operating offshore, sediment plumes in the sea, impacts on fish stocks, the quality of recreational fishing and diving, potential exclusion zones around operations, impacts on recreational uses of beaches and the time it might take for the seabed to recolonise. Research on these potential impacts concluded their significance was likely to be minor.

In 2016, Trans-Tasman Resources submitted a revised proposal which, was approved by the NZEPA in August of this year and which, as of October 2017, was under appeal. Material presented to the Decision-making Committee included a Cultural Values Assessment and Maori and Customary Fishing Analysis.

The Chatham Rock Phosphate proposal, 400 kilometres east of Christchurch, was rejected in 2013 based on the likely risk to benthic communities, the destructive effects of the extraction process, significant deposition of sediment and uncertainty about the adverse effects. Chatham Islanders voiced concern at potential risks to commercial fishing industries including rock lobster, which were the island's economic mainstay, and customary fishing. Islanders also expressed concern about the undermining of cultural values. A cultural impact assessment identified risks and uncertainties surrounding various aspects of the proposal, likely adverse effects on seabirds and marine mammals and uncertainty as to how the islands would benefit.

A report by an independent *Nga Kaihautu Tikanga Taiiao* (Maori Advisory Committee) on the Chatham Rock project compared the Maori cultural context regarding ecosystems with the western scientific context. Signs in a cultural ecosystem apply across the broader resource landscape. For example, the sign of feeding birds indicates a relationship with the food chain and is part of an intricate knowledge system. This report considered environmental costs had not been properly accounted for and economic benefits overstated. 'From a Maori perspective, the *mana*, or prestige of *Atua* (God) must be first considered to ensure the mauri and health of the environment, (its resources)... and its people.'

Two oil and gas drilling applications have been approved: Shell Todd Oil Services for offshore activities associated with the Maui natural gas field in 2015 and OMV New Zealand's petroleum development drilling in the South Taranaki Bight in 2014.

Elements of the impact assessment process included detailed social and cultural impact assessments, public hearings and chance to challenge these reports, a Decision-making Committee appointed by the NZEPA Board (with a declaration of interests of its members posted on the NZEPA website), submissions, responses and NZEPA updates posted on the Internet, guidance to parties on doing cultural impact assessments and full cost recovery by the NZEPA.

Sources: various reports on the New Zealand EPA website: (New Zealand Environmental Protection Authority Exclusive Economic Zone, 2017).

9. Values

Yolŋu always think about the sea. Ngapaki (whitefellas) think that the sea is a body of water out there, but Yolŋu think of the land and sea as one. We look at the water and it is also the land under it that is important....

Yolŋu have sacred sites in sea country because stories are tied up with that land. Many whitefellas say it is just a myth, but for us it is yuwalk (true), and it is an important part of our law. The stories there are real. That's why we paint and we explain those drawings and paintings. It is not a painting, it is a map; a map of the Dreaming and sea creatures and sacred sites...

Yunupingu & Muller, 2009, p. 160

9.1 Overview

This section defines and discusses the importance of values to social and cultural impact assessment, including worldviews and beliefs, some of which were discussed in section 6 on the social and cultural settings of Northern Territory coastline communities.

Given the complexities and importance of understanding impacts on Aboriginal land and seas, this section has a key focus on Aboriginal cultural values, including a section on songlines and dreamings. It then covers other values that may be impacted by seabed mining, including natural resource management, conservation, recreational and economic values of land and seas.

Values are the intangible, deeply felt beliefs and norms that we may fight to defend. They can be defined as something that has merit, importance or worth or 'that which is cared about' (Woodward et al., 2008, p.12).

Types of values relevant to seabed mining include:

- natural
- scenic, aesthetic
- recreational
- cultural
- economic (both traditional and market-based)
- scientific or conservation.

9.2 Why do values matter?

Values underlie people's stated positions or reactions to policies or disruptive events. The strength, complexity and diversity of values are a good indicator, therefore, for likely conflict or community acceptance of change perceived as threatening those values. Of course, communities are rarely homogenous entities (Preston, 2014, p, 4) and their values are likely to be as shared or as variegated as their demographic composition. These values may be mutually exclusive or compatible with the

values of outsiders. They may be overlapping, opaque, ambiguous and open to shifting as people become more aware of the implications of a proposal and what it means for them.

Values are strongly shaped by our worldviews, beliefs and societal, family and professional cultures. As highlighted by the Kakadu Conservation Zone (or Coronation Hill) and Ranger inquiries (Fox et al., 1977; Stewart, 1991) (see case studies 4 and 6), mining companies and local communities may have discrepant and irreconcilable clashes of values based on the different lenses through which they appraise uses of land. The Kakadu Conservation Zone inquiry also highlighted conflicting values within Aboriginal communities, for example some families may want to access market economies in the shape of jobs, cash and consumer goods while others place a higher priority on culture, kinship and connectedness to country. There may be intergenerational conflict, as new values are gained through education, modern technology and socialisation with outsiders, or conflict based on a raft of complex cultural and historical factors. There may be intrapersonal conflict from trying to reconcile discrepant values and live between ‘two worlds’.

All societies grapple with trades offs, such as materialism versus social justice or finding a balance between development that improves the quality of our material life and protection of social and ecological environments that improve our spiritual wellbeing. Internal conflict may manifest in seemingly incongruent or confusing public statements as people attempt to resolve what is known as ‘cognitive dissonance’ (National Academy of Sciences, 2017).

Resolution of conflict derived from discrepant values may entail compromises or reconciliation of conflicting values. The extent to which people are prepared to do this may vary according to self-esteem, group cohesion, trust and good relationships with external parties or people’s level of understanding of what is proposed. Some groups may find it hard to articulate conflicts of positions, self-interest and deeper values. This is particularly the case for disadvantaged or marginalised peoples not accustomed to having their voice heard or whose lives are overwhelmed by socioeconomic disadvantage and the daily challenges of survival (O’Faircheallaigh, 2010). Reconciling incongruent values can be stressful, particularly if there is uncertainty and loss of control or groups feel pressure to provide yes/no answers to complex, value-based decisions.

Examples of projects where conflicting values have been documented include the Kakadu Conservation Zone (Coronation Hill) Inquiry and the James Prince Point LNG Precinct proposal. The Social Impact Assessment for the latter project (Western Australian Government 2010) notes a “considerable values conflict” in the community between supporters and opponents. Many opponents were concerned about impacts on the marine and terrestrial environment and changes to Broome’s identity. Supporters were likely to believe in the economic benefits of such a development for Broome and the Kimberley. While many in the community may hold one value orientation to the exclusion of the other, “there are also likely to be many in the community that accept both value orientations and have considerable conflict in relation to their support for the Precinct” (Volume 2, p.51).

There is no ‘cookie cutter’ template for resolving these tensions. However, external parties proposing development such as mining on Aboriginal land need to be aware of the exponential change that may be involved and that assumptions regarding costs and benefits are strongly influenced by different values. For Aboriginal people, this is likely to include values such as relatedness, connections to land and sea and a strong sense of custodianship for its care, the

importance of culture and ceremony and the role of traditional economies in sustaining both lives and livelihoods.

This doesn't necessarily mean that Aboriginal people will oppose development, as long as it is done properly, respectfully and Aboriginal people have control (George, 2016). This is best determined early, through qualitative and properly resourced engagement.

9.3 Assessing and measuring values

Although attempts have been made to provide quantitative measures, or monetising metrics, of community values and how they might be impacted by development, it is generally accepted that gaining insights into community values requires qualitative research, based on appropriate social science methodologies and resource-intensive engagement (O'Fairchailleagh, 2009; 2010). Qualitative studies employ frameworks of analysis drawn from anthropology and cultural geography, disciplines that are concerned with the documentation and analysis of society and culture.

Scientifically based assessment has been described as tending to privilege the interests of developers and the State, marginalising alternative value systems and Indigenous or local knowledge "that is contextualised, socially embedded, experiential and territorially oriented" (Lane et al., 2003, p.90).

Communities and citizens' groups are likely to have different sets of values to decision-makers (Taylor et al 2004) and different professional orientations to scientists and engineers for whom objective, 'factual' information is seen as 'value free'. Gregory (2012), in response to a comment that the Canadian Government would make its decision on the Northern Gateway Pipeline based on science, commented that good decision-making rests on the successful pairing of accurate factual information with an understanding of the values likely to be affected. Tough choices reflect difficult value trade-offs.

The Stewart Inquiry (1991) commissioned a contingent valuation study, a rare attempt to quantify the conflicting values of national economic benefit and attachment to the natural values of a prospective park. As Justice Stewart noted, not everything that people consider important to their wellbeing can be measured in monetary terms and evidence to the inquiry suggested that "society's values, particularly in relation to concern for and appreciation of the environment are changing" (p.137).

9.4 Cultural values

All human groups 'have culture', create cultural forms and processes, undertake cultural practices and are socialised to think about land, water and nature in particular ways. For Aboriginal people, however, strongly held cultural values are derived from the central role their land plays in social, economic and kinship relationships. A study by CSIRO Sustainable Ecosystems of the social and cultural values of the Howard River region (Woodward, et al., 2008) found that cultural values included:

- hunting and collecting a wide variety of food
- sharing the food collected with family
- visiting jungles which are important for fruit, foods and medicines
- maintaining historical connections
- to share and pass on knowledge, name places and stories

- to remember the activities of forebears
- visiting places to observe change and care for country
- an inspiration for painting and other artistic and cultural expression.

A survey by the Australian Human Rights Commission in 2006 of traditional owners' views about economic development on their land found they identified as custodians of their land and seas, so the most important meaning and function for traditional lands were affiliation, connection to land and care for country. Only 13 per cent (five responses) identified economic development as the first priority for their land, although they acknowledged its importance (Balsamo & Calma, 2007).

9.4.1 Songlines and Dreamings

... the Dreaming and its Law refer to a body of moral, jural and social rules and correct practices which are believed to derive from the cosmogonic actions by which ancestral beings with the ability of changing from animal and phenomenal forms into human-shaped and named the land, sea and waterways transforming parts of their bodies into landscape features, natural phenomenon and plants. Along their journeys they also gave life to people at particular places, bestowed these places upon them and taught each group the correct manner of doing things: from hunting and foraging, processing of food, and the making of tools to the performance of paintings, songs and dances. These actions thus constitute the knowledge associated with a place...

Bradley, 2007, p. 22

For the saltwater people of Australia's northern coasts and islands, ancestral creation beings from the sea shaped their landscapes, their law and their culture. The sea and islands are full of signs of the past and continued presence of these ancestral beings. Some may appear no different to the surrounding land or seascape, some are visually impressive and some may have no visible markers (Bradley, 2007). Some may extend hundreds of kilometres, connecting people who do not share bloodlines (Bradley, 2007).

Aboriginal peoples' intricate knowledge of the land extends to the sea floor, the marine life that sustains traditional activities and the geographic formations that mark territorial boundaries and clan responsibilities.

The Yanyuwa describe themselves as *li-Arnindawangu*, or 'those people from the coastal country' and use the term *Yijan* to relation to the relationships between people and their environment and the law. Yanyuwa people see caring for the sea, islands, reefs, sandbars and sea grass beds as an integral part of living on their land. They don't make the same binary distinction of land and sea that non-Aboriginal people might make. For them, the sea starts 13 kilometres inland. This incorporates the vast saline flats and mangrove-lined creeks of the maritime environment. On extremely high tides, all of this country is inundated so it is therefore sea country (Bradley, 2007).

The Anindilyakwa Indigenous Protected Area Management Plan (Taylor, 2016) includes a map of Warnindilyakwa songlines and expresses a vision for culture and country (p.3):

- our riches are in the land, the sea and the Songlines;

- our land and sea country are more important to us than money – once country is destroyed it cannot be replaced;
- we want to keep our land and sea country healthy like it is now for our future generations and for all our countrymen that our Songlines connect us to on the mainland.

The Riratjingu people of Yirrkala are descended from Djan'kawu and his two sisters who followed the morning star from an island to the north, coming ashore on the western coast of Arnhem Land. Creation stories tell of landscapes and creatures they sang into existence (Isaacs, 1984; Burarrwanga, 2013). For the Anindilyakwa of the Groote Archipelago, the tiger shark swam ashore, its sweeping tail creating bays and inlets. Islands were created when the shark killed a porpoise which turned into rock (Sharp, 2002).

These creation stories, Dreamings and Songlines are both a spiritual and practical inheritance. They are the laws that shape kinship structures, experiential maps of the landscape, wayfinding devices for trade and an oral library of ecological knowledge passed from one generation to the next that assigns responsibilities for looking after country.

The stories contain a moral code, just as the Bible and nursery rhymes provide parables and cautionary tales in western culture. Christians have Heaven and Hell and Adam and Eve. Many Aboriginal cultures have creation spirits in the night sky and a shared cosmology of the Rainbow Serpent who lives under the land or sea bed and stirs up natural disasters if not respected. The Christian, Jewish and Islamic faiths teach the 10 Commandments: warning against blasphemy, idolatry and adultery, that 'thou shalt not steal' and to honour parents. Parables such as The Boy Who Cried Wolf and the Hare and the Tortoise socialise children into the norms and behaviours of their societies. Equally, Dreaming stories and Songlines teach the norms of sharing and reciprocity, not being selfish with food, living in harmony with the land and not marrying the 'wrong skin'.

Stories of the Dreamtime also serve a practical purpose, with ecological knowledge passed on in song, paintings, dance, ceremony and narrative. Knowledge of the land and its resources ensures good diet and sustainable harvesting.

Yolŋu people can read meaning from the distance, height and colour of the water, know the mix of fresh and salt water at a river mouth, read the language of the tides and the seasons to go hunting, know that the flowering wattle will bring cold, and wind that signifies turtle hunting time. Stories teach not to be greedy by killing the female turtles and crab, not to take all the oysters from the rocks or strip bare the fruit trees. Creatures of the sea are both honoured as totems and hunted for sustenance. Ceremonies ensure hunting is done according to the law of the ancestors. Turtle bones are returned to the sea as a mark of respect (Burarrwanga, 2013; Sharp, 2002).

