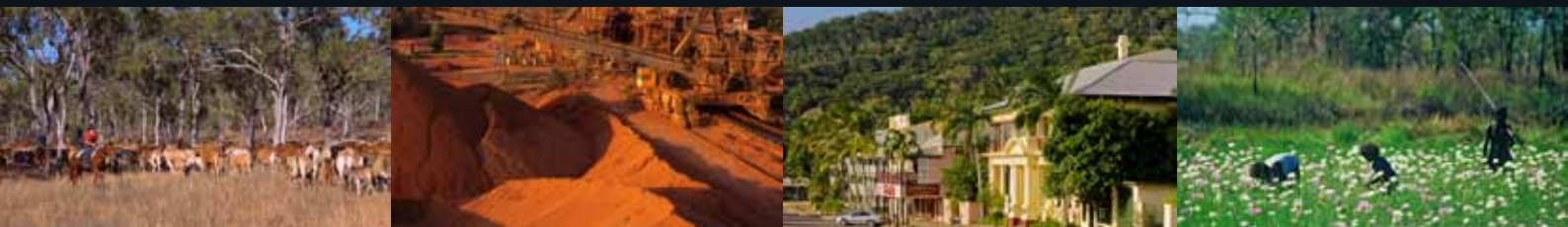




Submission to the Inquiry into the Development of northern Australia



2014
FEBRUARY



24 February 2014
Committee Secretary
Joint Select Committee on Northern Australia
PO Box 6021
Parliament House CANBERRA ACT 2600

By email: jscna@aph.gov.au
Submission to the Inquiry into the Development of northern Australia

Main cover photo: Wetlands - Gilbert River delta.

The Wilderness Society would also like to thank all of the photographers who contributed images for this report, including Kerry Trapnell (www.kerrytrapnell.com).



Submission to the Inquiry into the Development of northern Australia





Image courtesy of Kerry Trapnell

Contents

Overview

1. The extraordinary values of northern Australia

- 1.1 Cultural values and free, prior and informed consent.
- 1.2 Natural values
 - i. biodiversity
 - ii. key ecological processes
 - iii. tropical river systems.
 - iv. tropical woodlands and savanna

2. Major ecological threats

3. Unravelling the northern development myth

- 3.1 Mining
 - i. The mining boom & Indigenous employment
- 3.2 Industrial Scale Irrigated Agriculture
 - Case Study 1: The iFed 'mega farm' - The first cab off the rank 'food bowl' development
 - Case Study 2: The Ord Irrigation Scheme – Success or failure?
 - Major constraints to irrigated agriculture in northern Australia
 - Why do large irrigated agriculture projects fail
 - A better path to making Australia a 'food bowl' for Asia

4. Sustainable development options for northern Australia

5. Assessment of government proposals & alternative development models

- a. Coalition policy
- b. Labor policy
- c. Case studies in sustainable development
 - i. Tenure resolution in Cape York Peninsula
 - ii. Tourism in Cape York Peninsula
 - iii. Indigenous Carbon Farming
 - iv. Indigenous Protected Areas
 - v. Indigenous Homeland Development: The Chuulangun Aboriginal Corporation
 - vi. North Kimberley land and sea management

6. Recommendations

7. References

8. Appendix

Overview

Northern Australia is a vast landscape of extraordinary natural beauty. Managed for tens of thousands of years by Traditional Owners, the natural landscape plays an integral role in supporting Indigenous culture.

Northern Australia is not a wasteland waiting to be industrialised. It is home to a breathtaking mosaic of escarpment country, heathlands, tropical savanna, woodlands, rainforests, coastlines, wetlands, floodplains, mangroves and coral reefs.

The region contains no less than 25% of the world's remaining tropical savanna. This is by far the largest proportion of savanna habitat in the world and the only significant area of tropical savanna in an economically developed, politically stable country. Similar woodlands once covered parts of Africa, Asia and South America. Unfortunately, more than 70% of the world's tropical savanna has been lost forever¹.

This submission does not argue for

the future for northern Australia as a development free zone. Rather, that the bounties of the region should be used to drive sustainable economic development and employment at an equitable pace for both Indigenous and non-Indigenous Australians.

This submission will argue that large-scale industrial development, in particular big mining and irrigated agriculture projects, fail to deliver the kind of development northern Australia needs. Instead, these projects have a legacy of increasing the economic divide between Indigenous and non-Indigenous Australians. Historically, they have also resulted in environmental pollution and destruction, as well as being an unacceptable long-term drain on the public purse.

The dream of an irrigated agriculture, such as the Government's 'food bowl for Asia' proposal, does not stack up against science or economics. Furthermore, when you look at the long history of failed large-

scale irrigation projects, which were as expensive as they were environmentally destructive, it begins to look more like a hallucination.

Importantly, in looking at northern Australia's potential 'greenfield' sites for large-scale irrigated agriculture and mining, these sectors do not have a social license. These sites will face strong opposition from environmental NGOs, industries such as fishing and tourism and in many cases Traditional Owners who stand to lose significantly from widespread industrialisation.

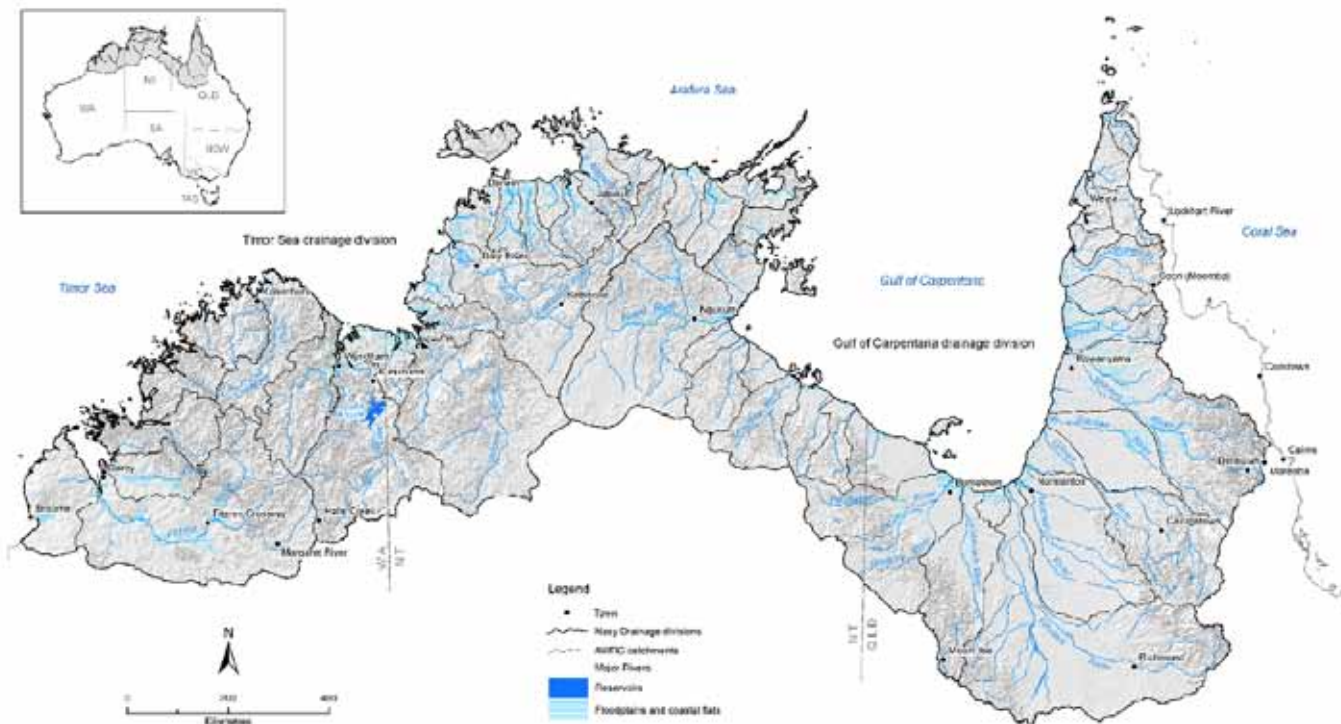
Developing a plan and attracting private and public sector investment into the existing agriculture industry will foster growth, increase productivity and create more efficient use of scarce resources. This is a no brainer. It's in the existing agricultural regions, not the 'greenfield' sites of northern Australia, that development should occur.

The last decade has seen a prolific increase in mining tenements and exploration leases across northern

¹ Woinarski. J et al 'The Nature of Northern Australia – Natural values, ecological processes and future prospects' ANU E Press, 2007. P.50



Egret, Gilbert River Delta. Wayne Lawler.



Australia. Approving even a proportion of these sites is not in the national interest. Projects need to be rigorously assessed against their impact on natural and cultural values and undergo a cost-benefit analysis of the impact on local communities and their economies.

Northern Australia contains over 25% of the nation's land area but only 5% of the population. It also ranks below the national average for every indicator of living standards. For Indigenous populations, these indicators are so low that addressing them is a national emergency.

A common argument is that mining brings wealth to these rural communities. But historically mining has been, at best, hit and miss when it comes to benefiting local and Indigenous communities. A growing body of research, led by The Northern Australia Hub of the

National Environmental Research Program (hosted by Charles Darwin University), has challenged the idea that mining helps these regions. In fact, their research finds that large industrial projects tend to not benefit local and Indigenous communities. Indeed, they often widen the development gap between Indigenous and non-Indigenous Australia, while also damaging other sectors such as education, tourism and fisheries.

Communities who do profit from mining and agriculture are the exception rather than the rule. New thinking is required to develop a diversified, robust and equitable economy especially tailored for communities in this region.

The Coalition's 2030 Vision for Developing Northern Australian outlines, in our view, some credible initiatives which harness rather than destroy the region's competitive

advantage. With one major exception: the focus on large water infrastructure projects to facilitate large growth in northern Australia's irrigated agriculture and mining sectors.

In this submission, the Wilderness Society points to the strong body of evidence that suggests that the industrial development model is redundant in northern Australia. We suggest an alternative development path for the region is required.

We urge the members of this Inquiry to approach their task with a clean slate. A lasting development solution for northern Australia will require lateral and creative thought, as well as a reliance on evidence and lessons from the past to act as a guide when making decisions about future development.

Northern Australia is not a wasteland waiting to be industrialised.

It is home to a breathtaking mosaic of escarpment country, heathlands, tropical savannah, woodlands, rainforests, coastlines, wetlands, floodplains, mangroves and coral reefs.

1. The extraordinary values of Northern Australia

Northern Australia is a unique, interconnected mosaic of savanna woodlands, wetlands, rivers and estuaries, rainforests, dune fields, islands and coral reefs. The region's many traditional cultures and languages reflect the incredible diversity of this environment and reveal a rich history of human interaction with nature.

1.1 Cultural values and free, prior and informed consent

With over 50,000 years of continuous settlement by Aboriginal peoples, northern Australia is a vibrant and ongoing testimony to the world's oldest living culture.

Indigenous cultural life remains rich, unique and strong. Daily life for many traditional custodians continues to be sustained from the abundant natural resources of their lands and by fulfilling traditional management obligations for their country. Indigenous people retain extensive and intimate knowledge of biodiversity and ecosystem processes. This means that the future of northern Australia is inextricably linked to the continuation of Indigenous culture and land management.

Figure 1 depicts the relatively high density of Indigenous nations in northern Australia. Today, Indigenous people make up 16% of the northern Australian population, compared with a national average of 2%. A large and increasing proportion of northern Australia (now over 20%) is owned, controlled and managed by Indigenous people, who feel a strong connection to their native land.

Indigenous cultural life remains rich, unique and strong. Daily life for many traditional custodians continues to be sustained from the abundant natural resources of their lands and by fulfilling traditional management obligations for their country. Indigenous people retain

Figure 1



extensive and intimate knowledge of biodiversity and ecosystem processes.

The natural values and landscapes of northern Australia have shaped Indigenous culture and land management practices for thousands of generations. The absence, or alteration, of these practices has contributed to some of the ecological problems now faced in the region. This is why Indigenous ecological knowledge must form a cornerstone in land-use and development decisions in northern Australia.

Consequently, the health of the region's ecosystems and landscapes is inextricably linked to the continuation of Indigenous cultural and land management practices. That's why there is a strong link between the desperate need to lift living standards and employment prospects of Indigenous people and the opportunity to enhance protection of natural and cultural values across northern Australia.

The rights of Indigenous communities to have a say about whether development occurs on their homelands

has been part of the national dialogue for the past 50 years.

This imperative has been further underlined by the Australian Government's decision in 2009 to belatedly ratify the United Nations Declaration of the Rights of Indigenous People. This brings to the fore the need by the government to develop protocols to ensure the full expression of free, prior and informed consent by Indigenous communities, as consistent with the declaration, before development takes place.

From a development perspective, the issue of free, prior and informed consent for Indigenous people was brought most recently into national prominence over the proposal to construct a Liquefied Natural Gas facility at James Price Point. The subsequent community debate within and between Traditional Owners, native title claimants and representative bodies over the right to oppose the development showed just how controversial these developments are.

Similarly, in a decade-long debate



Image courtesy of Kerry Trapnell

Northern Australia stands out as one of the largest natural areas remaining in Earth – alongside such global treasures as the Amazon rainforests, the boreal conifer forests of Alaska and Canada, and the polar wilderness of Antarctica.²

– The Nature of Northern Australia

about conservation on Indigenous land; particularly about the protection of wild rivers in Queensland, especially on Cape York. It involved contestation about the role of consent processes in conservation initiatives, and exposed deep divisions within Indigenous communities between those who supported wild river protections and those who did not.

As a result, it is argued here that any consideration of future development and conservation in northern Australia must be consistent with responsibilities to provide opportunities for Indigenous communities to exercise free, prior and informed consent. There have to be systems in place to ensure consent decisions are properly and systematically made.

2 Ibid. Back cover.
3 Ibid P.16.
4 Ibid P.16.
5 Ibid. P.16.

1.2 Natural Values

i. Biodiversity

Much of northern Australia is recognised as being of outstanding national or international significance. For example:

- North Kimberley, Einasleigh, West Arnhem and Desert Uplands are listed among the nation's 15 biodiversity hotspots.³
- Northern Australia contains the largest and most intact tropical shelf marine ecosystem on earth.
- Some of Australia's pre-eminent scientists confirmed that Cape York Peninsula has widespread World Heritage values in their April 2013 report, *The natural attributes for*

World Heritage nomination of Cape York Peninsula, Australia. Cape York Peninsula supports staggering biodiversity in its own right including, 3,000 plant species (at least 260 endemic), half of Australia's birds species, one third of our mammal species and a quarter of our reptile and frog species.

- The Kimberley supports about 2,000 species of native plants, around 300 of which are endemic.⁴
- Northern Australia is home to 40% of Australia's reptile species and 75% of our freshwater fish species.⁵

ii. Key ecological processes

Understanding the impacts of any land-use requires knowledge of natural and



Fitzroy River in flood.

cultural values, as well as the delicate ecosystems of the region. Without this understanding, many decision-makers fall into the trap of thinking that even a major development will only have a small, localised impact in a vast, largely intact region. But the interconnectivity of the landscape is a key feature of the region.

A change of flows to spring water to a section of a northern river may immediately affect the feeding habitat of Pig-Nosed Turtles at the site of the springs. A month later it may have an impact on the breeding success of Barramundi and Magpie Geese tens of thousands of kilometres downstream. It may change the success of prawn fisheries off the estuary and affect the fruiting seasonality or success in the coming year of rainforest trees along the river, in turn affecting a colony of Black Fruit bats currently feeding hundreds of kilometres away at another food source.⁶

Highly interrelated and complex ecological processes structure the distinctive way the North works as a

whole ecological system. They connect and drive every aspect of nature in the region.⁷

If these processes are altered or degraded, individual pieces of nature change or disappear. These changes may be predictable and immediate, or they may be subtle, unpredictable and delayed.

The key ecological interdependencies in northern Australia are:

- **How nature has adapted to the wet and dry seasons.** Four months of flooding rains are followed by eight months of effective drought, where evaporation far exceeds precipitation. This impacts upon the behaviour and reproduction of plants and animals. The size, length, and timing of annual wet seasons are highly unreliable and can vary dramatically between sub-regions across northern Australia.
- **The interdependence between fire and vegetation.** Fire any time of year is integral to the survival of vegetation types across the region and is necessary for ecosystem

diversity. Aboriginal fire management has shaped many parts of northern Australia. This has meant that plants and animals have developed complex and specific requirements from fire. Over the last 100 years, traditional fire management has been disrupted, with larger, less frequent but more intense fires occurring late in the dry season, with serious ramifications for flora and fauna.