These laws are adaptive but enduring. Just as the Yolŋu adopted Macassan canoes and hunt dugong with metal prongs on their spears, saltwater people have incorporated elements of Christian beliefs, modern market economies and electronic communication. However, even after lengthy periods of dispossession and being moved into missions, reserves and trading posts, their connectedness with the sea remains strong or is being revived. Just as the Mabo case in 1992 overturned the fiction of *terra nullius* or an empty land, cases such as the 1997 Croker Island land and sea claim and the 2007 Blue Mud Bay claim to rights over tidal waters are overturning the fiction of *mare nullius* or the western concept of an empty sea.

These intangible, perhaps mysterious connections with the sea, Aboriginal peoples' growing confidence in claiming land and sea rights, and their aspirations to use the inheritance of the seas to provide economic independence are important in understanding the strong cultural, social and economic values that have prompted many seawater people to oppose seabed mining, such as that proposed near Groote Eylandt (see 5.4 above).

9.4.2 Cultural heritage

The Burra Charter defines places of cultural significance as holding 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (Australia International Council on Monuments and Sites, 2013). A practice note (AICMS, 2013b) further defines these elements as:

aesthetic value: the sensory and perceptual experience of a place, which may include the concept of beauty and formal aesthetic ideals;

historic value: encompasses all aspects of history, including aesthetics, art and architecture, science, spirituality and society, sites where important events occurred;

social value: the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them, part of a community identity, important to a community or cultural group because of associations and meanings developed from long use and association.

spiritual value: refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may be reflected in the intensity of aesthetic and emotional responses and be expressed through cultural practices and related places. The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in response to the spiritual realm.

9.5 Scenic, aesthetic, recreational values

The great outdoors is the heart of the Top End lifestyle. The Territory is home to some of the last healthy tropical waters on the planet - with mangroves, coral reefs and seagrasses, home to turtles, dugongs, snubfin dolphins and huge schools of reef fish.

The natural environment, its beauty and the bounty it provides are central to the Top End's way of life, to economic success and to Territorians' shared futures. They are a tourism magnet - core to our economy and local livelihoods

The Northern Territory coastline has provided a continuous home to Indigenous communities for thousands of years and is often known as 'saltwater country'. For saltwater people all aspects of social, cultural and economic life are intimately connected to the health of their coastal lands and seas.

Australian Marine Conservation Society website, nd

Larson et al. (2014) explored the link between human wellbeing and improving ecosystems, particularly in relation to regions of high ecological, social and cultural importance facing rapid change. They surveyed 1545 residents on their perceptions of the values of the Great

Barrier Reef, finding that the absence of visible rubbish; healthy reef fish, coral cover and mangroves; and iconic marine species were considered more important to the quality of life than jobs and incomes associated with industry (Larson, et al., 2014).

A 'Valuing Darwin Harbour Survey' in 2014 sought views on the management and health of Darwin Harbour and its foreshore, landscape values and development preferences. A report on the survey findings appears not to have been published, perhaps due to low respondent numbers (130) and a self-selection bias so the participant feedback results should be treated with caution. There was strong agreement with the need for community involvement in managing the harbour, the importance of maintaining a healthy harbour and that the harbour has fragile environments that are being permanently degraded. There was disagreement that it was necessary to sacrifice natural environments to improve residents' quality of life (Brewer, 2014).

In 2009-10 the CSIRO's National Research Flagships Wealth from Oceans Program conducted research to determine the information stakeholders needed to assess the acceptability of seabed mining. The study explored the conditions under which seabed mining and exploration would be acceptable and the levels at which potential environmental and social impacts of seabed mining would become unacceptable. The study also explored the acceptability of seabed mining compared with onshore mining and the characteristics of best practice regulation. The study found that stakeholders were concerned that not enough is known about the marine environment. They needed a trusted information base and to better understand social and economic impacts in order to evaluate the overall costs and benefits of industrial development (Boughen, et al., 2010).

9.6 Natural resource management values

Values-based systems have been used for natural resource management planning, taking account of differences in human perspectives attributed to social, cultural and economic background and interests. Differences in environmental values may arise from personal differences, shaped by historical experience, cultural beliefs and practices. Increasing competition for resources can lead to greater contestation over values. (Woodward, et al., 2008)

Values identified by the Howard River study include:

- values that exist independently of direct human use (eg bequest value, option value);
- water's humanitarian value as a fundamental requirement of all life;
- the aesthetic and recreational values that rivers provide to residents and domestic and international tourists;
- the conservation significance of tropical rivers and groundwater sources (promote biodiversity, opportunities for learning);
- heritage value including archaeological features and associations;
- the value of cultural group associations with rivers and water in socialisation and forming identity, underpinning religious beliefs and generating a sense of wellbeing and belonging.

9.7 Conservation values

Conservation values are assigned to habitat regarded as unique, special and worth preserving such as national parks, marine parks and Indigenous Protected Areas. The strength of an area's conservation values will determine its compatibility with other potential uses.

9.8 Economic values

Economic values cover the wealth that can be gained from exploitation of natural resources, such as mining, horticultural and aquaculture. It also covers commercial activities associated with enjoyment of the environment, such as tourism and commercial fishing charters as well as traditional economies based on harvesting activities such as fishing.

For the purposes of this report, economic values include the benefits that mining companies and governments see in the exploitation of natural resources, such as jobs, regional economic development, investment attraction, the profitability of companies benefitting themselves and shareholders.

Scambray (2013) comments that there may be a disjuncture in value systems between an Indigenous sense of locality and the uniqueness of place, and the culture of the mining industry that sees land as an alienable resource.

Case study 4: Kakadu Conservation Zone and Coronation Hill

Kakadu Conservation Zone (Coronation Hill) inquiry, (Stewart, 1991)

Done by: The proposed Coronation Hill (Guratba to the Jawoyn traditional owners) mine was an increasingly contested project. Opposition to mining saw a cultural report commissioned by the Northern Land Council, reports by agencies such as the Aboriginal Areas Protection Authority, the project being approved but then, after protests from Jawoyn people and conservationists, Justice Stewart was commissioned to conduct an inquiry.

Commissioned by: The Resource Assessment Commission, established by the Australian Government, in 1990 commissioned the inquiry as well as detailed economic and social reports.

Background

In 1991, after receiving the report of Justice Stewart's inquiry into the Kakadu Conservation Zone, Prime Minister Bob Hawke overturned approval for a proposed gold, palladium and platinum mine at Coronation Hill and the site was incorporated into the Kakadu National Park

This is the first - and only - time a major project in the Northern Territory has been rejected on the basis of cultural impacts.

This was despite the proponent spending \$13 million on exploration. The company argued that the proposed mine was 'a valuable resource for the nation', that mining could proceed without harm to the environment or Aboriginal heritage, and that it would deliver jobs and benefits for Jawoyn people. In its submission, the joint venture expressed anger that "despite six years of effort and investment, not one ounce of metal has been produced. The project is suspended. Constant change in Federal Government policies is almost the sole cause of delay" (Coronation Hill Joint Venture, 1990, p.3).

In a report in *The Australian* newspaper to mark the release of Cabinet papers on the issue, Prime Minister Bob Hawke expresses frustration with his Cabinet colleagues, many of whom supported the project:

I was annoyed beyond measure by the attitudes of many of my colleagues, of their cynical dismissal of the beliefs of the Jawoyn people (while at the same time they) can easily accommodate and embrace the bundle of mysteries which make up their white Christian beliefs. (Maher, 2016).

The inquiry

The Inquiry was asked to consider options for the use of resources in the Kakadu Conservation Zone, the potential impact of mining operations on its environmental and cultural values and Kakadu National Park, the economic significance of potential mining operations and the interests of Aboriginal people affected by potential mining development.

Unlike the earlier Fox Inquiry, in 1977, which found that Aboriginal opposition to the Ranger Uranium Mine should not be allowed to prevail, Justice Stewart found that if the views of the Jawoyn community were to prevail, no further mining would be allowed at Coronation Hill.

The central issue in the case was fears by Jawoyn elders of disturbing *bula*, regarded as the most dangerous being in Jawoyn cosmology. Jawoyn people feared that disturbing *bula* through earth-moving or explosives would result in a global catastrophe. Senior men interpreted the gold ore at Coronation Hill as the bodily substance of *bula* or his wives. The concept of 'sickness country' suggested that the influence of a *bula* site extended for several kilometres so disturbance at one site would trigger a reaction at others.

This issue had caused angst over the years given that mine was proposed on a pastoral lease, there had been mining on the site before, no Aboriginal people lived on the lease and Jawoyn people had initially appeared supportive. A pro-mining faction, mainly men working for the Coronation Hill Joint Venture and their families, supported the project and expected economic benefits. However, there was growing opposition from other Jawoyn, based on respect for the views of elders.

The Inquiry found that Aboriginal cultural values should be respected.

The accompanying studies provide a valuable insight into the intricacies of what constitutes consent, difficulties for Aboriginal people discussing secret issues associated with sacred sites and a growing societal view that cultural and environmental values should be accorded greater respect.

Justice Stewart's report (p.9) outlines the difficulties of reconciling different values:

For example, a decision not to mine at Coronation Hill might strengthen the Jawoyn people's sense of self-esteem and cultural identity, but it would mean forgoing economic benefits to the nation as a whole and reducing the economic well-being of the Jawoyn community.

These differences in values are not necessarily extreme. The company showed considerable respect for Jawoyn culture. Many Jawoyn people wanted the economic benefits of the mine.

Justice Stewart noted that there had been no submissions that “might be characterised as the stereotype of an extreme development ethic: short term, rapacious, taking little or no account of the natural environment and assuming that people can mould the land to their purposes without regard for the views of others. Nor was it suggested by any participant that miners exercising their rights to use property should be absolved from responsibility for environmental protection” (p.140).

The nature of irreconcilable conflicting values (p.137) is captured in a submission from the Environment Centre of the NT:

The opposing views on the future of the Conservation Zone are, in the final analysis, based on strongly held principles and differing values. While parties can support their views with reasoned argument the reality is that, in most cases, there is no factual argument that can persuade either party and little likelihood of a meeting of the minds.

The Resource Assessment Commission had taken unusual step of commissioning a contingent valuation study of the environmental value of Coronation Hill. While cautioning that the results should be interpreted with care, the survey concluded that Australians would be willing to pay ‘substantial amounts’ of money to prevent the risk of environmental damage from mining in the Conservation Zone and Kakadu National Park.

The report includes insights into recreational and tourism values of the site. A 1990 survey ranked wildlife viewing, rock art viewing, then camping, scenic driving and tours as top recreational values. Tourism values centred around opportunities to access a wilderness area.

(Dames and Moore, 1989); Stewart (1991); (Lane, et al., 1990); (Altman & Smith, 1990); (Lane, et al., 2003); (Josif, 1988); (Coronation Hill Joint Venture, 1990).

10. Potential social impacts of seabed mining

“... my main concern was who is going to pay for it if it stuffs up, and I would like to have a name, somebody to sign a piece of paper saying if there is a problem on the Chatham Islands, we lose our fishery, somebody else is paying for it, not us, because we pay every time.”

Feedback to New Zealand Environmental Protection Authority on the Chatham Rock Phosphate Proposal (New Zealand Environmental Protection Authority, 2015, p. 204)

10.1 Overview

The following summary of the potential social impacts of seabed mining is drawn from relevant literature (in particular Roche and Bice, 2012), the author’s personal experience as a consultant, and an analysis of Environmental Impact Studies that have incorporated community feedback on projects impacting on the marine environment: Inpex’s Bladin Point LNG Plant, East Arm Port Expansion Project, Darwin’s Marine Supply Base, Gemco’s Eastern Leases project (with feedback on seabed mining during consultation), McArthur River Mine, and the Blacktip and TransTerritory Pipeline Projects (Gemco and Blacktip case studies are provided elsewhere in this report).

It outlines potential beneficial and detrimental social impacts of seabed mining in the Northern Territory, paying particular attention to the social impacts of resource extraction on Aboriginal land and seas in compatible jurisdictions, including Canada, New Zealand and Northern Australia.

This includes:

- **the social impacts of offshore activities:** those on the values, lifestyles and livelihoods of other users, including socio-environmental (changes to landscapes, the seabed, biodiversity, pollution), psychosocial (anxieties and fears), economic (displacement of other commercial and traditional economies) and aesthetic and recreational values;
- **onshore activities that may create both tangible and intangible impacts,** such as the construction of project-related facilities, the influx of workforces, use of social infrastructure and changes to landscapes and lifestyles.

Many of the potential impacts will be the same for terrestrial and marine projects. In some respects, impacts are reduced for offshore activities but some are specific to disturbance of the sea bed. It is assumed that most seabed mining would involve dredging and movement of vessels in coastal areas.

For projects near existing populations, the level of impact would depend on the scale and duration of disruption and the community’s resilience or vulnerability to change. For communities in remote areas, support may entail new infrastructure such as ports, loading and shipping, workers’ accommodation and access roads. The perceived magnitude of impacts is likely to be influenced by the fact that most of the coastal area is Aboriginal land, with sensitive habitats that have supported traditional economic and cultural activities. The scale of change is likely to be more acute given the small, dispersed populations, high natural values and limited experience of industrialisation.

Temporal phases of projects that should be considered (some of them concurrent):

- planning, initial consultation

- exploration, feasibility studies
- land negotiations and acquisition
- negotiation for benefits agreements
- environmental studies and approvals
- mobilisation and construction
- operations
- closure, rehabilitation and ongoing.

Table 10-1 provides a summary of potential impacts (positive and negative). The next section analyses these impacts in more detail. The impacts are considered as if for a single project, but all can be exacerbated by pre-existing change and the cumulative impacts of multiple projects.

Potential social impacts of seabed mining	
Activities causing impacts	Impacts
Offshore impacts	
Dredging/mining	Impact on traditional hunting and totemic species from the loss of habitats, such as seagrass beds, reducing the presence of turtles, dugong and fish species
	Distress, anxiety, loss of traditional hunting and totemic species from the deaths or injuries of turtles, dugong, dolphins
	Amenity impacts from dredging plumes reducing enjoyment of natural values
	Reduced amenity from the presence of industrial activities in areas with high recreational or scenic value, including visual impacts, noise and vibration
	Displacement of economic activities, such as commercial and recreational fishing, traditional hunting
	Sedimentation smothering habitats or accumulating in coastal areas, such as mangroves, impacting on breeding and feeding grounds for fish
	Reduced ability to care for country, impacting on self-esteem, sense of control, wellbeing
Marine infrastructure and shipping	Reduced seafood gathering and recreational activities from reduced access to coastal areas as a result of exclusion zones around dredging, processing facilities and shipping
	Safety issues for other marine traffic coming into contact with project activities, such as dredging vessels, ships and rigs
	Stress and anxiety as a consequence of potential spills, discharges, contamination and marine debris harming the marine environment
	Reduced wellbeing and cultural ties from reduced ability to care for country

	Negative impacts on aesthetic values through changed landscape and natural scenery
	Reduced amenity if noise, dust and vibrations impact on nearby communities
Onshore impacts	
Announcements and planning	Anxiety and fears from announcements or rumours about the project, particularly due to the lack of experience of industrial projects and novelty of seabed mining
	Stress and reduced attention to other important activities as a result on demands on time for meetings and agreement-making
	Potential negative impacts on sense of control through poor engagement, lack of influence on decisions and poor provision of information
	Reduced community cohesion due to conflict over the proposal, based on differing values about the nature and scale of development
	Improved land care capacity and preservation of traditional knowledge by involvement of local people in studies for the project
Exploration, feasibility and regulatory studies (drilling, surveys)	Anxiety and fears about the implications of the project, including uncertainties and rumours from a lack of information
	Community conflict, strains on social fabric and protests due to conflicting values and attitudes towards the project, prompted by the start of negotiations, media coverage and presence of outsiders
	Fears or the consequences of actual impacts on cultural sites and Songlines
	Benefits for local businesses providing services to the project, including jobs, accommodation, provisioning, ranger groups
Clearing for onshore facilities	Reduced enjoyment of areas with high natural values through clearing for roads, onshore facilities, ports, airstrips, workers' accommodation
	Increased opportunities for jobs and local businesses, including civil works, accommodation and consumables
Construction (temporary or permanent worker accommodation camps, port, barge facilities, onshore processing plants and administration)	Employment and training <ul style="list-style-type: none"> opportunities for local people to get jobs and training with the project, providing wages and increased skills; dashed expectations if local workers are not recruited, due to lack of education and skills, drug and alcohol problems, cultural obligations, social disadvantage (and jealousies if outside Aboriginal people are recruited).
	Community cohesion <ul style="list-style-type: none"> sudden influx of workers impacting on social fabric, community identity and sense of place;

	<ul style="list-style-type: none"> • reduced community cohesion through negative interactions between ‘insiders’ and ‘outsiders’; • reduced cohesion due to conflicting views of the project, including potential protests; • reduced volunteering and participation in sport due to shift work with the project; • reduced cohesion due to conflict over the distribution of jobs and royalties/benefits payments.
	<p>Land use, ownership and access</p> <p>Impacts on other land uses and ownership, including traditional ownership, access agreements, use of natural resources such as water.</p>
	<p>Services and infrastructure</p> <p>Pressure on social and community infrastructure and services, including:</p> <ul style="list-style-type: none"> • reduced availability and affordability of public and private accommodation; • increased overcrowding of public housing; • pressure on police and emergency services to respond to anti-social behaviour, alcohol related crime and project-related emergencies; • pressure on the standard and maintenance of local roads, through use by project traffic; • pressure on health and educational facilities (less likely with short-term, FIFO workforces); • improved services through company investment in social and community infrastructure; • pressures on childcare through increased demand or subsidisation of workers’ families.
	<p>Economic</p> <ul style="list-style-type: none"> • reduced productivity and ability to provide services by other sectors due to workers leaving existing jobs for higher paid jobs with the project, including government, municipal and private enterprise; • benefits for regional, Territory and national economy through increased Gross State Product, taxes, wages and royalties circulating in the local economy, families moving to the region, contracts, sourcing of local services and supplies; • displacement of other economic sectors, including tourism, fishing, traditional economic activities through inflationary pressures, taking up short-term accommodation and flights; • negative inflationary pressures (including goods and services, rental accommodation); • negative impacts on economic sustainability, through ‘boom bust’ impacts of sudden growth and decline, with businesses over-capitalising to provide services or becoming dependent on one industry sector.

	<p>Health, safety and wellbeing</p> <p>Reduced wellbeing of both workers and local residents through:</p> <ul style="list-style-type: none"> • increased drug and alcohol use, through higher wages and payment of benefits; • impacts relating to health and safety, including mental health impacts on workers living away from home; • reduced self-esteem, including sense of loss of control; • sexually transmitted diseases, prostitution and unwanted pregnancies; • reduced feelings of safety from presence of young, single, male workers; • reduced access to traditional hunting changing food supply and diet; • increased crime and antisocial behaviour, including domestic violence. <p>Improved wellbeing through company health and wellbeing programs.</p>
	<p>Human rights</p> <ul style="list-style-type: none"> • workplace and labour issues; • lack of free, prior and informed consent; • gendered impacts including inequitable access to jobs by women.
Operations	<ul style="list-style-type: none"> • similar to above but onshore impacts likely to be smaller due smaller workforce (at this stage, the main impacts may be offshore); • increased community capacity from royalties and community benefits; • potential improvements to social and community infrastructure, such as roads, telecommunications, port and barging operations; • ongoing jobs and business opportunities; • impacts on community cohesion and wellbeing from presence of workforce, higher wages circulating in the local economy, new families moving in, conflict over distribution of benefits; • reduced amenity and displacement of other economic sectors due to industrialisation of the land and seascape.
Closure, rehabilitation and ongoing monitoring	<p>Any legacy impacts, such as pollution or contamination, degradation of land;</p> <p>Positive legacy impacts due to increased community capacity, investment of benefits payments.</p>

Table 10-1: Summary of the potential social impacts of seabed mining

10.2 Impacts on caring for country

The key social impacts of seabed mining are likely to be any detrimental impact on Aboriginal people's land and sea management, described by the CSIRO in 2008 as the "fastest growing natural resource management in Australia" (Sithole & Hunter-Xenie, 2008, p.ix). This is closely linked to the growth of Indigenous Protected Areas (see Section 6). The CSIRO evaluation of Top End Ranger groups suggests they play an important role in maintaining healthy country. Land and sea activities, in turn, have positive impacts on:

- identity, self-esteem and hope through their enjoyment and pride in being involved in land and sea management and respect from countrymen;
- meeting cultural obligations to look after country, including areas that are uninhabited
- transfer of Indigenous knowledge between generations;
- increased community capacity, included literacy and numeracy from training programs and access to resources such as computers, vehicles and storage sheds;
- recognition of the role Aboriginal people play in natural resource management, including economic opportunities from payment for services;
- improved mental and physical health;
- opportunities for enterprises and small business ventures;
- governance arrangements provide a base from which to develop related programs;
- jobs, with many rangers working for full wages;
- empowerment, with recognition from external stakeholders that Aboriginal land management should be driven by Traditional Owners;
- mutually beneficial partnership;
- a strong voice for land and sea management.

10.3 Socio-environmental impacts

Socio-environmental impacts are those that cause changes in the ways in which community members understand their culture, practices, intrasocial relationships and unique community characteristics (Roche & Bice, 2013). They include:

- the potential disturbance of sacred or special sites;
- reduced enjoyment of places, due to loss of habitat and landscapes;
- socio-environmental impacts such as pollution, contamination, dust, noise, vibrations, introduction of weeds or erosion which reduce quality of life or impact on livelihoods;
- negative impacts on water quality and availability, impacting on quality of life, recreational places, the availability of water to other beneficial users and economic activities;
- loss of habitat impacting on conservation values and sense of place.

As Niblett notes (1993, p.39, 61) Aboriginal concerns include potential contamination of food and resources, related to “their direct dependence on hunting and fishing as part of their total subsistence strategy, but also to their spiritual and ritual responsibilities towards animal species. The diminution of animal species has a profound psychological effect”, particularly given the “totemic and mythological significance” of many natural species.

10.4 Economic development

The extent to which seabed mining contributes to sustainable economic development will depend on the location and scale of any project, whether it comprises a ‘dig and ship’ operation (with minimal processing and onshore administration and support services) and the extent of local procurement and supplies.

Mining operations generally make a positive contribution to regional and Territory economies, through procurement of services and supplies, payment of royalties and taxes, use of existing

transport infrastructure (such as the Port of Darwin) and contribution to Gross State Product (GSP) and export incomes.

The extent to which mining contributes to local economies is more problematic and depends on the level of local procurement and employment and displacement effects. It also depends on whether wages circulate through the local economy or leak to the home towns of FIFO workers, external suppliers and profits of companies and external capital providers. O’Faircheallaigh (1985, cited in Niblett, 1993, p.53), comments that mineral development may provide the initial impetus for urban settlements that eventually become diversified and self-sustaining economies, but “this will only occur where the potential for non-mining economic activity already exists”.

Major projects in rural and remote areas can undermine other economic sectors. Hoath and Haslam-Mackenzie (2013) give the example of Ravensthorpe, in Western Australia, which was transformed from broadacre farming to BHP’s nickel mine. However, farmers couldn’t hire labour and had to reduce their flocks.

Potential negative economic impacts include:

- displacement of other sectors and the opportunity costs of lost income;
- externalities such as the cost of environmental damage;
- loss of staff to projects, because of better wages or new opportunities;
- conflicting use of land and seas deterring other industry sectors such as pastoralism, tourism, commercial fishing and traditional economies;
- dependency on one economic sector if it becomes dominant in a small economy;
- inflationary pressures on wages, goods and services, impacting on the productivity of other sectors;
- project workers taking up flights and hotel rooms (this can occur in a small town if short-term accommodation is taken up by worker accommodation);
- ‘boom bust’ pressures, typified by sudden scaling up or ramping down of projects that creates dependency on a single sector or leads to businesses over-investing in plant and equipment (Taylor and Wilson);
- impacts on a region’s image, eg impacts on tourism by the introduction of industrial activity and perceived or actual pollution undermining the ‘clean green’ image of other sectors;
- loss of traditional livelihood pursuits (Scambary, 2013).

Aboriginal enterprises may benefit from providing services to projects in their regions and from investing royalty or community benefits payments, but they are just as likely to suffer displacement effects if natural resources are polluted or diminished. For example, studies of the social impacts of seabed mining in Papua New Guinea, New Zealand and Namibia cite concerns at impacts on fish stocks and traditional fishing and seafood gathering activities, as well as fears of impacts on artisanal mining (Roche & Bice, 2012; Rosenbaum & Grey, 2015; Minerals Policy Institute, 2008; United Nations, 2016; New Zealand Environmental Protection Authority).

Aboriginal people are likely to be sensitive to any project that impacts on the viability of their own proposed developments.

10.5 Workforce issues

The contribution of a project's workforce may be positive, negative or inconsequential depending on its location and the capacity of local towns or communities to benefit from the opportunities and absorb change. A new industrial activity may diversify or arrest the decline of small economies through local employment and attracting new families to live in a region or it may simply 'fly over' (Carrington et al., 2013, p.26) the local economy through the use of FIFO workers.

For seabed mining, the impact of a workforce would depend on the specialisation of positions, whether workers live onshore or offshore (such as on dredgers), whether there is onshore administration and processing or product is simply transferred at sea to ocean-going ships for export. Companies supplying specialist equipment, such as dredgers, may have an existing workforce that travels from project to project with the equipment.

Towns such as Darwin would likely benefit from either providing workers to a seabed mining venture or through increased population, with limited negative social impacts. Similarly, a town like Nhulunbuy on the Gove Peninsula, which has seen a population decline with the closure of the Rio Tinto Alcan alumina refinery, would likely welcome a new economic activity and could readily become a regional base for a FIFO workforce. Even Alyangula, on Groote Eylandt, has capacity to absorb residential workers and their families due to fewer families living in the manganese mining town (Hansen Bailey, 2015), although this would need to be negotiated with the current operator and traditional owners.

For more remote parts of the Northern Territory, however, the introduction of an external workforce may disturb the equilibrium or social ecology of a region, particularly in areas with small, relatively cohesive populations. Remote towns and communities rarely have a sufficient or appropriately skilled pool of labour to meet the construction needs of large projects, which creates the need for non-resident workers. The wages of these workers are high but tend to leak out of the local economy, while most will never become permanent residents so do not contribute to long-term prosperity (Taylor and Winter, 2013).

An external workforce of largely young, single men can change the demographic composition and character of a town, leading to the social impacts discussed in more detail below, such as pressure on services and community cohesion. Towns that become overly dependent on FIFO workforces can suffer from reduced liveability or economic decline when mines close or reduce their workforces. The Mayor of Kalgoorlie referred to FIFO workforces as the 'cancer of the bush' (p. vii), eroding the lifestyle of regional towns (House of Representatives Standing Committee on Regional Australia, 2013, p.viii). Impacts are generally more acute during the short-term construction phase, which will likely bring in large workforces for a short period.

Social impacts can be avoided by quarantining a workforce away from existing populations. The downside of this is the dashed expectations of businesses hoping to get the economic boost of providing accommodation and hospitality services and the trickle-down effect of workers' wages in the local economy if they resettle families in the town.

If a separate workers' village is set up and large numbers of local people get jobs with the project, there may be impacts on the social fabric of a community from family members living away and mental health issues for workers living away from family.

A third option is for companies to build their own mining town, encouraging workers and their families to relocate. This is viable only for larger and long-life mines. Artificial communities bring particular risks, however, such as mining towns which rise and fail on the whims of global commodity markets, with governments being left to pick up the tab for social infrastructure and economic malaise. Examples of towns' fortunes being aligned to those of mining in the Territory include Nhulunbuy and Jabiru (and, in the past, Batchelor and Pine Creek).