- **Land-sea connections.** Northern Australia has a long coastline and marine influences reach far upstream in the large tidal rivers. In these blurred boundaries, mangrove forests are extensive, diverse and productive. They have significant linkages with marine and terrestrial systems, perhaps most notably as key breeding areas for many important fish species. Mangroves also provide the primary habitat for a range of plants, invertebrates and reptiles, such as the mangrove snake and mangrove monitors, as well as numerous species of birds. Shorebirds, seabirds, many fish, crocodiles, marine turtles and many other species depend upon the

⁶ Ibid P.30.

⁷ Ibid.

UNDRIP and free, prior and informed consent

The UN Declaration on the Rights of Indigenous Peoples and other international instruments provide a guide to standards that nations need to apply and by which they can measure their own policies.

The Australian Government ratified the Declaration in 2009. Two articles of the UN Declaration on the Rights of Indigenous People are directly relevant to the issues surrounding conservation and development, which directly arise from disputes such as that which has accompanied wild rivers and the James Price Point development:

Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for Indigenous peoples for such conservation and protection, without discrimination. (Article 29)

Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources. States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources. (Article 32)

The Declaration is clear that these Indigenous rights sit within the broader human rights framework and in relation to the civil and political rights of others:

The exercise of the rights set forth in this Declaration shall be subject only to such limitations as are determined by law and in accordance with international human rights obligations. Any such limitations

shall be non-discriminatory and strictly necessary solely for the purpose of securing due recognition and respect for the rights and freedoms of others and for meeting the just and most compelling requirements of a democratic society. (Article 46)

In response, the Wilderness Society's policy is to seek conservation outcomes that are consistent with Aboriginal rights, as recognised under Australian Law. We consider that law reform with respect to recognition of Indigenous rights is, and should be, ongoing through the political and judicial process and through an ongoing process of building community support and consensus.

We therefore support review and reform of the Native Title Act 1993 at the Commonwealth level to more fully embrace the concept of free, prior and informed consent for conservation and development purposes. This principle would apply across the board – to mining, agriculture, and other development as well as environmental protection.

In parallel, the Federal Parliament should take up the important matters of adopting the UN Declaration on the Rights of Indigenous Peoples; national consistency in the recognition and exercise of Indigenous rights; and Native Title Act 1993 reform.

Any substantive changes adopted by the Federal Government in this arena, will then flow through automatically to land and native title administration across all jurisdictions and relevant policy initiatives. The principles and practices of consent and Indigenous rights would then operate across the gamut of public policy areas, and apply to all activities affecting Indigenous lands and rivers.

A review of these matters has been supported by the current Social Justice Commissioner, Mick Gooda, who has also called for 'an independent inquiry

to review the operation of the native title system and explore options for native title law reform, with a view to aligning the system with international human rights standards.'

In 2010 the then Opposition Leader, Tony Abbott attempted to pass through the Environmental Management (Wild Rivers) Bill 2011 in support of the expression of free, prior and informed consent.

In particular, section 5 of this Bill sought to ensure that 'the development or use of Aboriginal land in a wild river area cannot be regulated under the relevant Queensland legislation unless the owner agrees in writing.'

Mr Abbott and others, including Senator Brandis, claimed the Bill represented an embrace of the concept of free, prior and informed consent following the decision of the Australian Government in 2009 to become a signatory to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

This was a major development in the debate that moved beyond a critique from a Native Title Act perspective. The national debate surrounding the possible development of northern Australia provides a timely opportunity for the Prime Minister and the Australian Government to build on the 2010 proposal to more completely recognise the application of the principles of free, prior and informed consent to development proposals as well as conservation measures.

This is especially timely since a national discussion about the implementation of the principles of free, prior and informed consent for Indigenous people consistent with the UNDRIP on matters in respect to both conservation protection and development proposals would be welcomed and supported by the Wilderness Society and most Australians.

coastal frontier and/or need to move between land and sea. Extensive floodplains in the near-coastal lowlands adjacent to some of the largest northern rivers form some of Australia's largest and most diverse wetlands.

- **Evolutionary processes.** Connections and refuges across landscapes allow for long-term changes in the range of species, the genetic flow within species across this range, and the evolution of new species. For example, during the colder, drier times of the repeated Ice Ages, refuge areas of tropical rainforest survived on Cape York Peninsula. The rainforest expanded out of these areas during warmer, wetter times, and may contract again in the future. Destruction or fragmentation of refuge areas could prevent such processes happening in the future.

- **Strongly interactive species.** Some individual species have a disproportionately major impact on the community of species in which they live, with this influence working across a range of scales. Decline or loss of such species is likely to have impacts that percolate widely across the landscape. Such species include:

- major predators (such as dingoes and green tree ants) which may control the relative abundance of prey species (and hence the structure of plant communities) on which they depend
- animal species (such as flying-foxes, pigeons and fruit-doves) critical for the dispersal of the fruits or seeds of plants
- species that change the dynamics or structure of habitats (such as some termites, which are vital for the formation of the tree hollows used by many other animals)



Magpie Goose – Gilbert River

- ‘keystone’ species that provide resources for many species, particularly at times when few other resources are available (such as some figs, and cockatoo grass).

iii. Tropical river ecosystems

Northern Australia contains 55 river systems that haven't suffered significant changes to their flow or catchments. In fact, this region has the highest density of continuous intact tropical river ecosystems left on the planet. Combined, these rivers extend over one million kilometres and carry approximately two thirds of Australia's freshwater. This statistic hides the fact that for much of the year this region is characterised by water scarcity. The flooding wet seasons and hot dry seasons mean these rivers have the most variable flow regimes on earth.⁸

In the northern tropical region of Australia, the majority of the rivers remain pristine and unmodified, with natural flows. This makes them significant both nationally and

internationally. Freshwater ecosystems in the region are highly ecologically, socially and culturally valuable. They support significantly higher biodiversity than temperate rivers, with a rich and unique array of species. This includes more than 75% of Australia's freshwater fish diversity.

Wetlands in the region are also an important stop-off point for many migratory birds. For example, the 353,400ha wetlands in the lower Daly River floodplain and estuary satisfy waterbird-specific criteria for RAMSAR listing and provide habitat for 22 species of migratory birds listed under Commonwealth legislation. Extensive wetland systems occur across the floodplain, with large areas supporting flooded savannas.

Freshwater ecosystems underpin the ecological health of the region. This is achieved through: atmospheric and climate control, water purification, maintenance of soil structure and fertility, disease control, and the control of invasive species.

These ecosystems are also culturally

⁸ Cresswell, R. et al. in Northern Australia Land and Water Science Review 2009 1–40 (CSIRO, 2009). P.3.
⁹ Stein. J Commonwealth Government's Wild River Project.



Image courtesy of Kerry Trapnell

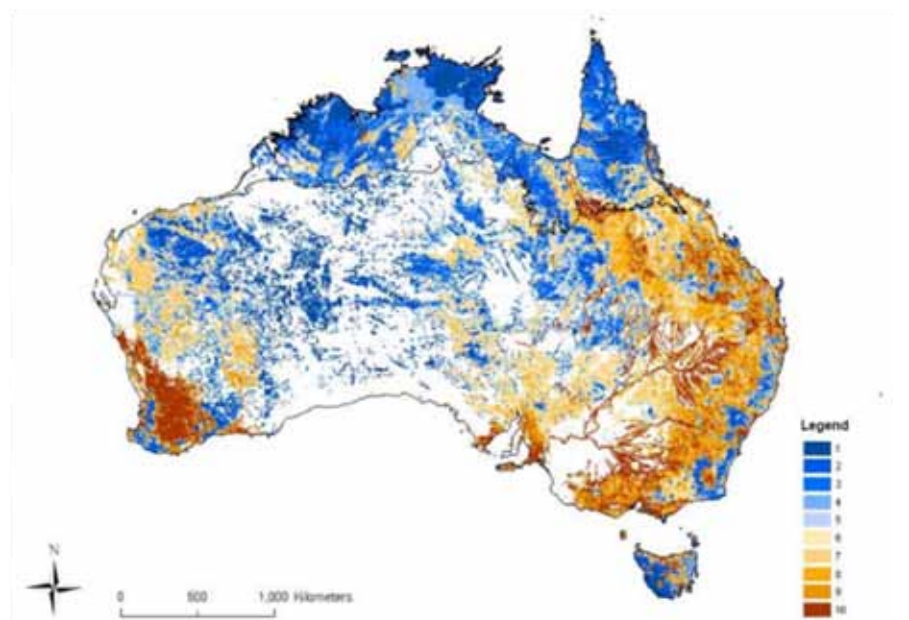
significant for Indigenous communities. Rivers and wetlands, created during the Dreamtime are part of the living cultural landscape. These freshwater ecosystems provide essential goods, such as food and fibre. Indigenous communities also utilise the aquatic ecosystems for the customary harvest of wildlife and plants.

Figure 2 is the National River Disturbance Index.⁹ Dark blue indicates the least disturbed river ecosystems and dark brown indicates catchments that have been highly altered and disturbed by dams, water impoundments, diversion, land clearing and degradation of catchment vegetation cover.

The map clearly indicates that a high proportion of Australia's free flowing and undisturbed river catchments are in northern Australia.

The river systems and associated wetlands and floodplains, which appear in the wet season and then dry up in the dry season, form perhaps the most important ecological

Figure 2



characteristic of northern Australia. The floodplains, which proliferate around the river systems each wet season, are so important that in 2013 the Humane Society International, supported by the Wilderness Society

and the Environment Centre Northern Territory, nominated the tropical floodplains of northern Australia for inclusion on the list of threatened ecological communities under the Environment Protection and

Figure 4

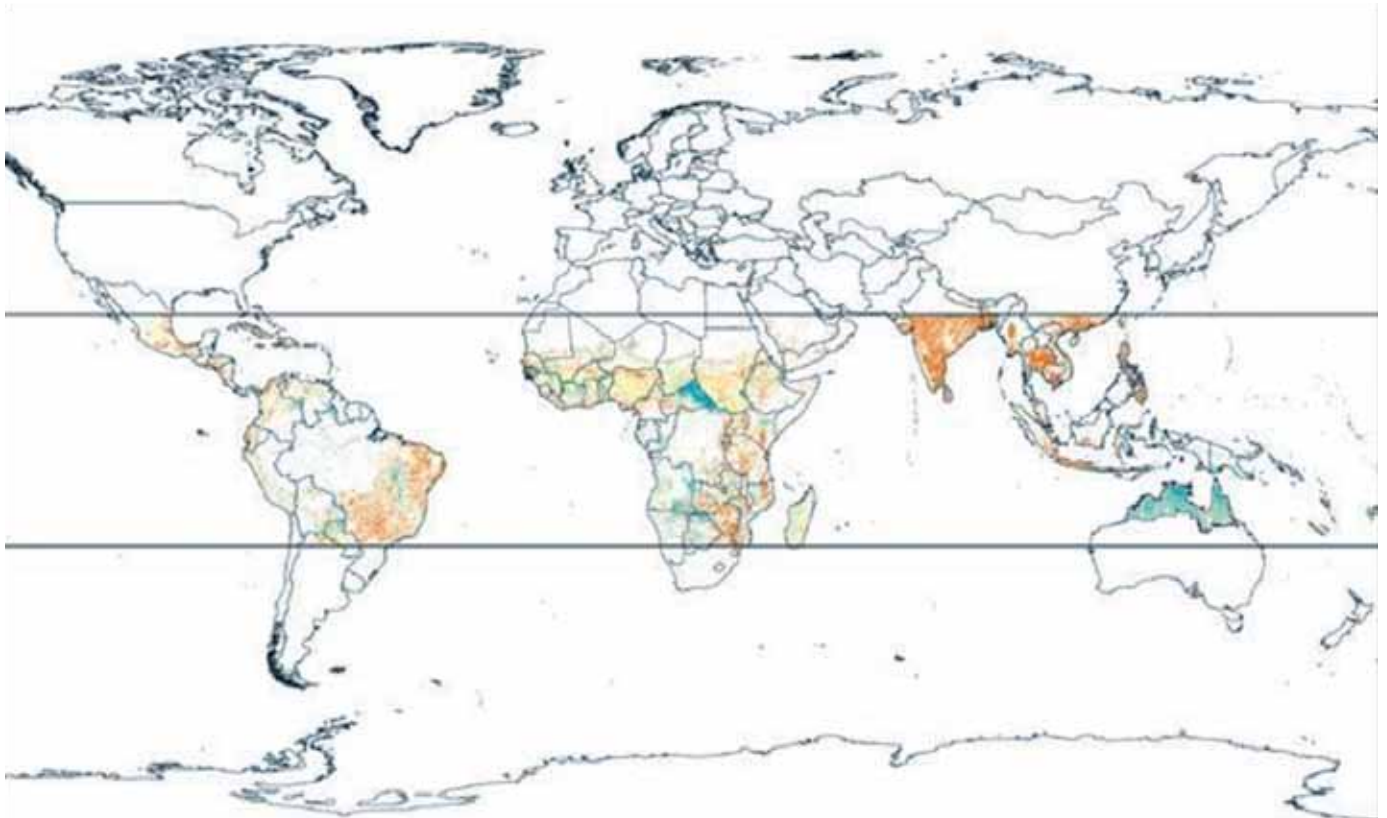
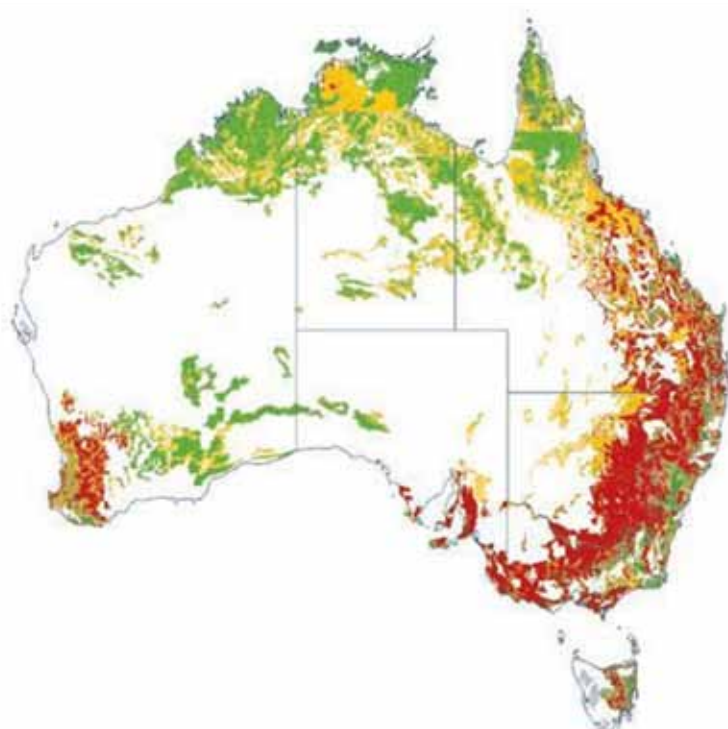


Figure 3



Biodiversity Conservation Act 1999 (EPBC Act).¹⁰

The nominated wetlands make up an extraordinary collection of 36 wetlands from the western end of Cape York Peninsula to the east Kimberley. These wetlands include the Kakadu wetlands, already recognised as having international significance through World Heritage and RAMSAR listing, and the Southern Gulf Aggregation, where several southern Gulf Country rivers combine in the wet season to form a vast two million hectare wetland.

iv. Tropical woodlands and savanna

Figure 3 is the National Woodland Health Index.¹¹ Green indicates 'residual' woodland (the most intact and healthiest woodland ecosystems), yellow represents 'modified' systems, and red indicates 'replaced' woodland



Anabranch – Mitchell River, Cape York Peninsula.

Tropical savanna landscapes once covered about 12% of the global landmass. Tragically about 70% of this vegetation type has been cleared, the bulk of it since 1950.

ecosystems. More than 80% of the temperate and subtropical woodlands have been cleared for intensive land-uses, or heavily modified by intensive grazing and other land-uses. Clearly by far the highest amount of healthy, unmodified woodland ecosystems exist in northern Australia.

Figure 4 is an index of Global Savanna Woodland Health in the Tropical Zone (the zone between the Tropics of Cancer and Capricorn indicated on the map by the horizontal lines).¹² Blue indicates the most intact and healthiest

woodland ecosystems while brown indicates the most cleared, altered and fragmented woodland ecosystems.

Tropical savanna landscapes once covered about 12% (16.1 million km²) of the global landmass. Tragically about 70% of this vegetation type has been cleared, the bulk of it since 1950. Tropical savanna habitats across the world, notably sub-Saharan Africa, South America south of the Amazon and the Indian sub-continent, have all been heavily cleared and degraded

in this time. Northern Australia is the largest remaining home for this vegetation type. Australia has about 25% of the world's remaining savanna (no other country has more than 9%), and it is the only significant area in a wealthy, politically stable country. In comparison, Australia's famous tropical rainforests only contribute 1% to the global area of this vegetation type.¹³

10 Quartermaine. E 'Tropical freshwater floodplains of northern Australia' nomination for inclusion on the list of threatened ecological communities under the EPBC Act (1999), Humane Society International, March 2013.