A characteristic of large projects with intense construction periods is the "boomtown" effect, where communities become overwhelmed by the scale of construction worker arrivals and their impacts on community amenity, security and lifestyle. The syndrome is characterised by a period of community euphoria about the project (Taylor & Winter, 2013). Social impacts manifest rapidly during construction, including anti-social behaviours, increased crime, social isolation for residents, resentment over wage differentials and social deterioration when the project 'bust' cycle starts. Although Taylor and Winter were analysing the impacts of large oil and gas projects on a town like Darwin, the 'boom bust' syndrome is equally applicable to smaller towns, depending on the scale of a project.

10.6 Opportunities for jobs and training

The situation in Ngukurr was that while non-Indigenous staff were looking out their office windows and thinking CDEP participants were not really working, Aboriginal people were looking in the window and thinking exactly the same thing.

McRae-Williams (2010, p.99)

As outlined above, bigger towns such as Darwin and Nhulunbuy, would likely benefit from new industrial activity. One issue in these towns is that unemployment in the non-Aboriginal population tends to be low, particularly in regional areas that people have moved to for work, either with government or the private sector. Productive workers are likely to leave these towns when work or contracts end. Some workers may be prepared to relocate to new mining towns with their families, however challenges to this include perceptions of remote living, the quality of social infrastructure, the disruption to families and leaving family support structures, such as grandparents. Issues include jobs for partners and taking children out of school.

Workers are more likely to relocate for long-term jobs than during a short-term construction period, which requires short bursts of intense activity. This generally means reliance on a FIFO workforce.

Given the prospectivity of remote coastal areas of the Territory for seabed mining, it is likely that projects would seek to employ local Aboriginal workers. While unemployment in remote regions is high, Aboriginal people face substantial personal and structural barriers to entering and remaining in the workforce.

This is problematic for many reasons. The prospect of jobs is often a key reason Aboriginal people agree to projects, so a failure to meet expectations can sour relations. Yet both Fox et al. (1977) and Stewart (1991) found that optimistic forecasts of Aboriginal jobs were unlikely to be realised.

Companies are sometimes criticised for promoting Aboriginal recruitment targets, when many of these positions may be filled by Aboriginal people from interstate or retention rates are low. A study by Altman and Smith in 1990 (p.16) for the Kakadu Conservation Zone inquiry cites the development of Tindal Airbase in Katherine. Despite a substantial investment in training programs, there was “virtually no improvement to the employment position of Aboriginal people, rather a migration of Aboriginal people from elsewhere” and increased marginalisation of local Aboriginal people. Urban Aboriginal people from interstate brought higher educational qualifications, industrial skills and work experience while Aboriginal people from nearby communities were not stimulated to leave their homes and travel to Katherine for jobs.

Aboriginal leaders and governments may have unrealistic expectations about jobs and economic benefits likely to flow from a project, particularly in the early stages when many projects are still uncertain and going through feasibility studies and environmental approvals. Local people may have no experience of mining or industrialisation and find it difficult to conceptualise the demands of mining shift work and type of work available.

McRae-Williams (2010) outlines different worldviews and conceptions of ‘work’. For western culture, ‘work’ defines status and identity. For Aboriginal people, work is subordinated to ‘relatedness’. Aboriginal people used to be reliable pastoral workers, despite low pay, because it was seasonal work that allowed them to stay on their country in a job that generated pride. McRae-Williams suggests that attempts by government to impose mainstream attitudes to work will fail due to responsibilities to kin, obligations outside the workplace and pressure to share, a moral system embedded in Aboriginal identity.

Jobs may be created in the supply chain, where there may be greater flexibility to adapt working conditions or use labour hire practices that accommodate family and cultural obligations. Several communities along the Territory coastline now have corporations and businesses that employ Aboriginal people and successfully provide services to government and the private sector (see in particular the Arnhem Land Progress Association or ALPA). Indigenous Land Use Agreements and community benefits packages may lead to the establishment of local enterprises that support jobs.

A range of other factors described in the literature include:

- Aboriginal people have little desire for regular work in mining (Altman & Smith, 1990);
- attachment to land, with little desire to be involved in its desecration (Altman & Smith, 1990);
- different perspectives on ‘working for a living’ (Fox, 1977);
- Aboriginal people tend to win jobs with little responsibility and requiring little skill so may fail to satisfy self-esteem and community status (Altman & Smith, 1990);
- increasing specialisation of mining jobs and requirement for lengthy training (Niblett, 1993, p.44);
- the negative effects of royalties and welfare (Altman & Smith, 1990);

- the challenges of rosters and FIFO routines making it difficult to maintain contact with families;
- strict work practices and long shifts not accommodating family and cultural responsibilities (Niblett, 1993, p.44);
- the need to live in single quarters is unacceptable to Aboriginal people due to their family obligations (Niblett, 1993, p.44);
- a desire for 'real jobs', not constant training schemes that don't lead anywhere (Niblett, 1993);
- a failure by companies to lay down clear policy guidelines and supervision of employment and training (Niblett, 1993);
- the movement of people to isolated out stations;
- long-term socioeconomic disadvantage;
- overcrowded housing and chaotic lifestyles, making it difficult to maintain work routines (McRae-Williams, 2010);
- poor education, literacy and numeracy issues;
- chronic diseases and general poor health;
- poor work histories and skill levels;
- negative social experiences with mining staff, including direct or implicit racism (Niblett, 1993);
- a lack of mentoring and support;
- drug and alcohol issues, including drug and alcohol testing;
- law and order issues including high imprisonment rates for Aboriginal people;
- a lack of transport to get to work, given the lack of public transport, communal ownership of vehicles and not having a driver's licence, including for drink-driving (Blackwell & Dollery, 2014);
- pressures to maintain food security, the 'intricacies of the domestic moral economy' and workers sometimes being weak and unable to concentrate from a lack of food (McRae-Williams, p.97)
- cultural obligations such as ceremonies and pressure to attend funerals, 'which takes up considerable amounts of time and energy and is given priority over the expectations of formal employment' (McRae-Williams, 2010, p.96);
- jealousy issues from partners (McRae-Williams, 2010, p.96);
- childcare issues, including access to childcare and cultural issues such as expectations that mothers should be 'watching' their children and potential issues in a relationship-based culture with 'wrong' people caring for children (McRae-Williams, 2010, p. 96).

(McRae-Williams & Gerritsen, 2010; McRae-Williams, 2010; Altman & Smith, 1990; Niblett, 1993; Scambary, 2013; Fox, 1977; Stewart, 1991)

10.7 Business opportunities

All projects offer a key means of growing local business capacity and broader economic development. Conversely, there is a risk of not meeting local expectations due to poor communication, lead contractors not packaging tenders in a way that suits local businesses, businesses being fully committed to other project work, issues with skills levels and recruiting staff

(particularly if there is competition with more highly paid project workers) and local companies not meeting the standards required by proponents.

For Aboriginal people, opportunities can include services throughout the supply chain such as provisioning, civil works, cleaning and catering at accommodation camps, cross-cultural training, providing sand and gravel, transport services, land management and rehabilitation of areas disturbed for onshore facilities and perhaps cultural tourism for workers on their days off.

10.8 Community

The ultimate aim of social impact assessment is social sustainability, or the continued strong social capital of a community. Large-scale natural resource projects bring changes that profoundly transform environments, communities and economies (Franks et al., 2015), depending on their scale and the influx of workers. Key factors include a community's resilience, or the ability of individuals, families and communities to 'bounce back' from disruptive events and adapt to change over time (Taylor & Goodrich, 2011, p.1). For Aboriginal communities, the thresholds of manageable change require consideration of the nature, magnitude and potential trade-offs, duration, attribution, geographic distribution, likelihood, public concern and cumulative loadings (Mackenzie Valley Impact Review Board 2007).

The Stewart Inquiry (1991, p.111) concluded that mining could have substantial negative social impacts on Jawoyn people given their "current level of ability to accept and absorb externally imposed change", while the Fox Report (1977) suggested that, regardless of good intentions, the rapid development of a mining community near a traditional Aboriginal society "has in the past always caused the breakdown of the traditional culture and the generation of intense social and psychological stresses" (p.33).

Key elements in a community's capacity to manage change include a sense of control, efficacy and political effectiveness (Lane, et al., 2000). Projects impacting on vulnerable and disadvantaged people may compound the longer-term impacts of dispossession, dispersal from traditional lands and socioeconomic disadvantage (O'Faircheallaigh, 2010).

For controversial projects, a key issue may be the conflict they create. Existing or new divisions can emerge between Aboriginal families and clan groups. This can cause stress and anxiety for community leaders. As outlined in Section 9 and Case Study 1, different community segments may come into conflict based on discrepant or competing values. Some segments may fear impacts on the social fabric and negative impacts on a region's image, for example protests in Broome against oil and gas projects were grounded in fears about impacts on the marine environment and strong attachment to the Kimberley's scenic and natural values (Muir, 2012).

There may be conflict over potential benefits of a project, including whether the jobs and financial benefits are seen as equitably distributed and whether certain families are seen as getting the jobs and benefits. For Aboriginal workers, there are also the pressures of 'demand sharing' or 'humbag' to share wages with relatives (McRae-Williams, 2010, p.95).

Project impacts start when projects are first proposed, or even rumoured (Vanclay et al., 2015). This can lead to:

- fears or anxieties, based on past experience, because it is a new and unknown type of industrial development or because of actual or perceived likely disturbance to landscapes and sacred sites;
- heightened and possibly unrealised expectations of royalties, compounded by a lack of understanding between project approvals and projects actually starting up (ImpaxSIA, 2004) (ImpaxSIA, 2004b);
- tensions between competing values such as retention of culture over access to money, the cash economy and jobs (Stewart, 1991).

Edelstein (2013) describes the psychosocial impacts of controversial major projects, which includes effects on the behaviour, cognition and emotions of those exposed to environmental hazards, often dismissed as 'perceptions'. These can be disempowering, particularly for low income and minority groups disproportionately exposed to environmental risk. Empowerment is the mechanism by which people, organisations and communities gain mastery over their affairs. Psychological stress can threaten an individual's wellbeing. Cumulative or repeated negative events can undermine coping efforts and adaptive responses (Finsterbusch, 1982). Anticipation of a threat can be more stressful than the actual harm, while the level of anxiety will be influenced by belief in the capacity to deal with the threat, suddenness, duration, unfamiliarity and importance of the anticipated stressor (Finsterbusch, 1982). People tend to over-estimate the danger of dramatic threats (Sandman, 2012).

The indirect impacts of projects may flow from increased wages and distribution of cash royalties. This may provide the opportunity to purchase consumer goods long aspired to (Stewart, 1991). However, the realisation of benefits may depend on sound management practices (Stewart, 1991), while access to money can increase internal tensions and social problems, such as drug and alcohol consumption, alcohol-related violence, domestic violence and neglect of children.

A summary of impacts on communities covered by the literature includes:

- changed demographic composition, with an influx of different socioeconomic groups or people with less well-developed networks and family support (Taylor & Goodrich, 2011);
- a more mobile population with reduced sense of place and reduced attachment to local community (Taylor & Goodrich, 2011);
- the sudden influx of single young men impacting on community wellbeing and feelings of safety;
- negative interactions between external workers and Aboriginal communities, including sexual jealousies, prostitution, unwanted pregnancies and sexually transmitted diseases;
- workers wandering away from camps, trespassing on Aboriginal land and perhaps damaging sacred or special sites or using firearms;
- trafficking of alcohol or drugs;
- expenditure of wages and benefits on alcohol by external workers in local hotels or clubs or by local workers, leading to violence and anti-social behaviour;
- jealousy with the establishment of mining towns (eg Jabiru) and provision of better services to mining families (Fox, 1977);
- potential petrol sniffing, thefts and vandalism;
- exacerbating generation gaps over varying aspirations and values;
- reduced authority of leaders;

- the loss of volunteers, community participation and pressures on sports teams and coaches through workers being away from the community or working long shifts (Hoath & Haslam-McKenzie, 2013);
- one issue raised with ImpaxSIA (2004) was the distress caused to traditional owners by the driving of survey teams they were accompanying during site clearances.

10.9 Road and marine safety

Potential risks from onshore activities include increased traffic on local roads, such as travelling through towns at night, coming into contact with drink drivers, children playing on roads, people hunting at night, people drinking on the outskirts of dry zones and not being visible to construction traffic, increased drink-driving by community members associated with cash distribution of compensation monies and increased interaction between local and project vehicles (ImpaxSIA, 2004).

Offshore, risks include collisions between commercial and recreational traffic and project dredging, offshore facilities or shipping. For example, INPEX ran major marine safety campaigns during the dredging phase of its Bladin Point LNG project to address these concerns and a general lack of understanding of stopping distances for large vessels (INPEX, 2012).

10.10 Pressure on services

Services provided by government, local government and other agencies can be strained by an influx of workers to towns or by indirect impacts from other project activities, including loss of staff to higher paid jobs and inflationary pressures on housing and consumer goods. Examples include:

- pressures on policing from more alcohol or drug-related incidents and traffic offences;
- emergency services put under strain due to increased road trauma, bushfires or chemical spills;
- an influx of workers putting pressure on the availability and cost of private rental housing, with a displacement effect to overcrowded public housing;
- families or individuals returning to their country seeking work and expecting to stay with families, adding to overcrowded public housing;
- workplace injuries and road trauma adding to demands on health services, including medical evacuations;
- should families move to nearby towns, there can be both positive and negative impacts on services such as schools, municipal services, social and community infrastructure;
- heavy traffic on local roads may lead to damage, inconvenience for other uses, dangers on single lane or unsealed roads, productivity issues for other economic sectors (such as cattle trucks, transport and logistics), negative experiences for tourists, increased maintenance costs or the need for upgraded slip lanes, intersections and railway crossings (that may be beyond the means of local government, for example);
- on the other hand, projects may lead to social and economic benefits from improved infrastructure, such as power, water, roads, airstrips, barge landings, telecommunications and project facilities left as legacy infrastructure;
- loss of funds through poor governance, capacity and lack of financial literacy (Prout-Quicke, et al., 2017);

- improved roads may create unintended consequences, such as increased trespass by outsiders and invasion of privacy by tourists and unauthorised travellers or by facilitating illicit activities such as grog-running.

10.11 Royalties and compensation

The payment of royalties or compensation can generate opportunities, including access to consumer goods and broader objectives such as outstations and facilities. However, optimism about the benefits of royalties is often based on western views and assumptions (Kesteven, 1984). This includes assumptions that Aboriginal people will chose to improve facilities, that self-sufficiency is desirable, that one shouldn't depend on the public purse and that Aborigines need to 'improve' or 'develop'. Money may instead be spent on consumable goods and alcohol or on items that were always desired but not previously attainable, while distribution may lead to jealousy and infighting and to haves and have nots (Kesteven, 1984).

Potential negative indirect impacts include:

- community conflict over the distribution of payments and whether distribution is seen as equitable;
- community divisions caused by different attitudes towards the project (see case study 4);
- pressure on leaders and conflict over individual cash payments or investment;
- expenditure of cash payments on alcohol and consumer goods;
- increased alcohol related violence, including domestic violence, neglect of children, increased workload for police;
- pressure or 'humbug' to share payments (see 10.5);
- rumours or unrealistic expectations about payments;
- the 'honeypot' effect, defined by Vanclay et al., (2015, p.84) as project-induced migration where people move to a project site or community "to become regarded as an affected person and therefore eligible for compensation or in search of work or economic opportunities that arise from the project".

10.12 Health and safety

In addition to impacts on community cohesion and services, projects can have positive and negative impacts on community health and wellbeing including:

- reduced wellbeing as an indirect impact of many of those listed above, including stress and anxiety, loss of control;
- increased road trauma and workplace injuries;
- reduced wellbeing, poor mental health and suicides, particularly with FIFO workers away from their families (Hoath & Haslam-McKenzie, 2013);
- improved determinants of health and wellbeing for workers earning better wages and perhaps buying their own homes.

10.13 Human rights

Human rights are universal legal guarantees protecting individuals and groups against actions which interfere with fundamental freedoms and human dignity. Respect for human rights is particularly

important when dealing with vulnerable people who may be particularly exposed to risk and adverse impacts.

Potential human rights impacts can occur with racism in the workplace, breaches of labour laws, and gendered impacts on women, although many of these may fall more under the category of workplace relations.

In the case of mining, a particular issue is that of the 'Free Prior and Informed Consent' of Aboriginal people. Vanclay et al. (2015) define this as:

- **free** means no coercion, harassment, intimidation or manipulation by companies or governments in order to obtain stakeholder consent and should a community say 'no' there must be no retaliation;
- **prior** means that consent should be sought and received before any activity on community land is commenced and that sufficient time is provided for adequate consideration by any affected communities;
- **informed** means that there is full disclosure by project developers of their plans in a language and format that is acceptable to the affected communities and that each community has enough information and capacity to have a reasonable understanding of what those plans will likely mean for them, including the social impacts they will experience;
- **consent**, implies that communities should have a real choice and there is a workable mechanism for determining whether there is broad-based support in the community as a whole.

Fox et al. (1977) noted that Aboriginal opposition to the Ranger uranium mine appeared to emerge as people became better informed. Other reasons for a reversal of people's apparent earlier approval may have included a lack of confidence that their views would prevail, a perception that opposition was futile and that plans for mining had proceeded to date without Aboriginal people "having an adequate opportunity to be heard" (p.9).

In the Northern Territory, it is the statutory responsibility of land councils to ensure that Aboriginal people have provided free, prior and informed consent to development on their land and seas.

(IPIECA, 2013; Minerals Council of Australia, 2013; Vanclay et al., 2015; United Nations, 2011; United Nations, 2007).

10.14 Cumulative impacts

The change induced by major projects rarely happens in isolation from other contextual issues that will be unique to each community, with projects sometimes constituting the 'tipping point' (Franks et al., 2010, p.300) that becomes a negative impact. A key issue to consider is the cumulative impacts of multiple projects, whereas regulatory approvals tend to consider each project in isolation. Even where cumulative impacts are discussed, it can be difficult to determine the impact of other projects that have not been announced or that have uncertain dimensions and timelines.

This is best addressed by regional or strategic assessments that inform land use planning (Ross, 1992; Noble and Gunn, 2016).

A major benefit of this review of seabed mining is that it constitutes a strategic assessment that will inform government of the likely issues and policy considerations to guide individual project applications and assessment.

10.15 Impacts from doing social impact assessments

A positive side-effect of social impact assessment fieldwork is that it provides a chance to inform many stakeholders of a project and generate mutual learning. Negative side effects can include:

- field work may create expectations and rumours regarding the project;
- sometimes there is incomplete information on the project or project descriptions change, causing confusion;
- consultation fatigue, particularly if previous consultation has tokenistic or done poorly, there has been no feedback, promises weren't kept, people perceive their input had no influence on decisions or there has been consultation on a number of projects that did not proceed.

10.16 Community relations

Good community relations play a key role in companies earning their social licence to operate, by building relationships and trust and ensuring companies are responsive to community issues. Programs should be sensitive to local context and developed in conjunction with the community.

Even well-intentioned community relations can lead to unintended consequences if not informed by cross-cultural sensitivities, however. ImpaxSIA (2004, p.33) gives the example of an exploration company offering help to local people with spare tyres and repairing flat tyres. When the requests for favours escalated, the company started to refuse. "From the company's point of view its generosity was being abused. From the Aboriginal perspective, the company was now refusing to pay its rent. While the company had initially provided these favours in order to strengthen positive feelings with the community, it instead set itself up to create bad feelings down the line."

Recommendations for the management of social and cultural impacts include methods that incorporate local aspirations, build community control, incorporate good communication and build long-term relationships. This may include community advisory committees, citizen involvement in monitoring programs, liaison staff, open days, newsletters, cross-cultural inductions and sponsorship activities that increase the involvement of staff in the communities in which they are operating.

Case study 5: Gemco Eastern Leases, Groote Eylandt

Eastern leases project for Gemco (now South32), 2015

Done by: Hansen Bailey - the Social Impact Assessment (SIA) consultants had backgrounds in economics and social science

Commissioned by: Gemco/South32

Meetings: 40 meetings with 55 stakeholders on Groote Eylandt, with a communication strategy and consultation approved and facilitated by the Anindilyakwa Land Council, in accordance with protocols negotiated as part of the company's mining agreement.

Gemco (now South32) has mined manganese on Groote Eylandt for more than 30 years. A social performance framework for the project includes a social investment strategy and monitoring plans for community engagement, community development and human rights. This includes a Human Rights Impact Assessment every three years, regular baseline studies to assess key quality of life indicators, a community development management plan evaluated annually and a three-yearly community perceptions survey.

Hansen Bailey was engaged to do an Environmental Impact Study for a proposed expansion of Gemco's mining leases on the island. The leases are on Aboriginal land belonging to five of the archipelago's 14 clan groups. The SIA covered the three main communities: Alyangula (a mining town that houses much of the project's workforce) and the two main Aboriginal communities of Angurugu and Umbakumba.

Key issues raised during consultation were people's strong cultural and spiritual connections to the land, rivers and seas. Ceremony and spirituality play a central role in their lives, with a strong value placed on language and culture.

Interviewees expressed strong opposition to seabed mining off the shores of Groote Eylandt, with Gemco providing assurance that no offshore exploration was included in the proposal.

Key impacts for Aboriginal traditional owners were predicted to be:

- impacts on amenity (from noise and dust);
- loss of land for recreational and traditional practices such as hunting, fishing, gathering of turtles and mussels, sugarbag and green plum and pandanus and timber used for spears;
- anxiety and uncertainty around the new mining areas (including cultural differences between the technical nature of EIS studies and the spiritual understanding of the environment held by Aboriginal stakeholders, previous changes in river systems attributed to mining and limited understanding of the existing mine);
- impacts on spirituality and sacred sites (a number of the river systems on Groote Eylandt form part of important song lines, with connections between rivers and the sea).

The consultants note (p.70) that the Traditional Owners' spiritual system is based on protection of and a connection to the land.

Traditional owners believe that their health and wellbeing is intricately connected to the health and wellbeing of the land. Some... link significant adverse changes in the landscape (such as the development of mining areas) to adverse changes in health and wellbeing....

“The disturbance of the project site may have emotional implications for some of the Traditional Owners of that land which can only be fully understood by members of the relevant Traditional Owner groups.

In the mainly non-Aboriginal mining town of Alyangula, values included the coastal amenity, small size, peaceful lifestyle and isolation from the mainland, described by one person as like being in a ‘time warp’. The natural environment was a significant feature of this lifestyle. Concerns were the increasing tendency to use FIFO workers, which had reduced volunteer participation in clubs, declining community participation and fears of a ‘ghost town’.

For Anindilyakwa people, values included a strong connection to place and spiritual connection to land. The main aspiration was for more Aboriginal jobs (of 860 staff, 46 were Aboriginal and Torres Strait Islander, of whom 33 were local), and a proportion of royalty moneys being redirected to investment in economic diversification. However, the consultants noted low economic vitality, apart from the mine.

(Hansen Bailey, 2015)

11. Potential cultural impacts of seabed mining

Dreamtime stories “tell how the land was formed and how people and animals came to be the way they are now. Dreaming sites may be formations on the land or in the sea. These sites are like monuments which are a reminder of the ancestors who helped form the Larrakia cultural traditions and are generally known as sacred sites.”

From Larrakia Saltwater People (2001, p.6)

Social impacts generally have been taken to include cultural impacts such as changes to the norms, values and beliefs that guide and rationalise people’s cognition of themselves and their society (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994).

Cultural impacts may be direct and tangible, such as the potential destruction of special sites, with less tangible consequences such as reduced strength of cultural leadership, loss of stories and traditional knowledge and anxiety over spiritual issues.

Cultural impacts include loss of traditional uses of coastal areas by Aboriginal people, thwarting Aboriginal aspirations for greater control over use of their land and seas and plans for exploration or mining of areas where incompatible mining and cultural values may present dilemmas for policy makers.

A key issue for any seabed mining along the coast of Northern Australia is the potential impact on Songlines and sites associated with Aboriginal Dreamings that may be unseen and incomprehensible to western cultures but which are integral to Aboriginal people’s relationships with the land and sea, wellbeing and kinship (as outlined in section 9.2.1). Understanding that Songlines have intangible spiritual qualities and may extend long distances (or under the ground) has implications in defining the physical footprint of impact studies.

As noted by Lewis and Scambary (2016), a key sociocultural impact of mining is ‘the collision of interest’ (p. 222) where areas of geological and mineralogical significance, in the shape of ore bodies, tend to coincide with places of cultural significance to Aboriginal people, in the form of sacred sites. Minerals often have cultural significance as the ‘essence’ of ancestral beings. Disturbance to these sites can have substantial cultural impacts.

Cultural impacts are also discussed in the separate scope of work on the potential impacts of sacred sites being prepared by the Aboriginal Areas Protection Authority.

11.1 Potential cultural impacts of seabed mining

The Anindilyakwa Indigenous Protected Area Management Plan (Taylor, 2016) outlines the key threats to country as being seabed mining, weeds and feral animals (p.3). In particular, seabed mining would:

- cut through our Songlines
- destroy our sacred sites
- destroy dugong and turtle feeding grounds
- pollute our waters
- lock us out of hunting areas.

11.2 Positive impacts

Potential positive impacts cited in the literature include:

- sharing of traditional knowledge and land management opportunities may lead to ranger groups being established or expanded and increased retention of traditional practices (ImpaxSIA, 2004);
- community benefits money may be invested in art or cultural activities;
- providing cross-cultural training services may enhance the retention of knowledge and respect for traditional owners;
- benefits payments may support the viability of homelands and increase connections to land and sea;
- better wages may increase opportunities to engage in traditional activities, such as fishing and hunting.

11.3 Reduced access to country or impacts on biodiversity

Potential negative impact include:

- reduced opportunities for traditional activities such as hunting, camping, foraging, bushfoods and bush medicine gathering;
- reduced opportunity to pass on knowledge;
- loss of economic activities, such as small-scale aquaculture or agriculture, fishing;
- anxiety by custodians with responsibility for the care of country, fear of being blamed;
- lost opportunities to pass on knowledge and stories.

11.4 Dilution of cultural leadership, strength of culture

A workshop by the Mackenzie Valley Impact Review Board (Gibson, et al., 2008) suggested workplaces can dilute the strength of culture, because mine sites are often run as “culture free zones” where Indigenous workers are expected to “leave their kimonos at home” and “assimilate into a settler-derived industrial culture” (p.10). Other issues may include:

- new sources of governance and leadership;
- workplace socialisation introduces new norms, including reduced use of traditional languages;
- time in the workplace reduces ceremonial activities, language use and family time;
- reduced connections to land and sea country may lead to feelings of loss of control or reduced self-esteem.

11.4 Impacts on traditional economies

A key source of opposition to many seabed projects has been the potential impact on traditional economies (Roche & Bice, 2013; Bradley 2007). In many cases, people have traditionally hunted and fished and may aspire to apply these skills to commercial enterprises, as outlined in Sections 6.8 and 10.2. In other cases, such as on Groote Eylandt or in the Gulf of Carpentaria, people have worked as labourers for fishing and crabbing businesses and are interested in taking control of their own

resources from people “who have no personal relationship to the sea and coastal country” (Bradley, 2007, p.10).

Case study 6: Kakadu/Alligator Rivers social impact studies

Kakadu/Alligator Rivers Social Impact Studies: Fox et al., 1977, Australian Institute of Aboriginal Studies (1984), Stewart (1991), Supervising Scientist (1997), Banarra (for ERA, 2015).

The Alligators Region of the Northern Territory may well be the most studied region for social and cultural impacts on Aboriginal people, including the Territory’s first, and still most detailed, social and cultural impact studies.

Apart from the ERA Environmental Impact Study in 2015, these studies were all commissioned by the Australian Government. Most incorporated specialist social, economic and cultural studies and all remain the most comprehensive of their kind in the Northern Territory. They were prompted by proposals for uranium mining then to resolve competing social, cultural and environmental values of conservation, mining and traditional cultures.