11 Woinarski. J et al op cit P.53

12 Ibid P.50

13 Ibid P.50

2. Major ecological threats

Northern Australia is a vast and relatively intact landscape that often leads to a misguided perception that some of the region can be sacrificed to industrial development with only minor or localised impacts. This is wrong. Northern Australia it is also a very delicate landscape - its biodiversity and ecological processes are fragile and finely balanced.

For example, something as basic as changed fire regimes and management, or the introduction of invasive plants and animals has resulted in a dramatic reduction in mammal numbers across northern Australia. There is also a growing trend in bird species decline.

All this has occurred in the past 40 years.

Elemental to developing northern Australia is harnessing the water out of the region's river systems. However, the ecosystem in northern Australia is so delicate that, under some large-scale development scenarios, this could have a devastating effect.

The region is already facing a number of environmental threats:

1. Invasive species. Hoofed animals including: swamp buffalo, pigs, goats, camels and donkeys trample and destroy wetland and riparian vegetation. This leads to an increase

in erosion and sedimentation.

Weeds also pose a major threat to freshwater ecosystems. Aquatic weeds have invaded extensive areas of the region. Over half of Australia's most destructive invasive weeds are found in the North. These include Rubbervine, Mimosa and Pond Apple.

2. Climate Change. Climate change will lead to even more variable weather with an increase in the severity (and possibly the frequency) of extreme rainfall events and cyclones. Shorter but more intense flood events will cause erosion and sedimentation, reduce aquifer recharge, increase evaporation and disrupt natural



Bauxite mining – Cape York Peninsula.



Proposed location of the Diamond Gorge Dam, Fitzroy River catchment, Kimberley region.

Over-extraction, dam construction and regulation have severely disrupted ecosystem processes that operate in northern Australia.

wetland ecosystem function. Sea level rise will also impact freshwater systems by inundating coastal freshwater wetlands. Changes in rainfall will impact on the frequency, intensity, scale and timing of fire, altering ecosystem function with dire impacts on flora and fauna.

3. Land Clearing, fragmentation and degradation. Across the continent significant areas of riparian vegetation and wetlands are at risk of land clearing for agriculture and urban development. Lowland rainforest, native grasslands, coastal sclerophyll forests and freshwater wetlands have been cleared for conversion. Pastoralism has had a major impact on the landscape. There has been a widespread modification of wetlands for grazing, which is likely to have reduced the range of wetland habitats.

4. Pollution and increased nutrient load. Run off of from fertilisers,



pesticides, metals and mine waste, sewage, and storm water have impacted water quality.

5. Water resource development. Over-extraction, dam construction and regulation have severely disrupted ecosystem processes that operate in

northern Australia. The impacts of large water infrastructure development is described in Chapter 3.

3. Unravelling the northern development myth

The scarcity of water, harsh climate and poor soils have no doubt restricted development in northern Australia. It has also played a factor in the lack of diversity in the region's economy. This is demonstrated by the fact that 25% of all employment is public sector employment - predominantly defense and government administration, health and education.

A diverse economy is more resilient and will attract greater investment and confidence. Economies dominated by one or two industries suffer from a boom or bust cycle. These 'busts' can be avoided with a more diverse range of investment and industries.

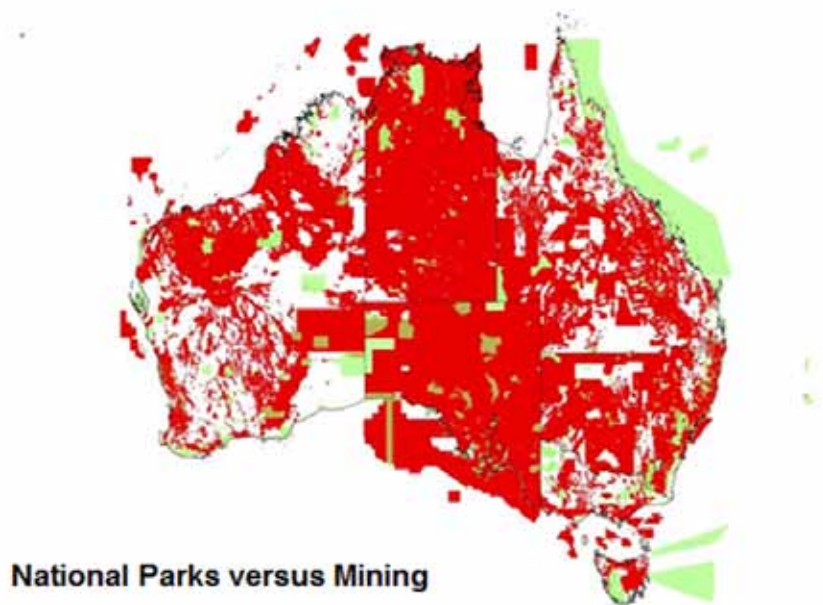
Decision-makers from both sides of politics at the State, Territory and Federal level have often spoken of large-scale industrial developments in northern Australia. These developments would harness the region's large wet season water resources for extensive mining and irrigated agriculture development. This is presented as the panacea for lifting living standards for the region.

This chapter aims dispel this myth in the hope that this Inquiry will focus its attention on more successful and environmentally sustainable paths to growth.

3.1 Mining

Figure 5 describes all current mining tenures, including tenements and exploration leases (in red) and protected areas, National Parks and World Heritage Areas (in green).¹⁴ This clearly indicates that the mining sector has priority access to the vast majority of the continent and renders ludicrous any argument that too much is 'locked

Figure 5



up' in conservation tenures. It also points to an expectation that mining will be the dominant industry and economic development driver in rural and remote Australia.

But this is not the case. Instead of creating a local labour market that is skilled, the mining sector employment creates two pools of labour, one small and local, the other Fly In Fly Out (FIFO). These two pools remain isolated from each other. This trend makes it difficult to mobilise and integrate local people into the economy and connect communities with markets.¹⁵

The Regional Australia Institute's report, *Rethinking the Future of Northern Australia's Regions* highlights that northern Australia has a highly competitive workforce relating to the resources sector - a largely FIFO labour force that does not lead to the development of a strong local labour market.¹⁶ This is because the workers'

education, training, research and development occurs outside the region and the workers leave the region when their job is done.

There is also little evidence of a correlation between mining employment and innovation in northern Australia. Research and development activities related to mining are being undertaken outside the region.¹⁷

The FIFO workforce does not invest either in infrastructure or socially in the regions they work in. This will worsen as the mining sector moves from the construction into the operational phase, particularly if there is a drop in commodity prices.

If this disparity between local and FIFO workforces is not addressed, it will trigger a spiral of poor economic and development outcomes. The Regional Australia Institute stated:

The inability to attract employment

14 The Wilderness Society, generated image, January 2014. Contact the author.

15 Ibid.

16 Regional Australia Institute Report *'Rethinking the future of northern Australia's regions – More than mines, dams and development dreams'* Regional Research Report, November 2013. P.42.

17 Ibid P.43.



Image courtesy of Kerry Trapnell

Sandmining – Cape York Peninsula.

There is little evidence of a correlation between mining employment and innovation in northern Australia.

to comparatively lower paying opportunities in the community sector results in significant challenges in the delivery of even a basic level of service to the community itself. This makes it difficult for FIFO workers to justify relocating their families to such communities. Without these people, it could be inferred that it becomes increasingly difficult to justify schools for example, as there may be no teachers and a very limited number of students.¹⁸

As a result of the persistently high Australian dollar, there is substantial and negative impact on other sectors of the economy such as tourism, education, manufacturing and agriculture. Northern Australia, with a significant reliance on the agriculture, tourism and the education sectors, especially in Cairns, Darwin and

Townsville, has not been immune to this national trend. Exports in tourism, education, transport and government services are the top four industries in monetary value. Tourism and education contribute more than 65% of the region's total service exports, so any impact on these industries will have substantial ramifications for the northern Australia economy.¹⁹

A report by the Australia Institute outlined that, 'The mining boom continues to drive international tourists away from Cairns and Far North Queensland on the back of the high Australia dollar.' International tourist numbers slumped from 868,303 to 648,959 over the five years. At the same time manufacturing jobs in Queensland fell by 6.5% in 2011 alone.²⁰

While we have all heard stories about truck driving jobs earning big dollars, the reality for the 99% of Queenslanders who don't work in the mining industry is high housing costs, higher mortgage interest rates and fewer jobs in tourism, manufacturing and agriculture. It is ironic that while UNESCO is in Cairns inspecting the Great Barrier Reef for damage, the coal miners could destroy the tourism industry even if they stopped harming the beauty of the natural environment. Every new mine means a higher Australia dollar, and the higher the dollar, the fewer the tourists.²¹

Taking into account these costs on other sectors in the regional economy, one would expect that mining would deliver as a major employer in these regions. It doesn't. In 2006 according

18 Ibid P.61.

19 Ibid P.65.

20 Australia Institute, Media Release March 12, 2012.

21 Ibid.



Image courtesy of Kerry Trapnell

to the ABS Census, 4.1 million people were employed in regional Australia. Dominated strongly by five industries: retail (436,400), health care and social assistance (461,500), construction (395,800) manufacturing (347,400) agriculture, forestry and fishing (331,500), mining doesn't even register.

3.1.1 The mining boom and Indigenous employment

There is the argument that the mining sector presents a historic opportunity to lift Indigenous employment. This has been a favourite of the mining sector and other pro-mining advocates, including Indigenous leaders such as Professor Marcia Langton, who spoke on the subject in her 2012 Boyer Lectures titled, *The Quiet Revolution: Indigenous People and the Resources Boom*.

This assertion is not supported by the data. There are opportunities for Indigenous employment in the mining sector, but they are limited. The sector also widens the development

gap between Indigenous and non-Indigenous Australians.

Figure 6 shows changes in Indigenous employment between 2002 and 2006, using ABS data from the 2002 and 2006 Census. Despite the fact that this period saw the mining boom accelerate with significant sector growth, increases in Indigenous employment was minimal. In 2006, Indigenous employment in mining was 2.3% compared with manufacturing (7.42%), health (14.37%) and education (8.28%).

This is despite the fact that in 2004, 60% of mining operations were occurring in Indigenous land.²² Given the expected gradual slowdown in the mining sector, it is unlikely to result in the increase in Indigenous employment.

3.2 Industrial scale irrigated agriculture

The current Federal Government has

set an ambitious target for large-scale irrigated agriculture to try and convert northern Australia into the food bowl for Asia.

A report in *The Australian Newspaper*, on 17 September 2011, titled Dam network to be built – Abbott's plan for northern food bowl stated, 'The coalition is developing an ambitious plan to double Australia's agricultural production by the middle of the century through a network of new dams in the Top End, which would open up millions of hectares of under-utilised land to food production.'²³

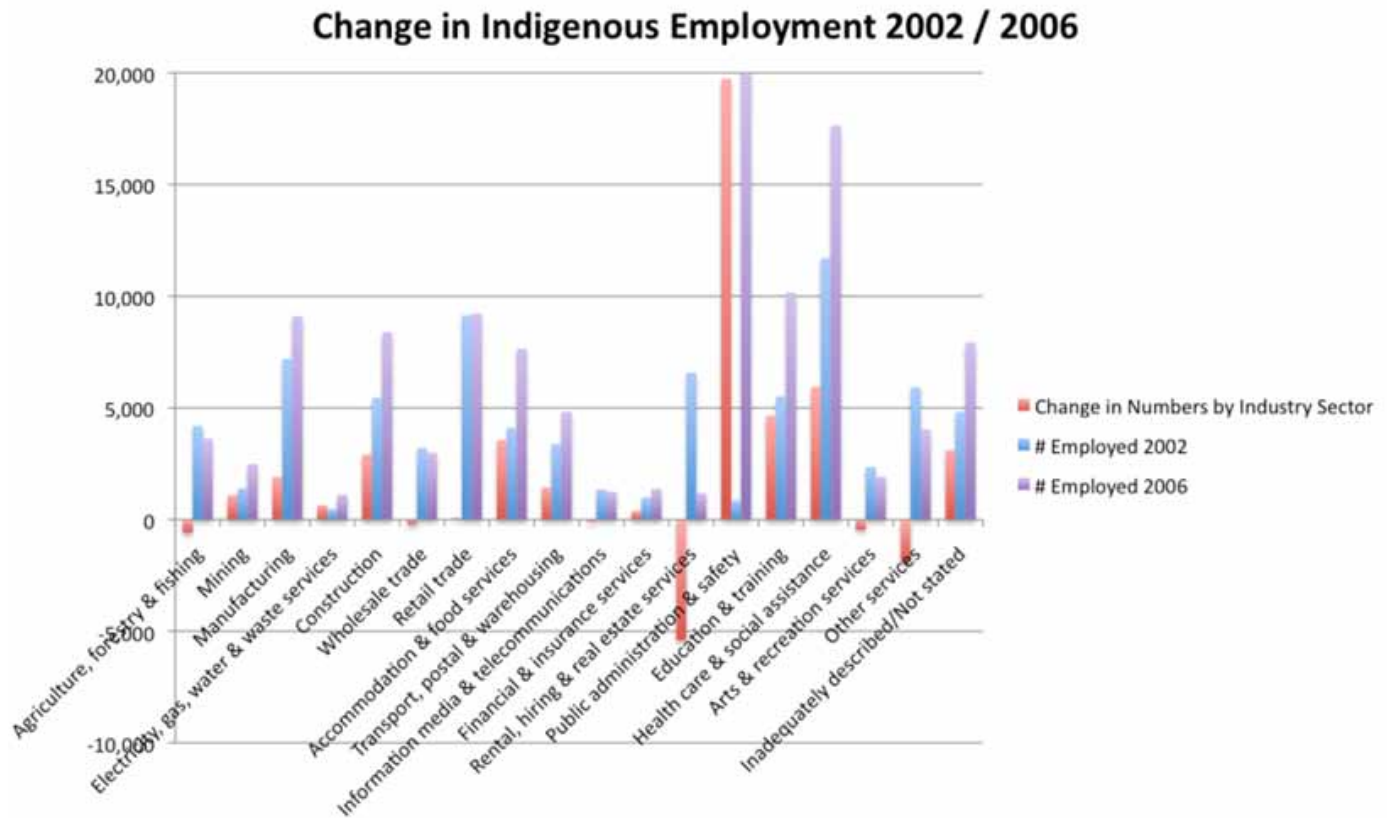
The Coalition established a Northern Australia Dams Taskforce, consisting of several members of parliament including: Andrew Robb, Bill Heffernan, Simon Birmingham, Greg Hunt, Ian MacDonald and Barnaby Joyce. Despite several tours, public meetings and media fanfare throughout the region in 2012 and 2013, no completed findings or recommendations have been released.

The only document the public has

22 Minerals Council of Australia 'Indigenous Economic Development Strategy' 2004.

23 The Australian Newspaper 'Dam network to be built – Abbott's plan for northern foodbowl' 17 September 2011. P.7.

Figure 6



seen is a Draft Discussion Paper, Developing Northern Australia – A 2030 Vision from early 2013 outlining target development aspirations by 2013. It includes:

- Developing a food bowl including premium produce which could double Australia’s agricultural output.
- Tripling resource exports, adding over \$100 billion to the economy.
- Establishing a significant Water Project Development Fund to support the advancement of meritorious proposals for water infrastructure across northern Australia, including dams and groundwater projects.²⁴

Unfortunately, these aspirations do not match the reality of the potential development options for northern Australia. It now appears the Northern Australia Dams Taskforce has been superseded by a White Paper process for the 2030 Vision for Developing Northern Australia and this Inquiry.

Going forward, the Wilderness Society believes it is essential that science and evidence, including learning lessons from the past, be used to guide decisions about major investment in agriculture in the region. To date this has not been the case. Development proposals and projects have been poorly conceived and planned, and the policy approach has been chaotic.

For instance, significant media commentary accompanied the 2012/13 northern tours by the Dams Taskforce. The then Shadow Finance Minister Robb cited the prospect of thousands of jobs and the capacity to double productive use across northern Australia from 2% to 4% of land area.

Mr. Robb cited CSIRO research which found five to seventeen million hectares of potentially suitable land. The figures came from the soil study in the 2009 Northern Australia Land and Water Taskforce’s final report, where soils were identified as potentially suitable for agriculture.

But, these figures are irrelevant on their own to determine suitable land for agricultural production. They did not consider water, climatic extremes and variability, the effects of extensive and prolonged flooding, and seasonal inaccessibility in whether the land was suitable for agriculture.

Once all those factors were taken into account, the Northern Australia Land and Water Taskforce found in 2009 that irrigated agriculture in the North could be expanded from 20,000ha to 60,000ha or less than the size of some farms in Australia.²⁵

Today that figure is about 25,000ha under irrigation. Nevertheless, an extra 40,000ha would add just 0.1% per cent to Australia’s farmed land. Though small, realising this potential is estimated to add up to 1,400 jobs and \$180 million to the regional economy.²⁶ Although this won’t make for newsworthy headlines, it is more realistic potential growth that can contribute to an overall development

24 Liberal Party ‘Developing Northern Australia – A 2030 Vision’ Draft Discussion Paper, 2013.

25 Ross, J et al ‘Sustainable Development of Northern Australia’, Northern Land and Water Taskforce, Department of Regional Australia, Arts and Sport, 2009

26 Ibid.

plan for northern Australia.

On top of the Dams Taskforce, State and Territory governments have been fostering ambitious plans. The West Australian, Northern Territory and Federal Governments signed an agreement last year to facilitate the expansion of the Ord River Irrigation Scheme stage 2 and a 15,000ha stage 3 expansion from Western Australia into the Northern Territory.

Then on 24 August 2013, *The West Australian* reported that the State Government was considering developing another 100,000ha of the Ord River Irrigation Area. This \$80 million plan would increase the capacity of Lake Argyle to more than 10-times the volume of Sydney Harbour.²⁷

The timing of this proposal was fortuitous for Kimberley Agricultural Investments, owned by Chinese construction giant Shanghai Zhongfu, who indicated a few days earlier that it would need to access substantially more land to make its sugar project viable.

To date, over \$310,000,000 of taxpayers funds have been sunk in expanding the Ord farming area by around 7,000ha. This is a massive investment of public funds in a small and highly risky venture, all now seemingly for the purpose of a Chinese property development company growing one of the world's most over-supplied commodities, sugarcane.

Jumping on the food bowl bandwagon, the Newman government has announced its intention to double Queensland's agricultural output by 2040 through large-scale irrigation developments. In March 2013, the Queensland government allocated another 95,000 megalitres out of

Flinders and Gilbert Rivers in the Gulf of Carpentaria for development and by 2014 Strathmore Station in the Gilbert catchment was clearing 30,000ha of native vegetation for agriculture, with an intent to clear a further 70,000ha.

The era of broad-scale land clearing in Queensland is back, made possible by the Newman government's amendments to the Queensland Native Vegetation Management Act which allow for clearing of remnant vegetation for 'high value' agriculture. In the case of Strathmore, 'high value' agriculture is dry land fodder cropping which CSIRO estimates will break even two or three years every decade.

Case Study 1: Development of Gulf Rivers and the Integrated Food and Energy Developments (iFED) project

It appears the Gulf rivers are the 'first cab off the rank' for the food bowl agenda. The Queensland and Federal Governments have been eagerly awaiting the release of a CSIRO Resource Assessments for the Gilbert and Flinders rivers. Released on 6 February 2014 these studies reveal that:

- Flinders River catchment – 10,000ha - 20,000ha is available for development utilising 350,000 megalitres of water in offstream dams.
- Gilbert River catchment – 20,000–30,000ha is available for development utilising up to 750,000 megalitres in two new instream dams. These dams will lose two-thirds of their water to evaporation and cost \$1 billion to build.²⁸

Key points from the study:

- The need for detailed biodiversity studies to be conducted before any development goes ahead. On the

basis that vegetation clearance could reduce regional plant diversity and have impacts on other flora and fauna.

- Further studies are required on the impacts of water extraction on the \$250 million Gulf fishing industry.
- All the water in those systems is currently being used. To divert any water for agriculture would have flow on effects for other users, including: the \$200 million Gulf fishing industry, the tourism industry, recreational users and the environment. Those trade offs have not been modelled and they need to be.
- Development is only likely to be commercially viable if someone else pays for water infrastructure and delivery. Even then, commercial returns will depend on consistent achievement of near potential yields – an ambitious target given the environmental challenges of cropping in the region.
- In dryland cropping (as is being proposed for Strathmore), break-even yields of most crops can only be achieved two to three years of every ten.
- Rainfall is difficult to capture and store. Only 13% of rainfall enters stream flow and due to evaporation, dams can only delivering between 25-30% of their total storage capacity to crops.
- Droughts are much more intense in the Gilbert catchment than in other agricultural areas of Australia making it a very risky proposition to farm.
- Environmental impacts:
 - Minor changes to flow regimes in rivers can impact biodiversity and aquatic productivity. Reductions

27 News article, *The West Australian* newspaper, 24, August, 2013.

28 CSIRO. 'Flinders and Gilbert Agricultural Resource Assessment – An overview report to the Australia government from the CSIRO Flinders and Gilbert agricultural resource assessment, part of the North Queensland Irrigated Agriculture Strategy' Australian Government Department of Infrastructure and Regional Development and the Office of Northern Australia, December 2013. Factsheet.



in floodplain inundation result in appreciable decreases in marine and aquatic productivity. Floods are economically critical because they underpin the health of Gulf fisheries – there is a strong positive relationship between streamflow and fishery catches;

- Both dam sites in the Gilbert catchment contain vegetation communities that are ‘of concern’. The water holes, which feed the Gilbert River and make up the greater Gilbert catchment are particularly sensitive to changes in water quality;
- Wetlands dominate a high proportion of the coastal floodplains of the Gilbert catchment and are recognised in the national Directory of Important Wetlands.
- The risk of blue-green algal blooms varies from moderate to very high.²⁹

The iFED Project

On 24 December 2013, the Newman Queensland government was quick

to give ‘Coordinated Project’ status to iFED’s proposed huge integrated agriculture project for the Gilbert River, even before the release of the CSIRO Report. The project is an order of magnitude larger than what is considered viable in the CSIRO Report.

Officially the proposed project is already substantially larger than the Ord River Irrigation Scheme:

- Up to 550,000 megalitres of diverted water annually into two storages which hold 2 million megalitres (four times the volume of Sydney harbour). This is more than is allocated under the Gilbert Rivers Water Utilisation Plan and this is just one user.
- The water taken from the Etheridge and Einasleigh Rivers (tributaries of the Gilbert) represents up to 40% of the in stream flow of these rivers, which would have a huge detrimental effect on the health of these ecosystems.
- 93kms of channels up to 45 metres deep.
- A proposal for 77,000ha of land

clearing for guar and sugar production.³⁰

But information obtained by the Wilderness Society under Freedom of Information revealed that the proponents have colossal development aspirations nearly twice this size:

- 3.8 million megalitres of storage.
- 100,000ha irrigation area.
- Average annual extraction of 1.1 million megalitres.

This is just the latest of a long list of large-scale irrigated agriculture proposals and projects which bare no resemblance to the ecological limits described by the science. These projects receive government support in a chaotic and unplanned policy environment, and where government ignores the impacts on other sectors.

Case Study 2: The Ord Irrigation Scheme – success or failure?

The Ord Irrigation Scheme is often held up as a shining example of the potential for large-scale development in northern Australia. In fact since

²⁹ Ibid

³⁰ Integrated Food and Energy Development Pty Ltd ‘Etheridge Integrated Agricultural Project - Initial Advice Statement’ www.dsdip.qld.gov.au/etheridge-project, December 2013.



European settlement, this has been the only one of countless proposals to get off the ground.

But the Ord River Irrigation Scheme should serve as a clear and costly reminder of the development model we should not follow in the future.

As the pilot scheme for large-scale northern Australia agriculture, Western Australia's Ord Irrigation Scheme, has been plagued by crop failures, financial and environmental costs.

The most sobering fact about the Ord Irrigation Scheme is that it was considered the most suitable location for broad scale agriculture in northern Australia. If taxpayer-subsidised persistence is the best outcome from the most suitable location for broad scale agriculture, what is to be expected from less suitable locations?

The Ord, our most expensive northern food bowl experiment is now dominated by sandalwood plantations, not food. This is an often recurring thread on the northern development story: an enthusiastic wave of food crops are promised but invariably fail and are replaced with non-food crops instead.

The Ord Irrigation Scheme is not a success story of northern development. More than \$1 billion has been ploughed into the Ord scheme. Ord Stage One cost \$511 million (1991 dollars) from 1958 to 1991 for a net private benefit of \$14 million according to Andrew Campbell, director of the Research Institute for the Environment and Livelihoods at Charles Darwin University.

Then from 2003 to 2010 food production dropped 36.5% from \$52 million to \$33 million. Similarly, other horticultural products have dropped 22% from \$27 million to \$21 million.

In 2008, the Western Australian government announced it was investing \$220 million in the hope of almost doubling irrigated land from 14,000 to 25,000ha. The Federal Government would contribute \$195 million for social infrastructure like upgrading the school, TAFE, hospital and the airport.

In 2012, the WA Government announced the cost had blown out \$102 million to \$322 million, making it a total investment of \$517 million.

All the broad scale farming crops,

sugar, rice and cotton, have failed. Wheat is unsuitable because of the heavy monsoon rains. Only small farms have survived.

The cotton industry collapsed after 12 years because of pests including a caterpillar that has become resistant to pesticides. Before the industry collapsed in 1974, the crops had to be sprayed with toxic DDT up to 40 times a season. Cotton was reintroduced again recently but the monsoon destroyed the harvest.

In 2007, Korea's Cheil Jedang Corporation closed its sugar mill as it was unprofitable.

As predicted by scientists and environmentalists, rice failed just 12 months after being reintroduced into the Ord in 2010. The rural media breathlessly reported the return of rice to the Ord after an absence of 30 years. This was to be the bedrock crop for the entire Ord region. With much less fanfare, the same outlets quietly reported that the 2011 crop, the second, had been infested with the destructive rice blast fungus that the agriculture department has acknowledged can never be eradicated. It was the first time that Australian rice crops had been infested with the

fungus and it posed a threat to existing rice growers across the country.

Despite this, parties both Labor and Coalition governments at the state and federal level have indicated that they are willing to pour more money into Ord Stage 3.

In its July 2013 report *Rivers, Rivers everywhere - The Ord River Irrigation Area and the economics of developing riparian water resources*, Economists at Large documented a legacy of poor planning, economically irrational decision making and taxpayer subsidised crop failures in northern Australia, with the Ord River Scheme as the major example and culprit.

Here are the report's key findings:

- The West Australian government typically uses the Strategic Asset Management Framework (SAMF) to make policy decisions about the costs and benefits of going ahead with major infrastructure investments. However, an inquiry into the Ord-East Kimberley Expansion Project found that SAMF had not been used to assess the project.³¹
- Hassell & Associates undertook the most recent comprehensive cost-benefit analysis of the Ord River Irrigation Scheme in 1993. It revealed that between 1958 and 1991 the government had invested \$613 million into the scheme and generated \$102 million. In other words, the public has received 17 cents for every dollar it has invested in the project. If the government had instead invested this money in an interest bearing asset earning just 2.5% annually, the public purse would have received a \$600 million dividend rather than a \$511 million loss.³²
- At least \$1.45 billion (2012 dollars) has been spent on the Ord River all up, \$517 million on Stage 2 alone. As detailed above, sugar, rice and cotton crops have all failed and the dominant crop is not food but

sandlewood plantations.³³

- In 2007, the sugar industry, run by Samsung subsidiary Cheil Jedang, collapsed. Nevertheless, in November 2012 the federal, West Australian and Northern Territory governments agreed to allow Chinese property developer Shanghai Zhongfu to acquire 15,200ha of Ord Stage 2. The company has publicly indicated it will need to acquire the bulk of all land released in Ord Stage 3 (about 14,000ha) to make the project viable.³⁴

Major constraints to industrial size irrigated agriculture in northern Australia

There is a strong body of research which has outlined why industrial-scale irrigated agriculture development in northern Australia is unviable, despite the apparent availability of land and water.

The most comprehensive research into development scenarios and their impacts on communities and the environment in northern Australia is being undertaken by the Tropical Rivers and Coastal Knowledge (TRaCK) hub. This is done as part of the National Environment Research Program (NERP), based at Charles Darwin University.

In February 2013, TRaCK researchers published a new study in the journal *Biological Conservation* assessing the economic and social impacts of potential development scenarios in the Northern Territory. The team of social scientists, economists and ecologists assessed several projects in the Daly catchment. They found that the water intensive developments, which are often proposed in northern Australia, have impacts on river health and fisheries. These can result in widespread negative impacts, particularly on Indigenous

31 Knowles, T 'Rivers, rivers everywhere. The Ord River Irrigation Area and the economics of developing riparian water resources' Economists at Large, (report), July 2013.

32 Ibid

33 Ibid

34 Ibid



Sarus Crane



communities.³⁵

The research found that all development scenarios tested actually widened, rather than narrowed, the socio-economic gap between Indigenous and non-Indigenous people.

Development projects rate success based on financial revenue, but the Indigenous economy and the wellbeing of Indigenous communities also depends on healthy ecosystems and biodiversity. Because the introduction of the agricultural sector to a region (in this case the Daly River catchment) has significant environmental impacts, it also has negative cultural, social, economic and dietary impacts on Indigenous people.³⁶

Excerpts from the report:

Our analysis show that Indigenous people not only have more to lose from 'development' which erodes natural capital than do non-Indigenous people, but that they also have significantly less to gain. Under current institutional arrangements it seems that at best 'development' may have a relatively benign impact on their well being. At worst, it may have a detrimental effect brought about by the degradation of natural

*aquatic systems.*³⁷

Agricultural development scenarios that had a high water-use were reported as having the most detrimental effect on the environment, with only modest financial returns. Similarly, financial returns for Indigenous people were reported to be much less than those to Industry and to non-Indigenous people.

CSIRO has also produced a considerable amount of data on the subject. Keith Bristow's report for CSIRO, *Towards an understanding of the hydrological factors, constraints and opportunities for irrigation in northern Australia* 2008 report documents:

- The lack of rainfall during the dry (winter) months in northern Australia means that irrigation is essential for cultivated agriculture or perennial horticulture during this period.
- The strong seasonal factor in the rainfall and the high evaporation rate in northern Australia mean that a greater volume of water is required to irrigate a given area of perennial pasture in the North than in the South. For example, a perennial pasture grown in the three major northern Australian drainage

divisions (North-East Coast, Timor Sea and Gulf of Carpentaria) would require 20-80% more water than the same pasture grown in the Murray Darling Basin.³⁸

March 2012, the Agricultural Commodities Analyst at the Commonwealth Bank, Luke Mathews, concluded:

'Proposals to develop irrigation schemes in northern Australia do offer some incremental opportunities to expand cropping area and production. But the overall contribution will be small. One of Australia's existing northern irrigation schemes, the Ord Scheme, highlights the myriad of challenges faced by the sector. 'Food' crops have been grown in the Ord in the past, yet today the region produces sandalwood trees for use in the perfume industry.'

But it is not only against economic criteria that these projects fail. At the same time, we need to factor in how large-scale irrigated agriculture developments affect the environment. These impacts include dams, major river off takes and diversions, land clearing and infrastructure. This impacts local ecosystems by:

³⁵ Stoeckl, N et al 'An integrated assessment of financial, hydrological, ecological and social impacts of 'development' on Indigenous and non-Indigenous people in northern Australia' Biological Conservation, December 2012.

³⁶ Ibid

³⁷ Ibid P.214

³⁸ Bristow, K et al 'Towards an understanding of the hydrological factors, constraints and opportunities for irrigation in northern Australia'. CRC for Irrigation Futures Technical Report No. 06/08, CSIRO Land and Water Science Report No. 13/08, February 2008.

- **Fragmenting, destruction, and modification of habitat on which local species depend. For example, habitat impacts on:**

- Dingoes and Green Tree Ants which control the relative abundance of prey species and hence the structure of plant communities on which they depend.
- Animal species such as flying foxes, which are critical to the dispersal of seeds or fruits of plants.
- Termites that change the structure of habitat by forming tree hollows for other animals. Species such as Cockatoo Grass which provide resources when few are available.

- **Affecting the hydroecology, including the destruction of wetlands. This causes a major disruption or destruction of freshwater habitat and tidal regimes and processes. This impacts upon:**

- Wetland, riparian zone and savanna inundation or destruction, disturbance to ground water flows and levels, salinisation.
- Species such as Magpie Geese, which nest only once floodplains have been inundated to 30-90cm.
- The habitat and breeding cycles for turtles, fish, frogs, crocodiles, waterfowl, and aquatic invertebrates.

- **Disturbing fire regimes upsets the frequency, timing, scale and intensity. It compounds habitat fragmentation by:**

- Increasing the occurrence of invasive species making burns generally hotter.
- Impacting on habitat for grass nesting birds, slow moving reptiles, species that shelter in hollow logs and tree hollows, leaf litter and dense grass.

- **Lowering the landscape's defenses for climate change and variability. This will have an impact by:**

- Increasing the vulnerability

of species and decreasing their resilience/adaptation to changes in rainfall, greater intensity in wet and dry seasons.

- Changing flooding regimes and evaporation rates on habitat and groundwater, aquifers.
- Changing the frequency and intensity of cyclones, rainfall and fire patterns, sea level rise, salt water inundation of wetlands, intertidal zones and other freshwater habitats.