1. **1977 Fox Report:** Justice Fox was commissioned in 1975 by the Australian Government to report on proposals for the Ranger Uranium Mine and township of Jabiru. He released his final report in 1977, by which time the *Aboriginal Land Rights Act* had been enacted. The Fox Report explores the social and economic context of the region and acknowledges the close spiritual relationships of Aboriginal people with their land. Acknowledging the ‘white man’s’ bias of the Commission of Inquiry, it nevertheless tried to understand cultural values and potential social impacts of the proposals but ultimately determined that Aboriginal opposition to mining should not be allowed to prevail. Among the key social impacts predicted by the Fox Inquiry (p.33):

The arrival of large numbers of white people in the Region will potentially be very damaging to the welfare and interests of the Aboriginal people there. All the expert evidence on this matter was to the effect that, despite sometimes sincere and dedicated effort on the part of all concerned to avoid such results, the rapid development of a European community within, or adjacent to, an Aboriginal traditional society has in the past always caused the breakdown of the traditional culture and the generation of intense social and psychological stresses within the Aboriginals...

Fox et al. suggested aspirations for Aboriginal employment may not be realised because of different beliefs and lifestyles, the importance of traditional ceremonial duties, likely preference to continue traditional lifestyles and educational barriers.

The Ranger Uranium Mine was approved, Kakadu National Park was established in 1979 excluding the mine, township of Jabiru and a conservation zone that was the subject of a second inquiry in 1990 (see Coronation Hill case study).

2. **1984: Kakadu Social Impact Study:** The Australian Institute of Aboriginal Studies report, “Aborigines and Uranium” was prepared for the then Minister for Aboriginal Affairs, Clyde Holding on the potential social impacts on Aboriginal people of creating a national park and uranium mining. The project was unprecedented for its time and was overseen by a large

project steering committee that included many eminent academics. Funding for the five-year project covered a project director, research staff, Aboriginal researchers and travel funds. Its 300-page report summarises the 1977 Fox Report and critiques of some findings. It includes detailed studies on various social impacts of mining, including topics such as economic consequences, issues with payment of royalties from the Narbalek Mine, jobs, health and alcohol.

3. **1991: Stewart inquiry into the proposed Kakadu Conservation Zone** (described in case study 4).
4. **1997: The Kakadu Region Social Impact Study** incorporated a number of reports commissioned by an Aboriginal Project Committee. An Action Plan resulting from these reports was updated in 2000.
5. **2015: Energy Resources Australia (ERA) Environmental Impact Study:** Banarra's social impact assessment and management plan for ERA's proposed Ranger Three Deeps Project adopted an in-depth qualitative approach and included a review of the findings of previous reports.

(Australian Institute of Aboriginal Studies, 1984); (Stewart, 1991); (Fox, et al., 1977); (Supervising Scientist, 1997); (Banarra Pty Ltd, 2014)

12. Monitoring and management

It would be unwise to be prescriptive about how the social and cultural impacts of seabed mining might be avoided, mitigated or managed in individual cases as the context is different for each case and each community. Some companies may have existing social performance plans and community relations teams. Others may be start-ups with minimal staff and no track record of similar projects.

What is important is the integrity of the process - sometimes referred to as procedural justice – to give affected people confidence in the legitimacy of the assessment process and that their voice will be heard and heeded (Preston, 2014).

Traditional assessment, monitoring and management of biophysical impacts has well-established scientific principles and risk mitigation methodologies.

However, social and cultural impacts do not start when the starter's gun is fired at the regulatory barrier and end as environmental studies cross the finishing line. They do not happen in a neat, linear way but in a complex, often emergent mass of social processes across the entire life cycle of a project.

So 'hard science' (Bice, 2016, p. 64) methodologies may be inappropriate to effectively address more subjective, complex and evolving societal expectations. Perceptions are not addressed by 'just giving people the facts' but will be shaped by perceived disturbance to the social fabric of their lives and neighbourhoods and judged through the lens of emotions and lived experience of projects.

The best avoidance methodology is early engagement and giving people a seat at the decision-making table at a point when they can have influence on the size and configuration of a project and can contribute their local or traditional knowledge and perspectives. Identifying impacts at a screening stage (when a project is first proposed) de-risks projects for both proponents and communities, while incorporating community perceptions of issues during an early scoping stage ensures terms of reference for impact studies are more focussed and relevant. Rather than a cost, this may well be an investment in avoiding costly delays and political intervention later in the regulatory process due to community disquiet.

Community 'due diligence' is as valuable as mine design and financial and technical feasibility studies in planning for projects and avoiding costly mistakes or misunderstandings.

Early engagement starts with providing people with honest, objective information that is but one enabler - not the outcome - of this process. Most importantly, it requires active listening skills and the ability to interpret context, nuance and perceptions.

For social and cultural impacts, quantifiable indicators to track change and measure impacts are insufficient. Qualitative indicators, based on the social sciences and engagement, may include sustainable livelihoods approaches, community satisfaction surveys and focus groups. They should be based on understanding a community's values and the issues that matter most to affected people.

Management plans should heed the level of marginalisation and disadvantage of a community (O’Faircheallaigh, 2009) and factors such as likely resilience or ability to absorb change. A project that is readily absorbed in an urban area, for example, may bring life-changing disruption to a sparsely populated remote area. Communities may also be concerned at distributive justice issues (Preston, 2014) or the distribution of costs to local communities and benefits to companies, governments and financiers elsewhere.

Companies may fear the cost, uncertainties and delays from engagement. In fact, the opposite is likely to be the case. As Franks et al. (2015) contend, the ‘cost of conflict’ can include enormous demands on management time, demands to redesign or reconfigure projects, reputational damage, protests and blockades and, ultimately, projects not proceeding. Whereas, “when stakeholders have an opportunity to actively participate in the decision-making of resource developments and ensure the project is consistent with their values and livelihoods, their experience of those developments tends to be more positive and their attitudes towards projects more supportive” (Franks, 2012, p. 4).

Ongoing engagement

Community reporting may be based on community advisory committees, citizen-science groups and company sustainability reports. The level and extent of reporting will depend on the size of the company, the size of the project, the complexity and sensitivity of issues and what the community advises it wants.

Working in collaboration with affected people and communities will help build mutual understanding, trust and relationships and create collaborative learning opportunities.

Adaptive management will contribute to identifying and managing emerging issues, checking actual change against baseline data and predicted impacts and collaborative planning on solutions acceptable to impacted communities.

It is important to have appropriate grievance procedures, making it easy to make complaints or raise issues of concern a) so they can be addressed quickly and b) to provide a research tool that helps a company understand the issues that are bothering communities and addresses any systemic problems that emerge.

In summary, a suggested approach would include:

- ascertaining community views at the screening and scoping stages of a project (see Section 14);
- providing culturally appropriate, accurate and objective information on the project;
- ensuring all stakeholders understand the implications of the project (for example, that they can visualise the impacts, which may require simulations and illustrations);
- giving stakeholders the time and resources to consider and provide feedback;
- giving stakeholders the resources to engage their own independent studies if needed;
- scoping issues based on discussion about the consequences and significance of each impact, management measures, indicators and report cards to track actual impacts;

- applying the precautionary principle: studies such as Boughen et al., (2010) contend that communities may be distrustful of both companies and government regulation because of their experience of earlier legacy projects or broken promises;
- for projects on Aboriginal or Native Title land, agreement-making may incorporate issues such as jobs, how benefits are to be distributed and opportunities for Aboriginal enterprises.

Companies are more likely to earn their social licence to operate if they:

- adapt the pace and scale of development to local sensitivities and aspirations;
- take the time to understand potential effects from the perspective of impacted communities, which may entail cross-cultural awareness training and engaging appropriately qualified researchers;
- allow genuine and meaningful input to decision-making by land owners to ensure projects are done in a way that is acceptable;
- do this before expensive decisions are made and reputations put at risk;
- involve traditional owners in land and sea management activities, surveys and ongoing monitoring.

Avoid-mitigate-manage (with a social science perspective)

The traditional regulatory approach is to identify and evaluate risk, determine the 'risk treatment' then monitor and review its management. Environmental assessment entails a number of specialist studies such as a social impact assessment (usually incorporating some component of cultural impacts). The management hierarchy is:

1. **Avoid:** The first priority, where possible, is to avoid negative impacts. For social and cultural impacts, this requires insights from the perspective of affected people and communities. Rather than trying to persuade communities to accept potentially detrimental change, companies are advised to consider themselves as the strangers in the neighbourhood who need to do the adapting. Avoidance may entail technical responses and different methodologies, such as INPEX dumping dredge spoil well offshore in grounds agreed to by fishermen and other stakeholders. It may mean reducing the scale of a project, moving to a new area or abandoning a project in the face of community concerns.
2. **Mitigate or minimise:** The community should provide advice on the extent to which people are prepared to tolerate impacts (based on their extent, duration, complexity and certainty). Impacts may be minimised by changing elements of the project, such as hours of operation, the amount of dredging, where dredge spoil is dumped or through landscaping to reduce negative visual effects. Road safety risks can be minimised by diverting heavy traffic around communities, not driving at night and avoiding peak hour traffic, for example.² Sometimes

² A hierarchy of controls (Leading Practice Sustainable Development Program for the Mining Industry, 2008) includes:

- eliminate the risk
- minimise or replace the risk
- control the risk using engineered devices
- control the risk by using physical barriers
- control the risk with procedures
- control the risk with personal protective equipment
- control the risk with warnings and raising awareness.

the impact of a project may be mitigated by trade-offs. For example, loss of habitat may be compensated for by planting trees or mangroves elsewhere.

3. **Manage:** Develop a management plan, including indicators by which to track change, and reporting mechanisms. Adaptive management caters for emerging issues and adapts responses according to the success or failure of mitigation strategies. Management could involve community participation, such as citizen-science approaches.

The findings of social and cultural impact assessments should be outlined in a social/cultural impact management plan including indicators by which to track changes in baseline conditions and commitments, such as actions a company will take, reporting and continued communication and engagement strategies.

Case study 7: Blacktip and TransTerritory Pipeline

Blacktip and Trans Territory Pipeline social impact assessments, 2004

Done by: ImpaxSIA, (Brisbane and local anthropologists), with support from the Northern Land Council in identifying affected Aboriginal people and providing support in the field.

Prepared for: Woodside (which funded the project) and the Northern Land Council (identified people with affiliations to the country, arranged interpreter services, provided field officers to set up interviews). Both Woodside and the NLC signed off on the terms of reference for the SIA work.

Fieldwork TTP: 80 consultant days in the field, speaking to 350 people over 14 weeks.

Fieldwork Blacktip: interviews and meetings with 55 traditional owners, as well as house visits and interviews with stakeholders.

Initially it was planned to pipe gas from the Blacktip field in the Joseph Bonaparte Gulf, 110 kilometres off the Aboriginal community of Wadeye then another 1000 kilometres, via a Trans Territory Pipeline (TTP) to Alcan's alumina refinery in Nhulunbuy (as part of the proposed Alcan expansion). When a commercial deal fell over for the TTP, the project became a pipeline to an onshore gas plant at Yelcherr, near Wadeye and a 280-kilometre Bonaparte Pipeline to the Amadeus gas pipeline to supply the Power and Water Corporation's generation plant at Channel Island, near Darwin.

The Blacktip SIA was based on consultation with traditional owners and people likely to be affected. The intent was to inform both the agreement-making process with the Northern Land Council, on behalf of traditional owners and further work by the proponent to assess and manage project impacts.

Wadeye is the largest Aboriginal community in the Northern Territory (with more than 2000 residents in 2004) and is characterised by high levels of disadvantage. The land on which the gas plant and pipeline were to be built was mainly Aboriginal land covered by the Daly River/Port Keats Aboriginal Land Trust.

A social science approach would take account of norms, values, attitudes, behaviours, barriers to change, how risks are perceived, the efficacy of the community in controlling the risk, community resilience, acceptance of externally imposed risks and trust in government's ability to detect and regulate risk.

Key findings of the Blacktip SIA were that the project was generally welcomed by traditional owners and other community members as holding the promise of establishing an economic base for the region. There were high hopes for contracting, employment and training opportunities and aspirations to use royalty monies to buy vehicles, build up homelands and invest in ongoing income streams. The consultants felt some expectations were misinformed and possibly too high, given the short duration of the project's construction phase. Some people expected free gas and the chance to fill up gas bottles. Some of the issues raised:

- the community's isolation and inexperience of major infrastructure projects left it 'highly vulnerable to potential negative impacts' which may be partly addressed by isolating the construction workforce from the community;
- negative impacts on the environment and questions as to whether the proponent had capacity to respond and repair them, including pollution from condensate spills or ballast water being emptied into the ocean;
- damage to roads and road safety issues, including risks walking along roads at night and setting up camp who may not be seen by heavy vehicles;
- vandalism and theft of company property and fuel;
- the impacts of a non-local workforce on community relations, including liaisons with women, unauthorised access to country, two-way trafficking of drugs and alcohol;
- increase in alcohol-related incidents, fighting and increased domestic violence associated with the distribution of cash from compensation;
- concerns about gas explosions and the potential impact of cyclones;
- likely communication challenges because of language barriers and strong traditional authority structures, with their 'logic not always transparent to outsiders';
- low awareness and understanding of the project, which made it difficult to envisage some potential impacts.

The findings were used by Woodside to assess the significance of positive and negative impacts and develop appropriate management plans. Kernaghan (2008) provides insights into what, at that stage, was a relatively novel process for all involved. He notes that information on projects evolves which does not lend itself well to timebound environmental approvals.

As Kernaghan (2008) notes, social impact management is as much about long-term relationships as it is about developing the right strategies to manage potential impacts. "Strong relationships based on a good mutual understanding of each other's concerns, aspirations and ways of working and communicating helps avoid miscommunication about issues as they arise and make them easier to resolve when they inevitably do (p.291)."

ImpaxSIA (2004, 2004b); (Kernaghan, 2008)

13. The role of public participation

Public participation will be more effective and more likely to satisfy society's expectations, when it occurs at a stage when it has the potential to influence the nature, extent and other features of the use of land and its resources.