Why do large irrigated agriculture (or 'food bowl') projects fail in northern Australia?

Politicians and developers from outside northern Australia see a vast undeveloped landscape which receives 60% of Australia's rainfall, located in relatively close proximity to our Asian trading partners. These facts hide that northern Australia is very inhospitable to large-scale agricultural projects due to the following factors:

- **The climate is extreme and unreliable**, with four months of flooding rains followed by eight months of drought. In other words, there is huge annual variations in rainfall.
- **The rain falls near the coast** away from potentially productive areas and dam sites.
- **The geology of the area is comprised of flat topography.** This unsuitable geology means that potential locations for dam construction can be counted on one hand.
- **The evaporation is extreme.** Due to very high solar radiation the vast bulk of the water that does fall does not reach rivers and streams. Northern Australia receives around 1 million gegalitres of rain only about 20% enters waterways.
- **The area has poor soils.** The soils of

northern Australia have been leached by monsoonal rains over thousands of years. They are low in nutrients and organic matter which means they can't hold much water, erode easily and are amongst the most impoverished and salinity prone on earth.

- **The region has poor infrastructure**, meaning that northern Australia's proximity to Asia doesn't make transporting goods any easier or cheaper. It would require an investment of billions of dollars to build it.

Four reasons why large irrigated agriculture (or 'food bowl') projects are a retrograde step

1. They have a legacy of failure. Sugar, rice and cotton have all failed in the Ord River Irrigation Scheme. The huge rice farm project at Humpty Doo in the Northern Territory failed in 1962 after planting 5,500ha.

2. They are expensive and a huge impost on the taxpayer. \$1.3 billion on the Ord River Irrigation Scheme so far with no return on investment, resources could be spent on health, education, child care and easing traffic congestion in our major cities.

3. They almost never end up growing food. Tree plantations dominate the Ord and Daly proposals and cotton and guar are proposed the Gilbert.

4. They are environmentally destructive. Land clearing thousands of hectares, damming iconic rivers, pollution, native species decline, invasive species, and increased carbon emissions are just a few of the environmentally destructive activities.



Photo, Creative Commons, Flickr-Weijie~

Becoming Asia's food bowl

With a rapidly growing Asian (in particular Chinese and Indian) middle class, the Australian agricultural sector has a seemingly mouthwatering opportunity to position itself for long term growth and prosperity.

The increased spending power of the growing Asian middle class will result in increased demand, with a focus upon quality as well as quantity.

But these factors may not translate into the rivers of gold we are hoping for. Data from the Australian Bureau of Agricultural and Resource Economics (ABARE) points to only modest price increases for agricultural commodities in the coming years despite stratospheric increases in demand. Competition from elsewhere in Asia, eastern Europe and South America in particular will be fierce.^[i]

With that in mind, if Australian agriculture is to benefit significantly from the Asian century we will need to address a number of key challenges. A decade of drought, a high Australian dollar, and the GFC have disguised more serious and underlying structural challenges the sector must overcome.

These include:

- sourcing major capital investment and addressing debilitating farm debt;
- attracting skilled labour and confronting an ageing workforce;
- accessing land and water;
- stagnation in research and development;
- the need to develop greater processing/ value-adding industries here in Australia;
- supply chain issues as well as quality assurance, logistical and other infrastructure impediments.^[ii]

Overcoming these constraints is not only good for the long term growth and prosperity of our domestic agricultural sector. It is also good for regional and rural communities and domestic food security.

According to ANZ's report, *Greener Pastures – The Global Soft Commodity Opportunity for Australia and New Zealand*, if we lay the correct groundwork now, we could double our agricultural exports to \$1.7 trillion by 2050. This would involve an initial \$600 billion in capital investment to enable growth. By investing this capital in a risky and ill-advised project in northern Australia, we could miss out on capitalising the increased demand from the Asian middle class.

The report also highlighted a number of 'growth limiting hurdles' which the existing agricultural sector will need to overcome:

1. Sourcing capital – Farmers face significant challenges in raising capital to fund growth and support farm turnover. Farm debt levels are high and few external sources of equity are available to farmers.

2. Attracting skilled labour – Labour and skills shortages exist as do significant concerns about the aging workforce and lack of succession in the sector.

3. Accessing land and water – Land-use conflicts persist and there is a lack of efficient water markets.

4. Focussing on R&D – National programs need more focus and coordination to drive long term growth particularly by identifying and pursuing

the highest potential opportunities.

5. Closing performance gaps – Reinvigorating public and private extension systems to build farmer confidence and encourage investment in new technologies, best practice and financial governance.

6. Improving supply chains – Greater infrastructure investment and the need to create contestable supply chains that are aligned with the interests of the producer, fostering trust and coordination.

7. Targeting key markets – Work is needed to understand consumer requirements, explore innovative ways to access new markets and capture premium market opportunities. ⁽ⁱⁱⁱ⁾

Overcoming these constraints is not only good for the long term growth and prosperity of our domestic agricultural sector and the regional and rural communities that support it, but for our national prosperity and domestic food security.

These are areas where greater

support and cooperation from all levels of government, as well as between government and the private and agribusiness sector is required. We urge governments to focus on this more strategic approach compared with large irrigated agriculture projects in Australia's north.

Rather than investing in risky proposals in northern Australia that have a history of being expensive failures, we should be investing our money cleverly in the southern Australian food bowl. This region already has a proven record of producing high quality agriculture and also has much of the infrastructure in place to meet the increased demand.

We already have enough challenges to overcome to ensure that the prosperity of Asia's burgeoning middle class benefits Australia's agricultural sector. It doesn't make sense then to invest in an ill-advised and very risky project in northern Australia. Let's not let populism get in the way of facts. Let's ensure we make the right investment for Australia's future.

i Linehan.V et al Global food production – analysis under policy assumptions ABARE, March 2013
ii Port Jackson Partners 'Greener Pastures: The global soft commodity opportunity for Australia and New Zealand' ANZ Focus Report, Issue 4, 2012.
iii Ibid

4. Sustainable development options for northern Australia

The challenge for the members of this Inquiry is to be very sceptical of propositions based on rivers of gold flowing from large-scale mining and irrigated agriculture projects. History has proven these projects are likely to fail, and a new way forward needs to be looked at.

Policy makers need to promote enterprises that favour the region's natural and cultural values. They need to promote competitive advantages and facilitate development that Indigenous communities want, determined by free, prior and informed consent.

For example, Natalie Stoeckl's paper *Resident perceptions of the relative importance of socio-cultural, biodiversity and commercial values in Australia's tropical rivers* gathered perceptions of tropical rivers, the value placed on them and development options, from 252 questionnaire responses and 39 interviews. It found that:

- Out of nine possible values, respondents ranked biodiversity, supporting human life and future generations as the most important.
- There is a high level of concern about



Northern Quoll.

addressing problems relating to the commercial use of water.

- Respondents were very concerned about water quality impacts to rivers, and even small alterations to perennial flows.³⁹
- Less than a third of respondents approved of the development scenarios put to them, and a large percentage (up to 70%) opposed

any trade off between development and the loss of values at all. Some respondents commented that they had already spent thousands of dollars opposing developments and more than 50% of respondents said they would accept a reduction in income if it improved enjoyment of social and cultural values.

In a follow up study by Natalie Stoeckl



Wenlock River – Cape York Peninsula.



Image courtesy of Kerry Trapnell

Australia doesn't need \$30 billion invested into new dams, but to invest \$30 billion into developing high quality, high value added, smart agriculture that is sustainable.

focusing on Cape York Peninsula's Mitchell River catchment, *The great asymmetrical divide: An empirical investigation of the link between Indigenous and non-Indigenous economic systems in northern Australia* found:

*'... evidence of a profound and asymmetrical disconnect between the Indigenous and economic systems - an increase in Indigenous incomes also raises incomes in non-Indigenous communities but the reverse is not true.'*⁴⁰

Another report undertaken by Natalie Stoeckl titled, *Socio-economic activity and water-use in Australia's tropical rivers: A case study in the Daly and Mitchell river catchments* added an important piece of research to the development aspirations of communities in northern Australia catchments.

It found that the 'balanced growth' scenario (1.5% growth across all sectors including education, health and government administration) is by far the most preferred by communities, compared with other growth scenarios where agriculture, mining and tourism industries dominate.⁴¹ This further emphasises the point that these communities prefer small scale, well managed developments driven by local communities, rather than have development imposed on them.

Verity Linehan Research commissioned by the Australian Bureau of Agricultural and Resource Economics, *Food demand to 2050 – Opportunities for Australian agriculture* commissioned by the Federal Department of Agriculture, Fisheries and Forestry has the following conclusions:

- The long-term future of agriculture

in Australia should be focused on delivering a higher quality product, with less environmental impact from the same amount of land, and being able to sell this at a premium. Premium product would take full advantage of our high level of education, technology and mechanisation. What Australia does not need is more bulk, low quality product. The high transport and labor costs just do not make this attractive.

- Australia doesn't need \$30 billion invested into new dams, but to invest \$30 billion into developing high quality, high value added, smart agriculture that is sustainable.

39 Stoeckl. N et al 'Resident perceptions of the relative importance of socio-cultural, biodiversity and commercial values in Australia's tropical rivers' Report for the northern Australia water futures Assessment, March 2012.

40 Stoeckl. N et al. 'The great asymmetrical divide: An empirical investigation of the link between Indigenous and non-Indigenous economic systems in northern Australia' Papers in Regional Science, Volume 2 Number 4, February 2013

41 Stoeckl. N et al 'Socio-economic activity and water use in Australia's tropical rivers: A case study in the Daly and Mitchell river catchments' Final report for the tropical rivers and coastal rivers research consortium, March 2011

5. Assessment of government proposals and alternative models

Coalition policy

The Coalition's 2030 Vision for Developing Northern Australia outlines some credible initiatives which harness rather than destroy the region's competitive advantage, but with one major exception – the focus on large water infrastructure projects to promote growth in northern Australia's irrigated agriculture and mining sectors.

Of the 12 priority policy options stipulated, the Wilderness Society is of the view that the following are worth exploring:

- Looking to build on existing key urban zones – such as Darwin, Cairns, Townsville and Karratha.
- Tasking Infrastructure Australia to conduct a comprehensive audit of northern Australia's infrastructure and to devise a 15-year rolling priority list of projects.
- Accelerating the upgrade of Queensland's major transport artery into the north, the Bruce Highway.
- Establishing a Cooperative Research Centre (CRC) responsible for developing northern Australia.
- Making northern Australia an Asia-Pacific hub for (tropical) health and education.
- Relocating relevant components of Federal departments and Commonwealth agencies, such as CSIRO and AQIS, to key urban zones in northern Australia.
- Examining the range of appropriate private and public education provider options to best develop technical skills in resources, agriculture, tourism, healthcare, infrastructure and education.⁴²



Pig-nosed Turtle, Daly River.

Labor policy

The then Prime Minister Kevin Rudd announced Labor's pre-election policy for northern Australia in August 2013. Similar to the Coalition's policies, there were both some good ideas and also some ill-conceived ones. Here are some that the Wilderness Society think the Inquiry should consider:

- The development of 20-year growth plans for regional hubs of Darwin, Cairns, Townsville and Mackay. These are overseen by Infrastructure Australia, with the aim to increase trade, investment, employment and greater cooperation between the public and private sectors.
- Continued funding commitments to the National Building Program for the Northern Territory, Remote Jobs and Communities Program and a focus on Defence spending in the region.

However, these initiatives will benefit mostly people living in urban centres and communities with easy reach of these centres. Most of the initiatives are

not likely to have considerable benefit to remote Indigenous communities.

The lack of focus on remote communities led the Regional Australia Institute to conclude that:

Conventional regional development policy thinking and approaches are unlikely to be an agent of significant change in the most remote communities. While many communities have specific opportunities in resources, agriculture or tourism, government continues to dominate economic activity in remote Australia.⁴³

The Institute's, *Rethinking the future of northern Australia's regions – more than mines, dams and development dreams* argues that regions and communities across northern Australia will need different approaches, policies and development priorities. There will be no 'one size fits all' approach to development.

Two issues seem clear:

- 1) Regional development requires

42 Loughnane. B (authorised), 'The Coalition's 2030 Vision for Developing Northern Australia', Liberal Party, June 2013.

43 Regional Australia Institute op.cit



More than 30% of land in northern Australia is either owned, controlled or managed by Indigenous people. This will continue to increase over time.

broadening the economic base in many regions, because they remain so vulnerable to external shocks such as commodity prices and changes to live cattle export.

2) Transport and communications infrastructure are impediments to growth. It needs to be noted that construction and maintenance of these assets are distinct functions with distinct requirements.

For these communities, the report proposes some useful initiatives and approaches. These include:

- Resolving the complex impediments to using leasehold and Indigenous land and water as a flexible economic asset. Currently, northern Australia's land tenure is 75.4% crown land (two thirds of which is pastoral lease), 18.5% Indigenous land, 6.1% private land).⁴⁴

- Reforming the governance of public investment to provide these remote communities with more responsibility and say over their future.⁴⁵
- Strategic planning needs to be driven from within the region, genuine responsibility needs to be given to these communities and incentives for initiatives to develop their own economic future. This will help end the legacy of inconsistent government policy and engagement with remote communities that changes from administration to administration.⁴⁶
- Community models which promote the value of education combined with coordinated action to overcome the multiple and complex barriers which limit access to education must be addressed. This must be coupled with

the strong incentive to persist with education because the transition to employment is clear and obtainable.⁴⁷

- The creation of a home grown skilled workforce is essential. There are very limited post-school education opportunities in northern Australia outside Darwin, Cairns and Townsville.⁴⁸

Case studies in appropriate economic development

1) The benefits of tenure resolution in Cape York Peninsula:

The resolution of land tenure and water rights issues is key to unlocking

44 Ibid P.66.
45 Ibid.
46 Ibid P.8.
47 Ibid.
48 Ibid.



Image courtesy of Kerry Trapnell

development opportunities for Indigenous communities and would help to address Indigenous disadvantage. More than 30% of land in northern Australia is either owned, controlled or managed by Indigenous people. This will continue to increase over time. Resolving water rights issues, so Indigenous communities can harness sustainable agricultural opportunities, should feature in the work of this Inquiry.

The Regional Australia Institute concurs:

For remote Indigenous communities, as well as the foundation of community culture, tradition and identity, the ownership of land is usually the central source of economic development opportunity alongside cultural activities such as art.⁴⁹

For example, contrary to some viewpoints, conservation and land management is economic development on Cape York Peninsula. This is due to the hard evidence of growing numbers of Indigenous jobs in this sector, combined with the remarkably positive

social indicators associated with such programs.

The Cape York Peninsula Heritage Act (2007) has played an instrumental role in giving effect to a new model of conservation and development. It has opened the way to protecting World Heritage values, as well as reinforcing Aboriginal rights and interests in land and water management and sustainable development.

The Act has facilitated the implementation of the goals of conservation and Aboriginal land return through the Cape York Tenure Resolution Implementation Group (CYTRIG). The CYTRIG has already led to a number of state land dealings being resolved and law reform in the area of joint management

The Indigenous estate in Australia contains some of the highest conservation value lands in the country. In Cape York Peninsula, the joint Commonwealth/Queensland Tenure Resolution Process has resulted in 2.2 million hectares of former leaseholds and other tenures in region handed back to Traditional Owners.

This land has been a jointly managed by National Park, nature reserve and Aboriginal freehold since 2004. There remains the potential to acquire up to another 1.4 million hectares under the program. The careful management of these vast environmental and cultural assets is of benefit to all Australians, and can also provide job opportunities in the following key areas:

- Protected area management - including jointly managed National Parks, nature refuges and Indigenous Protected Areas
- Weed and feral animal control
- Water quality management
- Quarantine and border protection
- Fisheries management
- Carbon economy opportunities, particularly concerning savanna fire management
- Scientific research and Indigenous ecological knowledge.

The Indigenous Wild River Ranger program is a prime example of this type of employment opportunity in Cape York Peninsula. In the 2006

⁴⁹ Ibid P.66

⁵⁰ Schneiders. L et al 'Inquiry into Indigenous economic development in Queensland and review of the Wild Rivers (Environmental Management) Bill 2010' (submission) The Wilderness Society Inc. February 2011.

Queensland state election, the Beattie Government responded to advocacy by the Wilderness Society to create a program of Indigenous ‘Wild River Rangers’ to compliment Wild River declarations. The aim was to eventually employ 100 Indigenous people through this program.⁵⁰

To date the program has been a huge success, with 35 rangers now employed across Far North Queensland. Based on a community development model, community organisations are funded and resourced to run their own ranger programs, rather than via a direct, Government-controlled program. Not only are the rangers performing a vital environmental service for all Australians, but the program is performing an important social role by providing full-time employment. It has also become a beacon of pride for local communities.⁵¹

The Northern Territory Indigenous Economic Development Strategy 2005 identifies natural and cultural resource management as a key sector for economic development. This is representative of the growing recognition, supported by evidence, that Indigenous people living on country and participating in land and sea management activities, generate significant environmental, economic and social outcomes. This is achieved at local, regional and national levels.⁵²

2) Tourism – A Case study in Cape York Peninsula

The potential for tourism growth in northern Australia is huge, and Cape York Peninsula is no exception. Already Cape York tourism supports 1,000 jobs. While there is already a niche market of eco-cultural tours on Cape York Peninsula operated from Cairns, far larger opportunities could be built around specific protected areas, places of high cultural or natural values (i.e. rainforests, rivers, rock art) or a large-scale approach to protection and promotion region-wide through a

World Heritage listing for Cape York.⁵³

For example, Balkanu Aboriginal Corporation’s proposal for a Dreaming Trail as part of Queensland’s Great Walks Network, along the spine of the Great Dividing Range in Cape York Peninsula, was estimated to create 1,100 jobs in 2009.⁵⁴

As a way of highlighting the economic potential of a World Heritage listing for Cape York Peninsula, it is worth briefly examining how World Heritage areas in Queensland have performed in creating jobs, wealth, investment and tourism activity.

In 2008, Queensland’s World Heritage areas (excluding the Great Barrier Reef Marine Park) contributed at the state level approximately:

- \$4.15 billion in annual direct and indirect state output or business turnover
- \$1.85 billion in annual direct and indirect state value added
- \$1.2 billion in direct and indirect

51 Ibid

52 Ibid

53 Ibid

54 Ibid

55 Ibid

56 Whitehead. P et al ‘The management of climate change through prescribed savannah burning: Emerging contributions of Indigenous people in northern Australia’ Public Administration and Development, 2008. P. 28

state household income

- 24,225 direct and indirect jobs statewide.⁵⁵

3) Indigenous carbon farming

Significant potential for economic development and employment for Indigenous people lies in the voluntary carbon market. This industry is an excellent bridge between the customary economy which must be maintained and the market economy which Indigenous communities must penetrate to generate economic development.

Research and pilot projects have centred on the strategic early dry season controlled burning of savannas as a means of preventing more emissions intensive wildfires in the late dry season which are reportedly responsible for between 1.5-4% of Australia’s total annual emissions.⁵⁶

The most widely documented project



has been Western Arnhem Land Fire Abatement project (WALFA) undertaken by an alliance of groups including Northern Australian Indigenous Land and Sea Management Alliance (NAILSMA). The project now employs 30 rangers. In partnership with Darwin LNG, a subsidiary of Conoco Phillips, the project will deliver \$1 million per year for 17 years.

There are now eight projects up and running across the north, with NAILSMA involved in four projects in western Cape York, Top End and the Kimberley. Meanwhile, the Kimberley Land Council are facilitating three projects and the Indigenous Land Corporation (ILC) is facilitating one.

The ILC's 180,000ha Fish River Project was the first to sell Kyoto compliant Australian Carbon Credit Units, or 'credits' onto the carbon market. They sold nearly 26,000 credits in 2013 at a market price of approximately \$23 per tonne, producing a dividend of \$570,000. The cost of producing these credits was \$15 per tonne, so there is substantial income to be made. Money generated from the sale of the credits is reinvested locally, thus supporting

Indigenous jobs and land management along the Fish River.

With the success of the Fish River project and other projects getting off the ground, major private sector interest in investing in these projects is increasing, with each of the 'big four' banks and Qantas all investigating how to engage in this exciting opportunity.

Key components of successful Indigenous carbon farming projects are:

- **Accessing the right vegetation types.** There is a strong business case for projects operating in savanna woodlands with greater than 1,000 millimetres rainfall areas. Work is now being done to assess whether projects are viable in 600 millimetre rangeland rainfall areas.
- **Solid, stable and well managed ranger groups.** This is needed to implement projects and strong governance models, which entrench accountability and product delivery.
- **Availability of seed money.** Money has been accessed through a range of programs including the Biodiversity Fund, Indigenous Carbon Farming

Fund, Working on Country and Indigenous Landcare. It is essential that the Abbott Government indicates where Indigenous organisations can apply for seed funding given the uncertain future of some of these programs inherited from the previous government.

4) Indigenous Protected Areas (IPAs)

In 1998, the Federal Government set up a program to increase the size of the reserve system in remote Australia. The program returns land and management rights to Traditional Owners on the condition that the country is managed in a way that maintains its natural and cultural values.

This Indigenous Protected Area (IPA) program has been extremely successful. Between 1998 and 2012, 50 IPAs have been declared, covering 260,000 square kilometres and representing 23% of Australia's National Reserve System. A significant proportion of these reserves are in northern Australia. There were also 660 Indigenous Rangers employed under the scheme across Australia, at a cost of \$240 million, for the period 2007–2013.

This program recognises and incorporates the role of the subsistence economy, as it represents a significant percentage of the economy for many Indigenous communities in remote Australia.

Studies undertaken since 2008 as part of the National Aboriginal and Torres Strait Islander Social Survey (NATSISS) conclude that engagement in the customary economy contributes significantly to the physical and mental health of Indigenous Australians. It was also discovered to increase and improve diet, as well as other health outcomes. There is also a strong link between communities that have an IPA and ranger program and an increase in the use of the customary economy.





Image courtesy of Kerry Trapnell

It is essential that the Abbott Government indicates where Indigenous organisations can apply for seed funding given the uncertain future of some of these programs inherited from the previous government.

This is largely because ranger programs enable people to get back on country engaging in traditional practice, which strengthens a culture of getting back on country throughout the entire community.

The IPA program also significantly lifts education and economic outcomes among Indigenous communities because children see the benefits of education (in desirable full-time employment as rangers) and rangers themselves must regularly learn new skills and train others. Bridging the education gap between Indigenous and non-Indigenous Australians is a national imperative.

The ranger program also creates a flow on effect for employment and education in communities. Income levels increase and ranger bases need

support industry, enterprise and employment. This includes goods and services such as fuel, equipment, mechanical repairs, signage, communications materials (for schools and ranger activities), food and supplies etc.

The activities and knowledge needs that have accompanied the growth in the IPA ranger program provide a real opportunity for experiential learning and a pathway for students into employment. But this is not just about getting kids to become Indigenous rangers. There will never be enough of these positions to go around. Rather, these education programs use Indigenous land and sea management and rangers as a vehicle to learning skills and knowledge that are transportable to a host of other

livelihood pathways. Many of these programs are showing a demonstrable improvement in school attendance and retention through to Year 12.

There are many opportunities to designate more IPAs in northern Australia. There are also numerous opportunities to establish Tropical River Planning Regions where stakeholders (conservation, farming, pastoral, fishing, tourism, Indigenous etc.) come to an agreement over catchment strategies which protect natural and cultural values while providing sustainable livelihoods for local communities.

To work, this program requires land acquisition and management resources to create a conservation economy for those regions, instead of mining and land clearing.

There are many benefits of the IPA program.

1. Environmental:

- Removal of ghost nets (discarded fishing nets) which improves marine mortality rates and habitat. Ghost nets are a major killer of dugong, crocodile, dolphin, turtle and fish species.
- Removal of feral animals and weeds which strengthens ecosystem health. Examples of feral animals and weeds removed are: Feral pigs, Buffalo Grass and other noxious weeds such as Gamba Grass and Rubbervine.
- Surveillance and apprehension of recreational and commercial fishermen operating in protected areas, without licences or in breach of regulation
- Search and rescue activities
- Research and data collection
- Assist with community custom access to country
- Surveillance and apprehension of people engaging in the illegal trade in wildlife, especially exotic birds
- Fire control and the reintroduction of Indigenous fire management. This strengthens the ecosystem's resilience to climate change and significantly improves habitat outcomes for native species. For example, the West Arnhem Land Fire Abatement project has abated 140,000 tonnes of carbon equivalent greenhouse gases per year since 2006. This project costs \$1.2 million per year and includes a massive 28,000 square kilometres of country.

2. Social:

- Population increase in communities, making them more viable. Repopulation of homeland communities enabled more widespread land management.

- Helping to build the backbone of a sustainable Indigenous economy in remote areas.
- Improvements in physical and mental health. This goes hand-in-hand with the retention of custom, culture (including ceremonial practice) and language through increased access and time spent on country.
- Women ranger programs in particular produce outcomes outlined above for women, who tend to be at a greater disadvantage in Indigenous communities.
- Re-discovery and re-connection with sacred sites.

3. Economic:

- Improvements in income, employment and education levels outlined above.
- Huge potential for flow on economic enterprise and employment including:
 - culture and nature based tourism
 - meat processing (pet food)
 - carbon trading
 - biosecurity and research (with the Australian Quarantine Inspection Service, Customs and water Police)
 - fishing and hunting
 - pastoralism
 - border protection and security
 - harvesting native products (barramundi, crocodile eggs, honey, soap and cosmetics).

5) Indigenous Homeland Development: Chuulangun Aboriginal Corporation

Gaining security of tenure is a key to unlocking Indigenous economic development, employment, wellbeing

and conservation outcomes in northern Australia. With this in mind, and given the fact the Indigenous peoples will own and control large parts of the region in the future, the 'Homelands Development' model deserves close attention as a path forward for Indigenous communities.

One example is the Chuulangun Aboriginal Corporation's operations on the Northern Kangua Indigenous Protected Area, in central eastern Cape York Peninsula. Here 22 clan estates have come together to develop sustainable livelihoods through a reoccupation on country program. Since 2002, many Indigenous people have relocated for part of the year from around the country.

The Chuula settlement is now powered by solar power and includes a laundry, two kitchens, four bathrooms, modular housing, an airstrip, a campground and public phone and satellite communications.⁵⁷

From their facility they are running a number of courses. These include:

- Programs for becoming a ranger, fire management, carbon abatement, fauna surveys, IPA management and feral animal and weed eradication.
- A hub for Indigenous knowledge language and research.
- An Indigenous medicine program.
- A cultural heritage management project linking the identification, protection and management of cultural and natural values.⁵⁸

Indigenous enterprises and employment options are being created around the significant and expanding Aboriginal landholdings and community infrastructure. This is providing environmental services and other benefits to all Australians by:

- Generating sustainable jobs for people in remote areas.
- Reducing social welfare costs to Government.



Image courtesy of Kerry Trapnell

- Improving health, education and social cohesion for people in remote areas.
- More effectively using traditional and contemporary skills and existing land and sea management infrastructure, and enabling the exercise of native title rights and interests.
- Providing environmental and security benefits for all Australians, including:
 - greenhouse gas emission abatement;
 - weed and feral animal control;
 - protection of threatened species;
 - water quality and management;
 - quarantine and border patrol;
 - savanna fire management;
 - management of conservation parks;
 - fisheries management.

Further detail of this Homelands Development model is outlined below in Appendix 1: Working for homelands development and environmental protection.

6) North Kimberley land and sea management

Through a combination of government and private philanthropic (Bush Heritage; Pew; AWC) funding and effort, major transformative changes have started to occur in Indigenous communities in the north and west Kimberley based on new state and Commonwealth protected areas and Indigenous land and sea management. Many new Rangers groups have been established and a range of management activities are being undertaken for the benefit of communities, industries and the environment.

6. Recommendations

This submission suggests the future development of northern Australia does not lie in large industrial mining and irrigated agriculture projects but instead in developing a robust, diverse and ecologically sustainable economy, which amplifies natural and cultural values and competitive advantages of the region.

The conservation sector also needs to engage in a new way of thinking about how to protect the natural and cultural values for the region. The conventional approach of setting land and seas aside in National and Marine Parks as part of achieving some overall target, while designating the rest for development, will fail in northern Australia. Although a large, comprehensive and well managed reserve system is essential, this approach alone will not succeed in large, interconnected landscapes such as northern Australia.

This model will not to protect

biodiversity because it fails to protect ecosystem function at the landscape scale. It fails to capture the most significant attributes of the region: its intactness and connectedness. Furthermore, there is not a lot of remaining unallocated land left in the region.

The challenge now and in the coming decades is to:

- Maintain the natural values of northern Australia
- Protect the ecological processes that sustain them while developing the economy and creating jobs.

These goals are not mutually exclusive - in fact a whole economy based around the protection of natural and cultural values is possible.

As described above in the case studies, it is important to note that this economy is already growing. For example, there are already over 700 Indigenous rangers

working across northern Australia. Still, huge potential for further growth exists if these initiatives were to receive government recognition, promotion and support.

Recommendations from this submission

1. Classification of Compatible and Incompatible land-uses

The following table has been adapted from a similar diagram in the The Nature of Northern Australia – Natural values, ecological processes and future prospects report. It outlines economic activities for northern Australia, from ‘Conservation’ activities to activities that are or could be made to be ‘Compatible’ with the development of a sustainable economy, to activities which should be prohibited in any planning and development framework.⁵⁹

Classification of economic activity	Description	Examples
Conservation	Activities that directly and actively help maintain ecological processes and natural values	<ul style="list-style-type: none"> • Some government services (border control, quarantine) • Conservation management on country • National Parks, Indigenous Protected Areas, off reserve management, NRM • Carbon economy • Feral animal control and harvesting • Indigenous homelands development
Compatible	Activities that rarely if ever degrade, but may be neutral to the environment	<ul style="list-style-type: none"> • Most government services. These include defence, health (especially tropical medicine), education (especially tropical ecology and agricultural science), and infrastructure development • Visual and creative arts - including the Indigenous arts and crafts sector • Nature and culture-based tourism • Information technology services • Biotechnology (bioprospecting) - for example, identifying new medicines using traditional knowledge • Technological development services relating to tropical environments
Potentially compatible	Activities that could be compatible with the current north Australian ecosystems if done with care	<ul style="list-style-type: none"> • Pastoralism dependant on native pasture and operating within carrying capacities • Mining operations that have minimal water requirements and small ecological footprints • Low input aquaculture - for example with natural feeding stock (i.e. shellfish and sponges) • Harvesting of native plants and animals from the wild • Fishing - commercial, recreational and Indigenous • New residential and tourist developments • Mass tourism • Military training • Trophy hunting of feral or native animals
Incompatible	Activities that are inherently degrading to natural values and processes, for which significant damage can only be reduced and generally not to a satisfactory level.	<ul style="list-style-type: none"> • Permanent and large-scale clearing of native vegetation for agriculture • Mining operations with a large ecological footprint (such as strip mining without adequate rehabilitation or protection of hydrological systems) • Large-scale water off-takes, impoundments and irrigation • Extensive plantation development • Extensive aquaculture developments with high input (i.e. fish fed to other fish) • Genetically modified crops • Pastoralism using invasive introduced grasses



Image courtesy of Kerry Trapnell

■ The conventional approach of setting land and seas aside in National and Marine Parks as part of achieving some overall target, while designating the rest for development, will fail in northern Australia.

2. Develop and implement a decentralised, regionally driven planning process based on science, economic analysis and Indigenous knowledge.

We have seen time and time again that the chaotic, one size fits all approach to development does not benefit the community.

A new approach to regional planning is needed. This new framework needs to:

- Identify the capacity of regions to absorb human induced change to the landscape.
- Establish core areas to be managed primarily for conservation and the retention of ecological processes.
- Constrain activities that are directly or indirectly destructive to the natural and cultural values of northern Australia.
- Promote economic activities that are, or can be adapted to be, compatible with those values and ecological processes.
- Develop best practice management that sustains biodiversity conservation and the maintenance of ecological processes across all tenures.
- Foster collaborative regional approaches for management amongst landholders.
- Activate a conservation economy. This means cultivating enterprises that yield a net positive gain for the natural environment.

natural environment.

- Prioritise the development of governance structures in Indigenous agencies so that resources are allocated efficiently and the private sector can properly engage in joint venture projects.

Desert Knowledge Australia is a national organisation that identifies key projects that contribute to a social, economic and environmentally sustainable future for desert Australia. They publicly advocate for a planning framework based around the following principles:

- Local communities have a real say in decisions which affect them.
- There are equitable and sustainable financial flows in agencies.

59 Woinarski, J et al op cit. (adapted)



Image courtesy of Kerry Trapnell

- There are better services and a locally responsive public service.
- Local control and accountability where possible.
- The development of and inclusion of local people in a northern Australia narrative.⁶⁰

One model that has been established by The Cairns Institute is for a Tropical Sectoral Alliance consisting of Traditional Owners, local government, industry, environmental NGOs, and human services. The framework consists of decentralised decision making structures and genuine local leadership that is place based rather than race based.⁶¹

Australia 21 has undertaken some robust research and investigations into taking the right approach to northern Australia development. In particular, a workshop held in Darwin in April 2009 brought together 37 experts from industry, government and academia.⁶²

The group endorsed six principles, which it believed should guide future development of northern Australia and could underpin a coordinated new strategy for development of the region:

- Planning for relevant development should be led more from the North than it has been.
- Planning for the development of the North should be subject to essential institutional strengthening and new approaches to governance, which should be informed by the principle of subsidiarity. This principle asserts that while broad policy development will usually occur at high levels, implementation decisions should be made as close to the periphery, where they will have their effect, as is practicable.
- Planning and management in the future must involve Indigenous people who have been buffeted in the past by the good intentions and often, ignorance by those in position of

planning authority in the South.