The Hon Justice Brian Preston, SC, 2014, p.12

13.1 Overview

The typical approach to engagement on major resource projects is that a company will identify a promising resource from previous exploration or geological maps. It will commission expensive technical studies to determine the feasibility of extracting the resource, potential markets, costs and benefits, talk to government about its plans, then seek approval to explore - either with physical drilling, seismic surveys or aerial mapping - to confirm the resource. Junior companies may come into existence based on finding a promising resource, hire staff and consultants and start the process of capital raising. Exploration applications are made public in obscure public notices, relevant land holders notified and given a chance to object, further technical and financial feasibility studies refine the project, more capital is raised and, should the resource look promising, a detailed notice of intent is submitted to the Northern Territory (and possibly the Australian) Government. This triggers the start of the environmental assessment process. Terms of Reference will be prepared and advertised, giving people a chance to comment. The company will engage consultants to prepare an Environmental Impact Study which can take months or years to complete. At this point, companies are generally required to detail their community consultation, who has been spoken to, what questions they asked, what responses were given.

Some companies may have consulted with the community from the start. For many, however, consultation is treated as a linear process that occurs only after millions of dollars and many years have been invested in consultants, capital raising, setting up offices and making announcements to the market. The stakes are now high. Consultation now comprises only feedback on decisions that have been made.

To explore on Aboriginal land, companies must seek permission, through the Territory's four land councils, which have statutory responsibility to represent the interests of traditional owners, ensure they provide 'free, prior and informed consent' and negotiate royalty or compensation payments. For Native Title land, which covers most pastoral leases in the Territory, companies will usually negotiate early. Once they lodge a Minerals Lease Application, they must negotiate native title benefits, through the land councils.

Companies are also required to obtain sacred site clearance certificates from the Aboriginal Areas Protection Authority (AAPA) for all ground disturbing works, which includes exploration tracks, drilling pads, project infrastructure and, ultimately, all areas covered by a mine's footprint.

While these processes provide protections for Aboriginal people's rights, project plans are still generally well-formed by the time consultation starts. Company intentions may have been announced months or even years before the land councils are able to identify the relevant native

title holders (which may require anthropological work) and start the prescribed process of consultation.

This is frustrating for both companies – many of whom would welcome the chance to sit under a tree with traditional owners to build relationships and understanding – and for Aboriginal people, who often exhibit anxiety and opposition to projects months before formal meetings. It creates uncertainty and risk for both sides.

Heightened awareness of environmental issues, distrust of government and industry, clashes over land use, strengthened environmental groups and growing Aboriginal aspirations to control development on their land are leading to pressures for change.

A public participation – or engagement – process that meets community expectations for consultation would provide early advice (at the screening and scoping stages) to companies about whether to proceed with expensive investments. It would give communities control over their lives and livelihoods. It would front-end load consultation to better inform decisions and ensure studies address the issues that the community cares about.

All recent reform documents have highlighted the importance of early and better engagement (New South Wales (NSW) Department of Planning and Environment, 2016 and 2017; Government of Canada, 2017; World Bank, 2017), recognising that people should have a say in matters that affect their lives, which in turn leads to better planning outcomes. Early participation allows identification of issues that matter to the community at a time when there is greater scope to address them.

The model below is from the Canadian Government's recent discussion paper on reforms to impact assessment and highlights the value of engagement starting well before formal assessment.

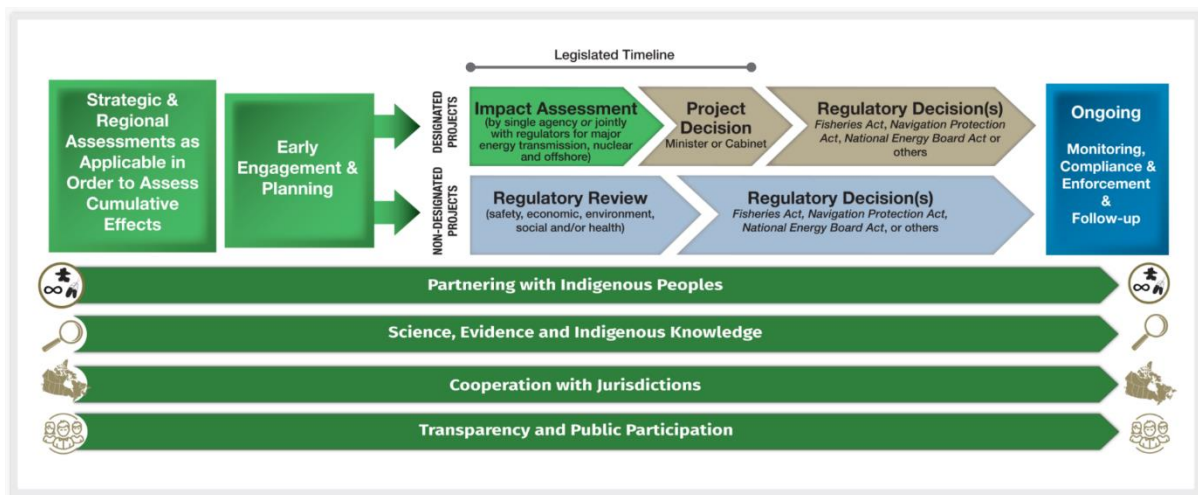


Fig 13-1: Canadian Government model of engagement and impact assessment

13.2 Social licence to operate

For the community, obtaining a regulatory licence is no longer sufficient, approval of mining projects also needs to also consider community expectations (Preston, 2014). A social licence to operate has been described as an unwritten social contract that complements a regulatory licence (Minerals Council of Australia, 2005), as a concept that is subjective, intangible and driven by context (Prno &

Slocombe, 2014), as difficult to measure (Jijelava & Vanclay, 2017), adopted by mining as a risk management (Owen & Kemp, 2010) or as a “metaphor for the ability of communities to stop mining projects” (Boutilier, Black & Thomson, 2012, p, 1).

The Hawke Inquiry into hydraulic fracturing in the Northern Territory (2014) found that a social licence to operate depended on a strong, properly resourced regulatory system. This needed to find a balance between protecting the environment, meeting community expectations and enhancing industry’s ability to operate effectively and efficiently.

13.3 Consent and information

Common themes in social impact assessment literature and regulatory reviews are the need for comprehensive, culturally appropriate information, interpreters (ImpaxSIA, 2004) and the importance of allowing appropriate time and resources to gain Free, Prior and Informed Consent (O’Faircheallaigh, 2009; Vanclay et al., 2015).

This raises the dilemma of providing information and managing expectations when the project is still at formative stages and may change. The very process of consultation may raise expectations. However, as Vanclay et al., suggest (2015), rumours and anxiety may cause negative impacts as well. Early consultation is critical in terms of understanding community aspirations and concerns, building relationships and mutual learning.

Cotton (2017) suggests this extends to participative justice, which means stakeholders and expert deliberation is given equal weight and heterogeneous stakeholders given the same rights. It is unethical to expose people to environmental risks without first obtaining free, informed, competent and autonomous consent, free of coercion, with access to relevant information concerning the risks and capability to understand it (Cotton, 2017).

13.4 Trust

A CSIRO study (Boughen et al., 2010) synthesised five reports on community attitudes towards seabed mining and exploration in Australia, including social impacts and stakeholder expectations.

The studies found that the community has reservations about the development of seabed exploration and mining in Australia, based on the potential environmental impacts and a desire to protect habitats and ecosystems and therefore indirectly their own lifestyles. Participants commented on the complexity of the marine ecology, the significance of the oceans in Australian culture and the right of future generations of Australians to enjoy the natural environment.

To the extent that mining activity is seen as meeting important needs and desires of the human population, stakeholders were willing to accept some trade-offs to existing lives and lifestyles, but wanted to see resources used to meet Australia’s needs rather than being exported. In order to endorse any trade-offs, stakeholders needed to feel confidence in regulatory systems, watchdogs, independent research and stakeholder consultation to ensure that their interests are protected.

Trust may be enhanced by:

- elevating the level of scientific knowledge about the marine environment;

- ensuring that comprehensive and impartial information about environmental, social and economic impacts of the industry is collected and made widely available;
- providing clear communication of the regulatory system governing the industry.

In relation to expectations of scientific research, respondents felt it should be:

- **comprehensive**, depends on the quality of baseline data on the marine environment so the full range of impacts on the complex marine environment could be identified, that the timeframe for monitoring should be ‘as long as it takes to produce sound, trustable results’;
- **representative** – small scale experiments would not provide a representative picture of the impacts associated with larger scale mining;
- **informed** – in an area with existing knowledge, don’t replicate work already done;
- **engaging** – community consultation and peer review;
- **cautious** – any conclusions should be based on the most conservative standards possible, with decisions based on ‘worst case’ scenarios.

13.5 Risks or issues assessment

Rather than the traditional risk assessment approach, qualitative social and cultural impact assessment is based on community perceptions. A New South Wales discussion paper on proposed regulatory reforms (Department of Planning and Environment, 2016) suggests an issues-based approach that starts with determining the community’s values, perceptions, aspirations and concerns. Preliminary significance assessment should have regard to:

- duration – when, over what period;
- extent – geographic (broad and localised), number of people potentially affected;
- sensitivity – social value placed on aspect by different potentially affected people or groups;
- severity – intensity, acute or chronic.

Early ‘community due diligence’ would give companies and regulators an early warning of likely community acceptance, the level of risk to the company, potential insights into alternatives and, most importantly, guide subsequent terms of reference and studies (see Mackenzie Valley Impact Review Board, 2007).

13.6 Regional or strategic assessments

For projects that change the dominant land uses or values or introduce an unfamiliar or feared industrial activity such as seabed mining, governments are increasingly commissioning strategic or regional assessments to guide normative policy on the type, scale and location of development before considering ad hoc project applications.

This expands community engagement to guide land use planning, allows for regional baseline studies that give all parties greater confidence in considering the scale and implications of resource exploitation and starts the process of building community understanding and input to key decision-making (Noble, 2016). It should also reduce risk and costs to individual proponents.

For an example, see the South African Government’s strategic assessment of potential shale gas exploration in the Karoo Basin, which included an in-depth economic, tourism and social impact assessments (Council for Scientific and Industrial Research, 2016).

14. Conclusion and recommendations

14.1 Conclusion

A fundamental issue covered by this report is that most of the area where seabed mining is prospective in the Northern Territory is Aboriginal land and seas.

For Aboriginal people, land is not an unexplored province of untapped riches. It is private – not empty - land (Morrison, 2015) where traditional owners are pushing for full control - if not over who comes knocking on their door - certainly who is welcomed across the hearth.

Where an investor in Perth, Brisbane or Sydney sees geological resources lying under featureless oceans and remote rivers on a map, Aboriginal people may see Songlines and Dreamings and country they call 'home'. These Songlines may be intangible and incomprehensible for 'whitefellas', but for Aboriginal people they are heart, soul and law that binds them to their ancestors, their kin, their country and the plants and animals that have sustained survival for tens of thousands of years.

To operate successfully in this context requires a heightened cultural sensitivity, an ability to understand (or understand that one doesn't begin to understand) another culture's worldviews and respect for Aboriginal rights and spiritual ties to their land and 'sea country'.

Aboriginal people are likely to have both practical concerns about physical disturbance and culturally-based anxieties and fears about the implications of project proposals, some of them in areas that have never experienced a major mining or infrastructure project. Any company wanting to exploit the natural resources of these regions will not get past first base without cultural respect and the informed consent of traditional owners.

So developers would be well-advised to confirm community acceptance – or do their 'people due diligence' - before engaging in capital raising, market announcements and feasibility studies. The foundations of this approach are relationships, trust and early and meaningful engagement with the traditional owners of the land and seas where they want to operate. Engagement may take time. It may require a process akin to slowly peeling back the layers of an onion to understand the complexities, values and belief systems underlying apparent positions or words on paper.

In fact, Aboriginal people increasingly are writing their own economic development strategies and defining their own agendas that balance economic development with cultural responsibilities for land and seas. They are demanding to be in the "wheelhouse of planning" (Morrison, 2017) and looking for their own development partners. Traditional owners operating in this paradigm look at outsiders not as owners, drivers and operators of projects but as potential financiers, partners and enablers.

14.2 Recommendations

The primary recommendation arising from this research paper is that regulation is not the answer to complex social and cultural issues. This goes against the lessons of modern policy-making, regulation that is 'responsive' to context (Drahos & Krygier, 2017, p.5) and governments that are responsive to the people, ensuring economic and social policies address their needs and aspirations (Magis & Shinn, 2009 p.10).

The answers lie in collaborative learning, dialogue, early identification of issues, proponents with the right attitudes and aptitude and giving impacted communities choice and control.

Government can play a key role in assessing whether companies have done this appropriately, been transparent, been responsive to issues raised, earned their social licence to operate and implemented the appropriate studies and management plans.

The second key recommendation is that the Northern Territory Government currently lacks the capacity and skills base to appropriately oversight, regulate or even understand whether companies are adequately addressing social and cultural impacts and, more importantly, how accountable they are in managing impacts post-approvals.

Decision-making needs to consider the biophysical, social, cultural and economic implications of projects, which requires an interdisciplinary approach to preparing assessments drawing from both the natural and the social sciences. This will not be addressed by multi-skilling environmental scientists but by establishing a capacity derived from the social sciences to challenge and champion more subjective epistemologies, or ways of knowing. It also requires a capacity within government that draws from both the social and natural sciences. As recommended by the Canadian Government, it means that for projects with likely substantial and complex impacts on people and communities, engagement and social studies should precede the formal assessment process.

If environmental assessment is to safeguard the unique public interest of the one-third of the Northern Territory's population that is Aboriginal, it also needs a cross-cultural competency that accommodates different worldviews, traditional knowledge and decision-making.

Governments can enable projects and reduce risk by conducting strategic or regional assessments to plan for competing land uses before industrial development and individual projects are given the green light to start exploring.

They can provide guidance to companies on how to operate in this complex environment and work with industry bodies, Aboriginal organisations and companies to find a balance between development and protection: not just of the ecological 'environment' but also of social and cultural values.

Finally, Governments can implement policy, guidelines and the necessary resources to ensure regulatory expectations are well-considered, clear, fit for purpose and managed by appropriately qualified staff.