- Planning and management for northern development should be well-informed by science and research and by an inventory of what is valuable with respect to the natural resources of northern Australia.
- We must nurture and manage the natural assets and values which northern Australia offers, including its World Heritage, pristine ecosystems. A new approach that seeks to build the value of the ecosystem services that these intact ecosystems can and do provide to the Australian and global community should be a central component of future development of the north.
- Government provided services should be at least as supportive to people and communities living in the North as they are to people and communities of equivalent size and remoteness in the South.⁶³

⁶⁰ Regional Australia Institute op.cit

⁶¹ Douglas. B et al 'A new deal for northern Australia' Australia 21 Working Group Reports 1 – 4, April 2009.

⁶² Ibid

⁶³ Ibid

The Wilderness Society also recommends that the TRaCK Program based at Charles Darwin University is funded to play an ongoing role as the hub for state of the art science and data on northern Australia, in order to guide best practice development decision making.

3. Develop a conservation and culture based approach to economic development

Hopes that developing the non-Indigenous sector will have a 'trickle down' effect on Indigenous communities are unfounded. Therefore, a new development model for Indigenous communities is required that has these key elements:

- The increase in Indigenous ownership of productive economic assets like land, water, and capital.
- Improvement in Indigenous labour market outcomes such as employment rates and income.⁶⁴

The case studies mentioned above point to enterprises with enormous potential to marry the maintenance of culture, natural values, jobs and economic development.

4. Financial and enterprise support and development

The 2009 Northern Australia Land and Water Taskforce made a series of important recommendations to the Federal Government. We urge this Inquiry not to reinvent the wheel. Visit: <http://www.regional.gov.au/regional/ona/files/NLAW.pdf>⁶⁵

In addition we encourage:

- Expanding support for Indigenous land and sea management in and



outside protected areas.

- Completion of the land tenure resolution process in Cape York Peninsula and resourcing the Indigenous Land Corporation (ILC) to acquire properties and the development of IPAs and Homelands Development.
- Listing of Cape York Peninsula for a mixed natural, cultural and cultural landscapes for World Heritage.
- Lifting political support for Natural Resource Management, carbon farming, ecosystem services markets and protected areas policy.
- Resourcing of Indigenous participation in the voluntary carbon market via the Indigenous Carbon Farming Fund, Biodiversity Fund, Working on Country and Indigenous Landcare.
- Effective participation in the voluntary market the National Indigenous Climate Change Project and Aboriginal Carbon Fund Ltd to pool carbon projects in abatement

and sequestration.

- Resolving land tenure issues so pastoral leaseholders and Traditional Owners can attract capital investment, including for IPAs and ILC properties.
- Support for the Indigenous carbon farming sector, including the development of ILUAs where required to make these projects happen and ensuring that IPAs continue to qualify for abatement projects.
- Increasing support for protected area and IPA management outcomes for natural or cultural values, and support for economic development and employment outcomes so that Indigenous communities can take advantage of the IPA they have acquired.

The Wilderness Society would like to bring particular attention to the Australia 21 report, *Northern Australia: A provider of choice for Australia's ecosystem services*, which outlines

64 Ibid
65 Woinarski. J et al op.cit

the region's advantage in outstanding natural assets. These include clean air, water, biodiversity, carbon, intact catchments, estuaries and soils at the landscape scale, which all provide a range of economic opportunities.⁶⁶

The report outlines the following options that could be considered to finance ecosystem services:

- A national environment levy - effectively a special purpose income tax
- Extending the Goods and Services Tax (GST) to include an ecosystem services component on all unprocessed primary products
- Broad adoption of cap and trade systems (e.g. better defining the nation's protected area estate and requiring the purchase of biodiversity permits on productive activities to fund broadscale biodiversity management).

The Wilderness Society would add to the recommendations in this category the implementation of a strong community development approach, especially when focussing on development in Indigenous communities. This could include:

- Enhancing financial incentives for community development.
- The development of an investment bank in the environmental and cultural economy, such as Ecotrust Canada. This would include access to expert advice and low interest loans to viable enterprises.
- Support the Business Hub model promoted by Balkanu Development Corporation amongst others which gives support to Indigenous and non-Indigenous entrepreneurs through.
 - Enterprise development support, value adding and linkages,

policy and research, legal and accounting advice and support, fundraising, training, lending and business plan development.

- Communication networks and logistical support to create micro-economies and economies of scale, economic clusters of interrelated businesses and raising venture capital.
- Facilitate the provision of financial advice through partnerships with Boston Consulting Group and Westpac.

5. Create economic development plans to assist business opportunities in the following fields:

- Sustainable fishing and aquaculture
- Compatible agriculture and pastoralism
- Tourism art and culture
- Ecotourism
- Carbon farming
- Land and sea management and natural resource management
- Micro business, community development and infrastructure (building and energy, construction)
- Realising the potential for the region to become an Asia-Pacific Hub in tropical health, education and research
- Defence Development – Greater reorientation of national defence capacity to northern Australia, specifically geared to local economic growth. For example, the Curtin Airbase and Yampi training area in the Kimberley contributes to the 11% of the workforce in Broome Shire and



23% in Derby Shire work in defence and government administration (2003 Census)

- Reorient Infrastructure Australia to focus on supporting sustainable and productive regional centres in remote areas, both in Indigenous and non-Indigenous communities, not just to create export markets but vibrant, sustaining and more self-sufficient communities in their own right. This would lift competitiveness, bring down the cost of importing labour, and develop economies of scale, employment and attractiveness for remote living.⁶⁷

⁶⁶ Dale Dr A. 'Northern Australia: A provider of choice for Australia's ecosystem services' Working Group Report 3 in, 'A new deal for northern Australia' workshop hosted by Australia 21, April 2009. http://www.australia21.org.au/research-archive/australians-in-the-landscape-2/northern-development/#.UvRXJ_mSzsz

⁶⁷ Regional Australia Institute op.cit.



Image courtesy of Kerry Trapnell

6. Develop a genuine consent mechanism for development and land use

The Commonwealth should undertake a process to develop a genuine free, prior and informed consent mechanism and process for development and land use approvals which complies with the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP).

7. References

- Blanch, Dr S. et al 'Aquatic conservation values of the Daly River catchment, Northern Territory, Australia' Charles Darwin University et al, September, 2005.
- Bristow, K. et al 'Towards an understanding of the hydrological factors, constraints and opportunities for irrigation in northern Australia'. CRC for Irrigation Futures Technical Report No. 06/08, CSIRO Land and Water Science Report No. 13/08, February 2008.
- Crothers, T. 'Report on northern Australia – Water Resource Development. An analysis of the Gilbert, Flinders, Gregory, Daly, Roper and Fitzroy River catchments' Steller Advisory Services, (report to The Wilderness Society Inc), January 2013.
- CSIRO 'Flinders and Gilbert Agricultural Resource Assessment – An overview report to the Australia government from the CSIRO Flinders and Gilbert agricultural resource assessment, part of the North Queensland Irrigated Agriculture Strategy' Australian Government Department of Infrastructure and Regional Development and the Office of Northern Australia, December 2013.
- Dale, Dr A. 'Northern Australia: A provider of choice for Australia's ecosystem services' Working Group Report 3 in, 'A new deal for northern Australia' workshop hosted by Australia 21, April 2009. http://www.australia21.org.au/research-archive/australians-in-the-landscape-2/northern-development/#.UvRXJ_mSzZs
- Dale, Dr A. 'Governance challenges for northern Australia'. James Cook University, Cairns (2013).
- Douglas, B. et al 'A new deal for northern Australia' Australia 21 Working Group Reports 1 – 4, April 2009.
- Gerritsen, R. 'Speaking Truth to Power: Researching the Future of northern and remote Australia' Sustaining Regions – the newsletter of ANZRSAL Vol.2, no.1, February 2012.
- Hill, R. (editor) et al 'Culturally and environmentally appropriate economies for Cape York Peninsula' Conference Proceedings, Rainforest CRC et al, November 2003.
- Integrated Food and Energy Development Pty Ltd 'Etheridge Integrated Agricultural Project - Initial Advice Statement' www.dsdp.qld.gov.au/etheridge-project, December 2013.
- Knowles, T. 'Rivers, rivers everywhere. The Ord River Irrigation Area and the economics of developing riparian water resources' Economists at Large, (report), July 2013.
- Liberal Party 'Developing Northern Australia – A 2030 Vision' Draft Discussion Paper, 2013.
- Loughnane, B. (authorised), 'The Coalition's 2030 Vision for Developing Northern Australia', Liberal Party, June 2013.
- Port Jackson Partners 'Greener Pastures: The global soft commodity opportunity for Australia and New Zealand' ANZ Focus Report, Issue 4, 2012.
- Quartermaine, E. 'Tropical freshwater floodplains of northern Australia' nomination for inclusion on the list of threatened ecological communities under the EPBC Act (1999), Humane Society International, March 2013.
- Regional Australia Institute Report 'Rethinking the future of northern Australia's regions – More than mines, dams and development dreams' Regional Research Report, November 2013.
- Roache, M. et al 'Northern Australia Freshwater Ecosystems: Pressures and Threats' The Wilderness Society, July 2013.
- Ross, J. et al 'Sustainable Development of Northern Australia', Northern Land and Water Taskforce, Department of Regional Australia, Arts and Sport, 2009
- Schneiders, L. et al 'Inquiry into Indigenous economic development in Queensland and review of the Wild Rivers (Environmental Management) Bill 2010' (submission) The Wilderness Society Inc. February 2011.
- Stoeckl, N. et al 'An integrated assessment of financial, hydrological, ecological and social impacts of 'development' on Indigenous and non-Indigenous people in northern Australia' Biological Conservation, December 2012.
- Stoeckl, N. et al 'Resident perceptions of the relative importance of socio-cultural, biodiversity and commercial values in Australia's tropical rivers' Report for the northern Australia water futures Assessment, March 2012.
- Stoeckl, N. et al 'Socio-economic activity and water use in Australia's tropical rivers: A case study in the Daly and Mitchell river catchments' Final report for the tropical rivers and coastal rivers research consortium, March 2011
- Stoeckl, N. et al 'The great asymmetrical divide: An empirical investigation of the link between Indigenous and non-Indigenous economic systems in northern

Australia' Papers in Regional
Science, Volume 2 Number 4,
February 2013

Verity Linehan Research by the
Australian Bureau of Agricultural
and Resource Economics, Food
demand to 2050 – Opportunities
for Australia agriculture
commissioned by the federal
Department of Agriculture,
Fisheries and Forestry

Whitehead, P. et al 'The
management of climate change
through prescribed savanna
burning: Emerging contributions
of Indigenous people in northern
Australia' Public Administration
and Development, 2008

Woinarski, J. et al 'The Nature of
Northern Australia – Natural
values, ecological processes and
future prospects' ANU E Press,
2007.

**Further correspondence with
regards to the submission should
be directed to**

Gavan McFadzean

**Northern Australia Campaigner –
The Wilderness Society Inc.**

m: 0414 754 023

**e: gavan.mcfadzean@wilderness.
org.au**

8. Appendix

Appendix 1: Working for homelands development and environmental protection

A discussion paper by Anthony Esposito and David Claudie

The Wilderness Society and Chuulangun Aboriginal Corporation

Introduction

The Wilderness Society and the Chuulangun Aboriginal Corporation (Chuula) are working together on a model of conservation which:

- Embodies Indigenous rights and interests
- Protects natural and cultural values and actively manages the ecology of large, intact high-conservation- value landscapes
- Implements a conservation economy approach to help underpin sustainable livelihoods for people on Country

The Wilderness Society and Chuula have a formal Cooperation Agreement covering this work in relation to the Northern Kaanju homelands in central Cape York Peninsula. We work together to facilitate research, conservation and management of the ecology of the region, as well as promoting and securing the rights in land of Traditional Owners.

You can find more information and a copy of our Cooperation Agreement on the Agreements, Treaties and Negotiated Settlements (ATNS) database at: [-http://www.atns.net.au/agreement.asp?EntityID=142](http://www.atns.net.au/agreement.asp?EntityID=142)

The Wilderness Society undertakes the work of this partnership through our national Indigenous conservation program. The program reflects our commitment to support Traditional Owners around the country as the primary conservation managers of their homelands and as key

participants in a national conservation strategy. It also includes projects designed to develop a contemporary ecological knowledge base through the integration of Indigenous and western conservation science.

Chuulangun is a Kaanju Traditional Owner organisation. It is a leader on Cape York in protection of natural and cultural values on Aboriginal lands, and the development of sustainable livelihoods on Country. Chuula is providing an effective model in northern Australia of independent, Traditional Owner-driven economic development within an environmental management plan.

The Wilderness Society and Chuula are integrating our knowledge of natural resource management on Aboriginal homelands. This will be made into public policy and entrepreneurial initiatives that support Indigenous conservation and development, as well as the environmental goals of the wider community.

This discussion paper sets out some ideas in support of joining Indigenous conservation and homelands development in a robust national strategy.

Strategic Considerations

1. The conservation imperative

A global conservation imperative has emerged around a cluster of environmental issues such as the massive loss of biodiversity, broad scale landscape degradation and diminished productivity, pollution, and human-induced climate change. Combined, these are critical to security and sustainability issues in the 21st century. In Australia, this requires a new continental-scale focus with measures implemented through a range of coordinated strategies.

Patterns of land clearing and species extinctions in Australia strongly correlate with loss of cultural and linguistic diversity. This demonstrates

the link between people and nature. Similarly, areas of the northern Australia that meet 'wilderness' criteria tend to exhibit greater Indigenous connections to country. This is evidenced by the locations and extent of contemporary Aboriginal landholdings, and the strength and viability of native title claims.

This means that some of Australia's greatest environmental assessments remain intrinsically linked to Aboriginal land ownership and cultural connection. Those best placed to retain and manage these assets are the Traditional Owners themselves.

Indigenous conservation and natural resource management will therefore be the foundation of environmental strategy in Australia in the coming years. Whether through Indigenous protected areas and conservation agreements, greenhouse gas abatement measures, wild river management or other activities.

2. Indigenous rights and interests

To Recognise the rights and interests of Indigenous people, public policy will have to acknowledge their vital role in conservation and natural resource management.

It will be imperative for governments to work with Tradition Owners to find social and economic strategies that enable the transition to new sustainable modes of development. At the same time, governments will need to address and manage the profound equity issues Indigenous peoples face in contemporary Australian society.

The goals of reconciliation are equality of health and education, and recovery and restitution. These goals bear directly on the viability of many conservation measures and ecologically sustainable developments. In turn, addressing these environmental issues at an appropriate scale and with the resources seriously required to meet the conservation

imperative will have direct benefits for Indigenous people seeking to regain control over their land and lives. Not to mention, it will create jobs.

3. A Conservation Economy approach for sustainable livelihoods

Currently, Indigenous land holders are not encouraged to build conservation into their options for future development. Through Indigenous involvement in natural resource management and other 'caring for country' initiatives, a strong basis for Indigenous organisations to build environmental enterprises and develop a range of local and Traditional Owner-based programs.

In addition, human-induced climate change will drive the development of the 'carbon economy'. Indigenous Traditional Owners stand to benefit from this new economic sector through their control of large areas of intact native vegetation and their knowledge and use of fire management.

We will need the development of carbon credits and the pricing of carbon to accurately and equitably account for the environmental contributions of Aboriginal lands and Traditional Owner management.

4. A National Conservation Strategy

There is a need to further develop a conservation planning framework, which integrates protected area design and natural resource management at a landscape scale. The aim will be to achieve biodiversity conservation, greenhouse gas abatement, and ecological resilience in the face of climate change. Australia needs a holistic approach which will boost biodiversity protection across all land tenures, and provide ample support to landholders to respond to contemporary climate change, environmental and natural resource issues.

Indigenous land and water management is essential to a national conservation strategy and can provide a number of significant development options for homeland communities. But at present, there is a disparate array of community activities and needs. As well as, a variety of government initiatives and policies, which aren't yet meshing effectively across the Aboriginal land estate or making proper use of the available on-ground resources and expertise.

With the shift in policy towards paying landholders for environmental services, it is about time to recognise and reward the valuable contributions made by Traditional Owners and Indigenous communities to conservation and natural resource management.

To date Indigenous landowners do not receive the same level of support and resources as their non-Indigenous counterparts. This is an issue that must be resolved to address inequality and so that the necessary environmental protection strategies are put in place.

By doing so, a major social and economic sector will be developed in the Indigenous management of land and water and other natural and cultural resources.

5. Managing natural and cultural resources - A major social and economic sector for Indigenous people

Indigenous enterprises and employment are being created around the significant and expanding Aboriginal landholdings and community infrastructure. This is providing environmental services and other benefits to all Australians by:

- Generating sustainable jobs for people in remote areas
- Reducing social welfare costs to Government
- Improving health, education and

social cohesion for people in remote areas

- More effectively using traditional and contemporary skills and existing land and sea management infrastructure, and enabling the exercise of native title rights and interests
- Providing environmental and security benefits for all Australians, including:
 - greenhouse gas emission abatement
 - weed and feral animal control
 - protection of threatened species
 - water quality and management
 - quarantine and border patrol
 - savanna fire management
 - management of conservation parks
 - fisheries management

This area of activity is expanding and is increasingly important to the management of a range of environmental and economic security issues for Australia in the 21st century. It is also a key part of any platform to alleviate Indigenous disadvantage in remote regions and rural areas. It generates many direct and additional jobs, for example in tourism and arts and cultural enterprise, and maintains important aspects of the traditional economy and resource base.

A major contribution can be made through Indigenous conservation and homelands development to addressing environmental degradation. These include the threats of climate change, weeds and feral animals, inappropriate fire regimes and other environmentally destructive or degrading processes.

Commonwealth leadership is required to ensure the progress of a robust national environmental management strategy, conducted in cooperation with Traditional Owners and other Indigenous interests. Other government and non-government agencies are also critical partners.

However, the full range of

environmental, social, economic and cultural benefits, including business and employment opportunities can only be realised with clear leadership and investment from the Commonwealth. Implementation issues must also be addressed on the ground.

Implementation issues

1. Contemporary Indigenous land management and development - National leadership, coordination and investment

Further progress on Indigenous land management and development will benefit from strong leadership from the Commonwealth Government. Given the range and scale of changes in the environment and the critical ecological and natural resource issues we all now face, nationally coordinated strategies are required.

These strategies should include the creation of a substantial, broadly-based, long-term investment fund for Indigenous land and water conservation. This is critical to sustain the protection and management of the environment and to produce enduring results in Indigenous development. Reform and expansion of the Indigenous Land Corporation's under-developed environmental program could add significant financial impetus to this.

Infrastructure and social service support from governments for the maintenance of homeland communities on Country is also vital to this effort. This support will ensure that environmental management is carried out with benefits to all Australians. It will simultaneously assist with the restoration of the social relationships that underpin customary rights and obligations in relation to traditional lands and amongst the clan estates.

These relations and the carrying out of rights and responsibilities

have been broken down through the centralisation of control over Aboriginal people's lives, with detriment to both people and the environment.

In land and water management, this problem has been reinforced by recent federal policy. A change in direction is needed. For example, levels of previous funding for the valuable work of Indigenous Land and Sea managers, slashed through the abolition of CDEP by the previous Government, need to be quickly re-instated and built upon.

This should be coupled with a policy reform approach that ensures economic benefits are derived from 'fee for service' environmental management and Aboriginal property rights. This will also go some way to address the structural inequity which has contributed to ongoing Indigenous disadvantage.

While appreciating recent announced increases of public investment in the Indigenous Protected Area (IPA) program, one of the major success stories in Indigenous conservation, there remains a question on its adequacy. The findings in the Indigenous Protected Areas Program 2006 Evaluation by Brian Gilligan for the Department of the Environment and Heritage suggest it is not.

Increasing investment in the kinds of actions already proposed in the current Federal Government's policy and better business, training, infrastructure and housing support are needed to enable Traditional Owners working on Country to develop sustainable livelihoods and deliver effective environmental and other services.

Governments need to place much more emphasis on environmental services, ecological economics and 'new economy' opportunities. Likewise, they need to properly recognise the valuable services that Indigenous land managers are providing to their own communities and all Australians.

The Commonwealth has major responsibilities here. It should seek to meet its shared responsibilities and mutual obligations through new Cooperation Agreements with Traditional Owners and homeland communities.

Most, if not all, of this resourcing and support can come from re-prioritising and restructuring within existing programmes such as Natural Heritage Trust/Natural Resource Management, the National Reserve System budgets and Indigenous Land Corporation expenditures. Combined with social program spending, this can achieve substantial results over time.

This also requires a better strategic focus on the environment in the allocation of Natural Resource Management program funds. An environment strategy using the best leading edge knowledge in biodiversity conservation, landscape protection and large-scale ecological processes, should be employed to guide decision making and funding allocations.

2. Indigenous representation and governance

There are varied views amongst Aboriginal people on aspirations for the future of their homelands and their communities, and on strategies for land management and economic development. Regional Land Councils don't necessarily speak for all the Traditional Owners of a region on land management and land tenure issues.

Current representation is a legacy of disparate political and legal strategies, and power and resource imbalance, as well as two-way cultural and educational barriers. There are also at times conflicting interests between Traditional Owners and Indigenous representative bodies, such as Land Councils.

There is no easy answer to questions of direct participation as against representation, but

current arrangements would benefit from impartial review and reform, separating out functions and regrouping them into more appropriate arrangements.

Many Traditional Owners consider the Land and Sea Centres, formed and controlled under the umbrella of centralised Community Councils, to be an inappropriate and failing model. This is because of the lack of legal recognition and supporting structures for Traditional Ownership and governance at the clan estate level; the level at which natural and cultural resource protection and management traditionally takes place.

Also, the use of community and corporate models of management doesn't necessarily reflect, and may conflict with, the customary obligations of the primary land managers. They can also promote division and act as a serious drag on effectiveness.

Environmental management and social development require sensitivity to case-specific circumstances including cultural rights, as well as the strategic imperatives at the public policy level. Reform and new arrangements in the area of Indigenous governance and representation need to treat these land management and development issues as central concerns and provide avenues for the real exercise of Traditional Owners' property and land-use rights.

This means that conservation and land and natural resource management must build from the ground up, starting with existing and viable Indigenous organisations based on homelands. An alternative could be by using functional Land Trusts, whose primary objectives are to support homelands development and the sustainable management of lands and waters by their Traditional Owners. Indigenous representation and governance arrangements should better reflect this, as well as other

governance factors and social relations important to Traditional Owners.

Higher-order representation should support and enhance this, not act as a layer of political and legal control over Traditional Owners. Conservation initiatives which require cooperation between Government and Traditional Owners often become mired and politicised, when in many instances this is or should be a straightforward engagement.

Dealings in land can become leverage in political negotiations and governments will often tend to engage with pre-existing, though at times unrepresentative, organisational structures in preference to developing wider ranging consultation.

Many Traditional Owners feel they have the right to negotiate directly in relation to their own homelands and that this choice is denied them, especially through the native title regime. This needs to change. A direct and clear communication from Traditional Owners to Government and others at the outset as to the desired role of representative and native title bodies would likely result in easier negotiations and better outcomes.

3. Working models of Indigenous conservation and management

Australia needs land management models that successfully reflect the customary tenure and management of Traditional Owners. This is in recognition of the rights that Traditional Owners hold to country, and the importance of active Indigenous management to the maintenance of the full complement of natural and cultural values.

The traditional homelands and clan estates provided the primary ecological management across the continent for millennia, and are deeply embedded in the Australian natural environment – what is sometimes termed the 'the

seamless web of cultural landscapes'. The environmental benefits of this management are well appreciated in conservation biology.

It is therefore likely to be a far better use of public money, and better for the land and people concerned, if effort is organised primarily at the Traditional Ownership level. It is best if land and sea management capacity is centered on the traditional homelands through Indigenous organisations and Land trusts. This will further empower Traditional Owners who are actively living and working on country. Importantly, these agencies must have well developed and current Management Plans.

This emergent homelands-based conservation model, with both primary and state-devolved responsibility in the hands of traditional land owners, needs to be strengthened if we are to achieve many of the goals of environmental protection and Indigenous development.

The model is also important because it allows productive and cooperative working relationships with other stakeholders (i.e. leaseholders, government agencies, eNGOs, philanthropists), and directly links local effort to broader strategies.

Kaanju Homelands Development model includes:

- Protecting natural and cultural values and building livelihoods in central Cape York.
- In central Cape York Peninsula, the Chuulangun Aboriginal Corporation initiated a program of environmental management and enterprise development to ensure sustainable land management, conservation and livelihoods on country.
- The northern Kaanju homelands on the upper Wenlock and Pascoe Rivers include a large area of Aboriginal freehold title and have significant wetlands, wild rivers, open savanna country, and some of the

most important remaining tropical rainforest habitat in Australia. The landscape is of national importance for nature conservation.

- Kaanju homelands will be a major focal area for a number of Cape York conservation initiatives of state, national and international significance.

In advance of this there are already various initiatives which are having major biodiversity as well as employment, social, cultural and economic benefits:

- Chuulangun has a comprehensive land and resource management framework and plans to declare an Indigenous Protected Area (IPA) on a large part of the Kaanju land estate under the Commonwealth program.
- Chuulangun is also undertaking a range of funded and unfunded natural resource management activities such as weed and feral animal management, fire management, revegetation and addressing other land degradation issues. These include protecting and managing the headwaters and upper reaches of the Wenlock and Pascoe rivers, which have been identified for nomination for protection under the Queensland Wild Rivers Act.
- Chuulangun is working in collaboration with Indigenous and non-Indigenous landholders and land managers in the region, including neighbouring pastoralists, the Mangkuma Land Trust, and local businesses. For example, with the assistance of funds from the National Landcare Program Chuulangun has initiated the formation of a Weed Reference Group, comprising stakeholders in the region, and developed a comprehensive weed management plan for Kaanju homelands.
- Chuulangun also runs a training and capacity building program for Indigenous participants

focusing on preparation for work, natural resource management and homelands development. Recently Chuulangun has received funding from the Queensland government's Community Jobs Plan (CJP) program and 12 participants have completed CJP modules and an aligned Certificate II in Conservation and Land Management (CALM) undertaken through Far North Queensland TAFE. The training and work activities were undertaken entirely on country.

- Chuulangun is seeking support from philanthropic organisations in order to secure matching funding outside of government. Chuulangun has received funding from the Australian Bush Heritage Fund, The Nature Conservancy and The Christensen Fund to support its land management and homelands development aspirations.
- Chuulangun is generating employment for Indigenous and non-Indigenous people in the region through the development of land management based projects on homelands.

Kaanju homelands are also likely to fall within the Area of International Conservation significance to be declared by the Queensland Government under the new Cape York Peninsula Heritage Act 2007. The Chuulangun land management plan provides an appropriate basis for voluntary management agreements with the State under the Heritage Act arrangements.

- At the request of the Traditional Owners, an Indigenous Community Use Area on Kaanju land may also be declared under the Cape York Heritage Act, providing further opportunity for ecologically sustainable business activities.
- Chuulangun has highlighted the inadequacies and problems associated with a number of Indigenous policies and programs

through submissions to various government reviews and letters to ministers. For example, Chuulangun made submissions to the Review of the Queensland Aboriginal Land Act and to the former federal government's Indigenous Affairs Minister highlighting the problems associated with their homelands policy, particularly issues to do with homelands housing and tenure issues.

- Resolution of State land dealings related to Batavia native title holders will also result in further conservation initiatives, including a possible co-managed National Park (Cape York Aboriginal Land).
- Chuulangun has been looking closely at the native title Act (NTA) and its effects on Traditional Owners. Chuulangun has written letters to the National Native Title Tribunal about problems with the native title process and the failure of the NTA to properly recognise and support Indigenous land tenure and the homelands and economic development aspirations of native title holders.
- Natural resource management based enterprises including the development of tourist facilities, organic cattle and pig sales, a native plant nursery, research and development of commercialisation of plant oils, bio-prospecting for new medicines in collaboration with academic institutions, education and training, and other initiatives support Chuulangun's plans for a viable, sustainable homelands community. This is an emerging model of conservation economy in a remote area. Importantly, Chuulangun Aboriginal Corporation is 'not-for-profit' so any income from enterprises is put back into land management and homelands development.
- In addition, Chuulangun is establishing small-scale community

infrastructure powered by solar energy. Reliable and sustainable energy services play an important role in assisting homeland residents to make real choices regarding their own lives and the utilisation of existing and future resources such as participation in Natural Resource Management activities and / or developing community based enterprises.

- Having the first Bushlight – Renewable Energy installation for Cape York Peninsular, the people of Chuulangun have experienced first hand the benefits of living with a renewable, reliable and sustainable energy source. These benefits include: a reduction in diesel energy consumption and as such costs associated with diesel reliance; the introduction to 24 hour power which has improved livelihood and educational opportunities; being able to store foods and perishable items for longer periods of time; and the return of a more peaceful lifestyle (no more noisy generators) to the bush.
- The development of sustainable housing and subsequent infrastructure for Chuulangun’s growing community and support for the homelands development aspirations of other Indigenous clans in the region is a current priority for the Chuulangun Aboriginal Corporation. This highlights the growing energy needs that this future development will bring and the importance of developing appropriate government policy direction and funding opportunities to assist.

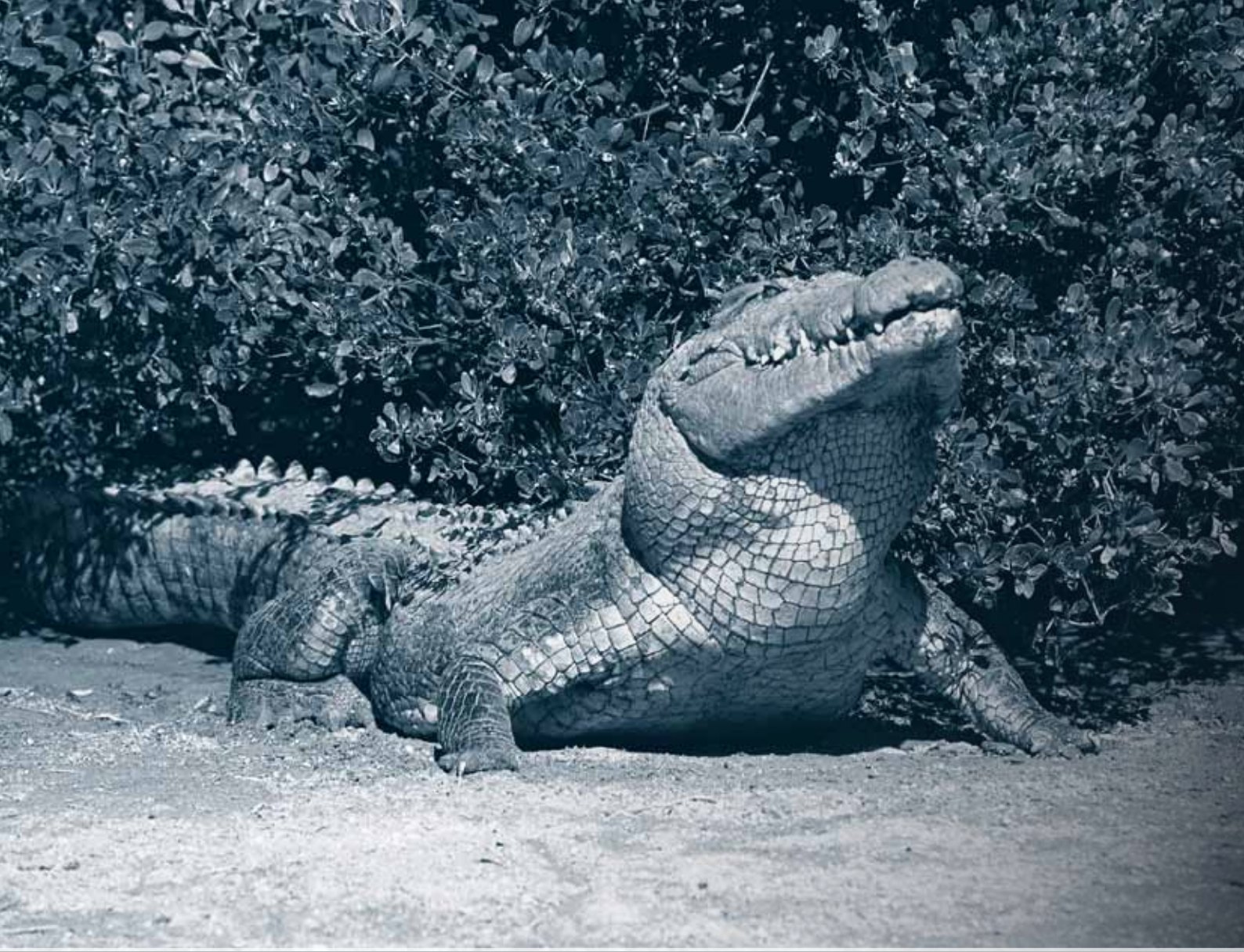


Image courtesy of Kerry Trapnell



CONTACT: The Wilderness Society Inc
• www.wilderness.org.au
• info@wilderness.org.au
• 03 6270 1701