The following recommendations address the life cycle of projects. Given that this review is based on a desktop study and there has been no consultation with stakeholders, the recommendations are tentative and should be the subject of consultation with all interested stakeholders.³

1. **Policy framework for social and cultural impact assessment:** A policy framework is needed that gives greater weight to 'human impacts' (health, cultural, social, economic and human rights) and provides more contemporary guidance to proponents, regulators and decision-makers (see Canadian reforms). Public policy is about selecting priorities from a multitude of competing interests and issues (Magis & Shinn, 2009) so 'environmental' regulations need to reflect what matters most to people, not just scientists, engineers and geologists. One of the basic principles of impact assessment is that it is 'interdisciplinary', drawing on experts in the biophysical and socioeconomic disciplines and use of traditional knowledge where relevant (International Association for Impact Assessment, 1999). Any new regulatory framework should explicitly acknowledge and respond to social and cultural matters and put in place appropriate capacity and a mandate to achieve this.
2. **Genuine consultation:** Consultation means to listen, and it is done best before technical studies are done and decisions made. For projects on Aboriginal land, with significant social and cultural impacts, this requires cooperation with land councils and perhaps specialised consultants, such as anthropologists, who can convey the sensitivities and perceptions of what may be intangible impacts as well as obvious physical or scientific ones. It may take time. It should incorporate a feedback loop so people can see how their feedback was incorporated into project design or decisions. Consultation needs to be proactive, identifying people who may be missed by mainstream methods. It should cover traditional owners as well as other Aboriginal and non-Aboriginal residents, businesses, organisations and interested parties.
3. **Transparency and accountability:** Public confidence and trust in the regulatory system (Boughen et al., 2010; Hawke, 2014) will be increased by early engagement as well as transparent processes, such as submissions being made public and progress reports on assessments (see New Zealand EPA website).
4. **Advice and guidance:** Companies contemplating seabed mining should be given advice and guidance on working in the sensitive cultural environment of the Northern Territory before applying to explore. Companies should be advised to ensure staff interacting with the public have the appropriate skills and aptitude. Three years of relationship-building by community relations staff can be undone by three minutes of rudeness or arrogance (Mapstone et al., 2017). Aboriginal people also appreciate continuity of personnel, with whom they can build relationships.

³ It is noted that the Northern and Central Land Councils' detailed submission to the Department of Environment and Natural Resources' regulatory review (Smith, 2017) discussion paper made many similar recommendations, including the importance of early and properly resourced consultation, land councils contributing to adequacy reviews, the EPA Board including members with an understanding of traditional knowledge and cultural impacts and perhaps an Aboriginal advisory committee. Further discussion is needed on the respective responsibilities and process for proponents and land councils to achieve this.

5. **Build early relationships and trust:** Relationships and trust should not depend on regulatory processes but start as soon as a project is proposed and continue for the life cycle of a project. Rather than waiting for the formal regulatory phase of a project, government (in consultation with land councils) may seek evidence of community engagement or social performance plans and ascertain the level of community acceptance of a project before granting exploration licences.
6. **Strategic/regional assessments:** The best way to avoid impacts is for government to prepare regional assessments to understand potential cumulative social, cultural, economic and environmental impacts. This will give the community a voice, inform planning and policy on the appropriate type and scale of development, act as an early warning system for likely issues, allow for 'whole of country' land and sea use planning (NAILSMA, 2017), reduce costs and risk for proponents and streamline subsequent individual project proposals. Studies should pay attention to the compatibility of proposed development with Aboriginal aspirations for development on their land and seas.
7. **Early screening of projects:** A process for early screening and scoping of key issues will a) give proponents earlier guidance on whether projects are likely to be acceptable; b) give communities more influence over projects that impact on their lives; and c) guide regulators about the scale of impact assessment. This will ensure suitable terms of reference and conditions that might be imposed. This could then determine a focussed and fit-for-purpose level of assessment. For development on Aboriginal land or development likely to have material or significant social and cultural impacts⁴, the screening and scoping could be done in conjunction with land councils or an advisory committee (see Canadian Impact Review Boards).
8. **Issues-based screening:** Screening of projects should be based on issues (to people) rather than risks, defined by the AS/NZS ISO 31000:2009 as "the effect of uncertainty on objectives" (2009, p.1). The significance of issues will depend on their duration, spatial extent, complexity, uncertainty and level of concern by people (the community may want to add other dimensions and discuss how these might be measured).
9. **Terms of reference:** Terms of reference for projects should be based on engagement with affected communities so they reflect the issues people are concerned about and are framed by the values of impacted communities, rather than a biophysical check list (NSW Department of Planning and Environment, 2017). Terms of reference should be appropriate to the issues identified and reflect traditional knowledge and lifestyles, where relevant. For example, the economic contribution of a regional and urban project may be assessed by market economy indicators such as number of jobs, GST, taxes or royalties likely to be paid. However, for traditional owners, more appropriate indicators may reflect a combination of

⁴ Smith (2017) makes the distinction between 'significant' and 'material'. Significant is defined by Australian Government guidelines as an impact "which is important, notable, or of consequence, having regard to its context or intensity" and depending on the "sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of impacts". Material impact "can be defined as more than negligible but less than significant".

customary and market economies and different perceptions about impacts on traditional land and seas and realistic expectations of likely jobs or benefits.

- 10. Studies** should be done by appropriately qualified engagement and social science consultants. For projects likely to have significant cultural and social impacts, this should be social scientists and may require ethnographic studies by anthropologists with the knowledge and relationships to understand the cultural complexities of the region. Studies should be peer reviewed (see New South Wales regulatory review recommendations).
- 11. Cultural impact studies:** Cultural impact assessments should be done where there are likely to be significant impacts on a community's culture (as defined in Sections 8 and 11 of this report), particularly for development on Aboriginal lands where impacts may be subtle, complex or intangible.
- 12. Resources:** Impacted communities should have the time and resources to understand, objectively assess and meaningfully respond to proposals. The concept of Free, Prior and Informed Consent should be respected for projects that impact on Aboriginal peoples.
- 13. Assessment:** Other jurisdictions have recognised the need for review boards and regulators to have the appropriate qualifications to review social and cultural assessments (NSW Department of Planning and Environment, 2017; McCormack, 2016). It is noted that the Environment Protection Authority has a focus on ecological sustainability and environmental management; its staff and Board's expertise is oriented towards biophysical impacts and its principles include 'science and evidence' underpinning decisions (NTEPA 2014-15 Annual Report and Strategic Plan 2016-2018). Responsive regulatory systems (Drahon, 2017) will also incorporate societal expectations and subjective approaches. Greater consideration of social and cultural impacts requires a government mandate and an appropriately qualified and resourced social assessment unit.
- 14. Management:** Mechanisms are needed to ensure accountability and transparency for ongoing management and performance of projects against their management plans and commitments made. Ideally, this should include a community reporting framework, depending on the level of impact and interest by the community.
- 15. Models that give Aboriginal people control:** Consultation for better models of impact assessment for projects on Aboriginal land should be driven by land councils and Aboriginal organisations. Initiatives by overseas regulatory agencies (in particular New Zealand and Canada) include:
 - a. a separate review board process for development on Aboriginal land by the Canadian First Nations-controlled review boards (see Mackenzie Valley Environmental Impact Review Board);
 - b. an Aboriginal Advisory Committee to the Environment Protection Authority, which can commission its own reports on projects seen as likely to have significant cultural impacts, similar to the *Nga Kaihautu Tikanga Taiao (Nga Kaihautu)* Maori Advisory Committee to the New Zealand Environmental Protection Authority;

- c. cultural Impact Assessment guidelines for projects likely to have a significant impact on Aboriginal land, seas and culture (Mackenzie Valley Impact Review Board, 2009); New Zealand Tangata Whenua Effects Assessment roadmap for cultural impact assessments (see New Zealand EPA website at www.epa.gov.nz).
16. **Independence:** A transparent and inclusive research process incorporating, where necessary, peer reviewed and independent reports by researchers with technical expertise but no commercial stake in the seabed mining industry (Boughen et al., 2010).
17. **Industry bodies:** Social impact assessment and community engagement should reflect best practice, as contained in the relevant professional guidelines and principles (Vanclay, 2003; Vanclay et al., 2015; International Association of Public Participation (IAP2) Core Values at www.iap2.org.au). Poor practice may discredit both projects and the specialist skills of practitioners. Of course, this recommendation should be tempered by a recognition that studies need to be practical and fit-for-purpose.

15. List of resources

15.1 Examples of qualitative social and cultural impact assessments:

- most were done outside the environmental approvals processes by inquiries (Fox, 1977; Stewart, 1991;)
- most were commissioned at a strategic stage by land councils (eg Faircheallaigh, 2010);
- most were in response to dissatisfaction with regulatory processes (Howitt & Jackson, 2000; Josif, 1988; Niblett, 1993);
- those conducted for formal regulatory processes appear to have received good cooperation from land councils in identifying traditional owners, setting terms of reference and providing interpreters (Hansen Bailey in 2015 where the Anindilyakwa Land Council brokered access to interviews; ImpaxSIA's social impact assessments for the Blacktip Project and Trans Territory Pipeline, 2004, 2004b);
- Banarra's social impact assessment for the Ranger Expansion Project (2015);
- in Canada, the Berger Inquiry (1977) and Petro-Canada's McKay River Expansion project, which included longitudinal research (van Dyke et al., 2005);
- studies done for seabed mining in New Zealand's Exclusive Economic Zone (see www.nz.epa.gov).

15.2 Guidelines and principles for social impact assessment

Social Impact Assessment: Guidance for assessing and managing the social impacts of projects, produced by the International Association for Impact Assessment (Vanclay, et al., 2015).

International Principles for Social Impact Assessment (Vanclay, 2003).

US Principles and Guidelines for social impact assessment in the USA (Interorganizational Committee on Principles and Guidelines for Social Impact Assessment, 2003).

Socio-Economic Impact Assessment Guidelines (Mackenzie Valley Environmental Impact Review Board, 2007).

15.3 Community engagement/public participation

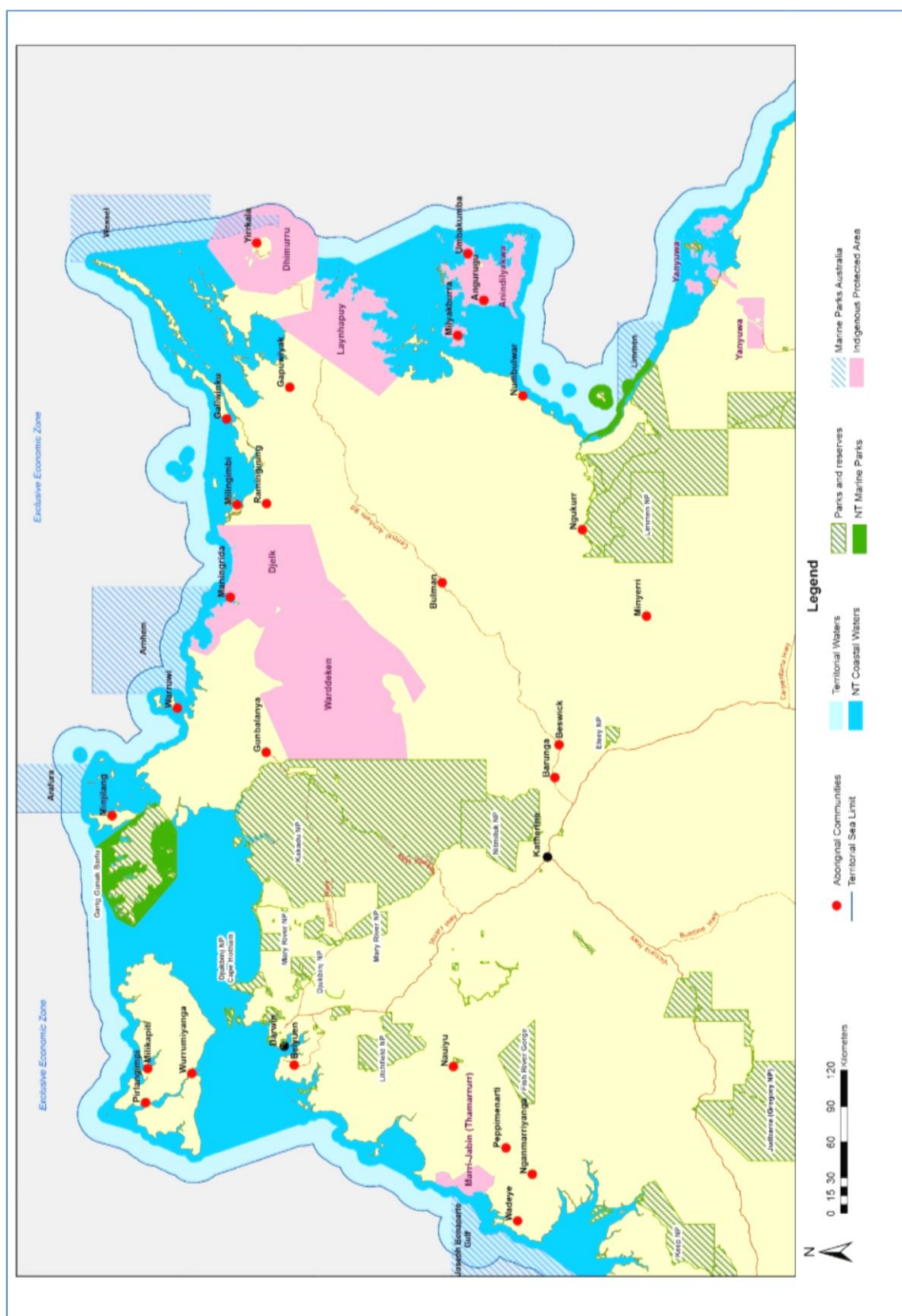
See the International Association for Impact Assessment (IAP2) website, including Core Values and Spectrum of Participation (www.iap2.org.au).

15.4 Cultural impact assessment

See a status report and background documents published by the Canadian Mackenzie Valley Impact Review Board (2009).

16. Map of study area

Fig 16-1: Map of area under study showing parks and Indigenous Protected Areas. Source – Department of Environment and Natural Resources, Northern Territory Government



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